EMBRACING THE FUTURE: CREATIVE INDUSTRIES FOR ENVIRONMENT AND ADVANCED SOCIETY 5.0 IN A POST-PANDEMIC ERA

Edited by

Rahmiati Aulia, Diani Apsari, Sri Maharani Budi Haswati,
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ROUTLEDGE

EMBRACING THE FUTURE: CREATIVE INDUSTRIES FOR ENVIRONMENT AND ADVANCED SOCIETY 5.0 IN A POST-PANDEMIC ERA

By delivering the mindful writings from our selected authors, this book portrays one big idea: a new Human-Centered society that balances economics to resolve problems, especially in the use of an integrated area in cyberspace, physical space, and how it impacts the creative industries. Through The 8th Bandung Creative Movement, scholars from 15 Universities around the Asian and European countries have discussed this issue where Human-Centered society became the main consideration in the development.

Three topics are presented to the readers. Firstly, "Sustainable Cities and Communities" explores the sub-fields that construct a more sustainable environment for society post-pandemic era, such as technologies, transportation, interior design, architecture, urban planning, etc. While "Art and Design: Recontextualization of Nusantara Tradition and Indigenous Culture" concerned the novel perspectives on recognizing cultural aspects that shape the face of creative industry, from cultural identity, visual and performing arts, pop culture to language and media. The last topic, "Changes and Dynamics in The Creative Industries," reviews the creative approach toward the industry's current trends, including marketplace, destination branding, or digital culture ecosystem.

This book will enrich the mind of everybody who is an enthusiast of innovative research on creative industries, human-centered technologies, environmental design, and excellent society 5.0 post-pandemic era.

Embracing the Future: Creative Industries for Environment and Advanced Society 5.0 in a Post-Pandemic Era

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Telkom University

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Changes and dynamics in the creative industries

Preface

The 8th Bandung Creative Movement (BCM) conference held on 9 September 2021, live from Telkom University in Bandung, gathered people from creative sectors dealing with creative industries and digital technology.

Under the theme "Embracing Future: Creative Industries for Environment and Advanced Society 5.0 in Post-pandemic Era, 8th BCM". As we reach the Society 5.0 era, the aim is to reach a new Human-Centered society that balances economics in relation to resolving problems in the use of an integrated area in cyberspace and physical space, and how does impact the creative Industries. The 8th Bandung Creative Movement conference will discuss this issue where the Human-Centered society will be the main consideration in the development.

The conference examined issues on:

1. Sustainable Cities and Communities
2. Art and Design: Recontextualization of Nusantara and Indigenous Culture
3. Changes and Dynamics in The Creative Industries

In response to the pandemic, issues related to covid-19 and digital technology were also discussed. How the creative world & digital technology respond and provides answers to the pandemic.

The keynote speakers, that came from various backgrounds and from different countries, are:

1. Prof. Lia Vilahur Chiaraviglio, EU ERAM University of Girona UdG, Spain.
2. Sheng-Hung Lee, Massachusetts Institute of Technology, United States.
3. Dr. Mohammed Lazhar, Ibn Zohr University, Marocco.
4. Assoc. Prof. Panizza Almark, Edith Cowan University, Australia.
5. Dr. Riksa Belasunda, Telkom University, Indonesia.

The parallel sessions presented 72 papers originating from collaborative and individual works. All papers are divided into 3 sub themes as offered in this Open Access proceeding. We believe and hope that readers will find 8th BCM an enriching overview on the digital creative world worth sharing.

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The 8th Bandung Creative Movement International Conference

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Keynote and featured speakers

Applying a system engineering approach to the early stage of product design

Sheng-Hung Lee*, Olivier L. de Weck & Joseph F. Coughlin
Massachusetts Institute of Technology, Cambridge, USA

ABSTRACT: The purpose of the study is to equip product designers with a holistic system view by applying a system engineering approach, Object-Process Methodology (OPM) pairing with a design thinking process, to the early stage of the product development. The study demonstrates the implementation value and conceptual system modeling feature of OPM through the product design case study, which presents its potential application of Model-Based System Engineering (MBSE) language and framework for the complex challenges by applying system thinking and design approach.

Keywords: Systems Engineering, System Design, Product Design, Design Methodology, OPM

1   INTRODUCTION

In the era marked by exponentially faster change, most design challenges have become complex and naturally have involved diverse perspectives, stakeholders, frameworks, and methodologies during projects. Therefore, only applying the typical product design and development process (IDEO Product Development 2003) to systemic challenges does not address the problems holistically. We conducted an experiment by curating Object-Process Methodology (OPM), a Model-Based System Engineering (MBSE) language, with the selected phases of the product design process: ideation phase, prototyping phase, and testing phase (Ulrich et al. 2020) to refine and improve the methodology. The study explored the potential roles and functions of system engineering in the design process by integrating the MBSE framework to establish a comprehensive and creative new process.

2   METHODOLOGY REVIEW

2.1   *Object-Process Methodology (OPM)*
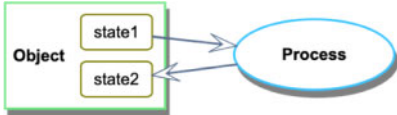
Object-Process Methodology (OPM) is a model-based language that originated in the field of system engineering to describe systems ranging from product manufacturing systems, technological systems, social situations, socio-technical systems, natural phenomena, and other complex systems through three fundamental pillars: Object, Process, and Link (Dori & Crawley 2013). OPM is one type of MBSE language recognized by ISO as ISO-19450, which became a globally standard conceptual modeling methodology. It has already been applied to various industries to describe a complex system in both a graphical and textual way by demonstrating the structural relationships.

2.2   *System Diagram (SD)*

The System Diagram (SD) serves as the canvas for OPM, which defines the purpose, scope, and main functions of the system in terms of its objects, processes, boundaries, and stakeholders ("OPCloud Manual Version 2.0 Getting Started Guide," 2019). The purpose of the SD is to provide

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Table 1. OPM element definition (Source: OPCloud manual version 2.0 Guide 2019).

Element	Object	Process	Link
Definition	Objects are things that exist over time and can be either physical or informational. Objects can also have different states.	Processes are things that transform Objects by creating them, destroying them, or changing their states.	Links connect Processes with Objects to express these transformations and to form the meanings of the connections.
Example			
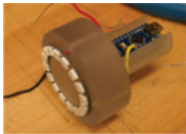
a bird's eye view with minimal technical detail for the key stakeholders to clarify the main functions and identify the core benefit of the system. The SD contains two levels: level 0 and level 1. While the system extends and becomes complicated, SD1 (Level 1) comes into play to describe the system's structure, behavior, and function. SD1 is a descendant of SD. The supplement information of SD1 makes SD comprehensive and complete. Figures 5 and 6 show the relationship between the two layers.

3   THE MODULAR LAMP CASE STUDY

It was a 4-week design sprint case study and two intentions:

- **Integrate System Thinking into Design Process**. It evolves the traditional creative process from "Apply human-centered process to solve product-related projects" to "Use design thinking approach by combining system thinking framework to tackle with complex-yet-systemic challenges."
- **Unlock the Creative Potential of Participants**. It transforms participants' perception from "Participants are afraid of making mistakes" to "Encourage the participants to enjoy the creative process." It changes the game rules from "Tell the participants the answer" to "Empower the participants to explore the possibilities."

Table 2. Modular lamp material list.

Item	Joint Connector	NANO Board	T-shaped Base Holder	LED Ring Light	Used Water Bottles
Spec or Materials	3D printed material (PLA)	ATmega328P 5V 16M Micro-Controller Board	3D printed material (Photosensitive Resin) Light	16 Bits LED Ring Lamp	VOSS Water
Number	7 Types	1 Unit	1 Unit	1 Unit	20 Units
Photo					

3.1 *Design process – Ideation, prototyping, and testing*

The case study was composed of two main sections (Figure 1). The first section was the Design Process which included ideation, prototyping, and testing. The second section was to apply OPM for the purpose of refining the overall product design. In the ideation phase, design approaches including sketches and paper mock-ups were applied. In the rapid prototyping phase, selected ideas were translated into CAD for 3D printing, which gave the design team a more precise yet tangible mock-up to refine its design before entering the testing phase.
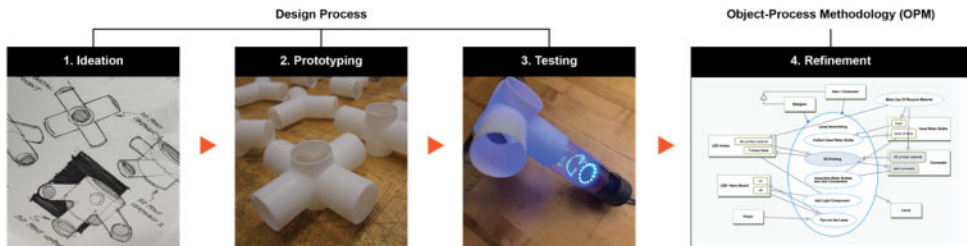
Figure 1.   The product design and development process of the case study – Modular lamp.

The following phase in the case study was to test the prototype (Figure 2). It came with multiple possibilities to assemble the modular lamp with different configurations (Figures 3 and 4). While the modular lamp design moved into the next step of refinement phase, OPM was applied to the design process as an experimental approach to revisit the overall product design process.

Figure 2.   Assemble the design components.
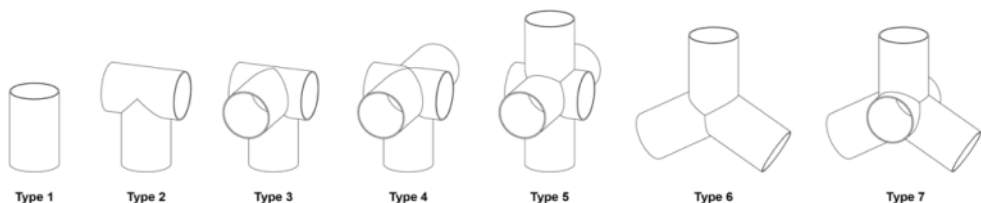
Figure 3.   Seven types of joint connectors.

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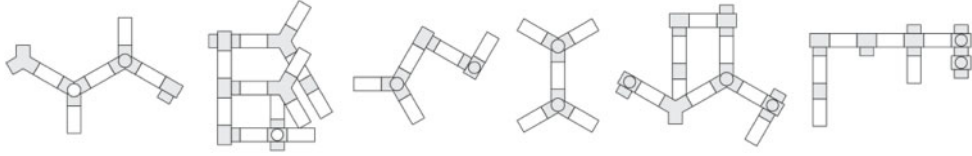
Figure 4. Different configurations (white: used water bottle; gray: joint connector).

3.2 *Design highlight – Product refinement by using OPM*

The case study started from the ideation phase, rapid prototyping, to model testing for section one of the design process. The refinement phase was the section where OPM was applied to revisit the modular lamp design on the system level. The first step was to define and decompose the elements of the modular lamp and categorize them into components: Object (Lamp, LED Holder, NANO Board, Connector, Used Water Bottle), Process (Lamp Assembling), Instrument (Power), Agent (Designer, User/Consumer), and Environment.
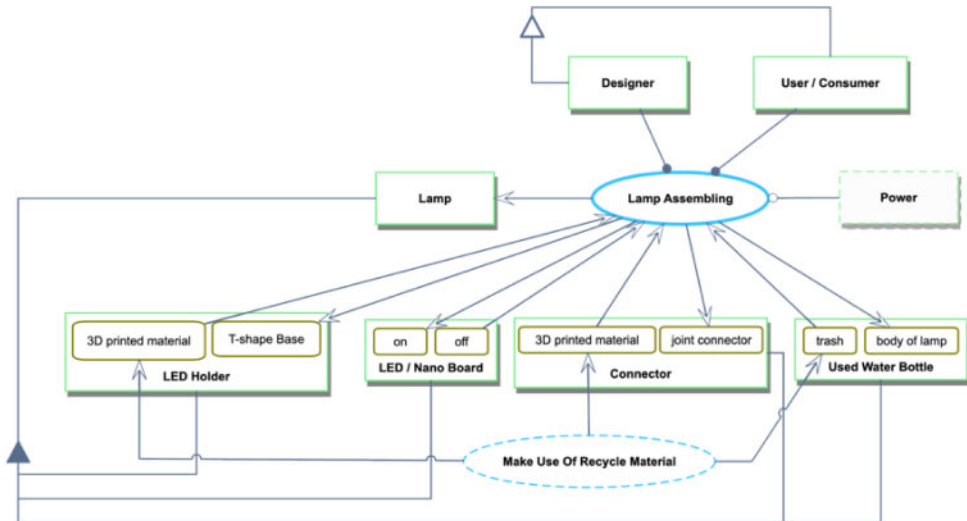
Figure 5. System Diagram (SD) Level 0 of the modular lamp design.

In the case study, the modular lamp project applied two levels of SD to describe the structure and the interface of the system. SD1 (Level 1) was defined as Assemble Lamp with its sub-process including Collect Used Water Bottles, 3D Printing, Assemble Water Bottles and Joint Connectors, Add Light Component, and Turn on the Lamp (Figure 6).

The intention was to apply OPM in combing with the product design and development process to obtain a comprehensive perspective to re-examine its system architecture and to develop a product development strategy and blueprint in advance. In this case study, the following system-related how-to questions were triggered by leveraging SD and SD1 of the modular lamp design e.g., How to reshape the design and the model of the seven types of Joint Connectors in order to make diversified configurations of the lamp structure in response to the system transformation? How to design a set of criteria to evaluate the performance of the modular lamp system? (Crawley et al. 2004) The how-to questions were examples inspired through SD (Figure 5) and SD1 (Figure 6). They facilitated the team and key stakeholder's discussion around how to make an existing system resilient, establishing capabilities and flexibilities for future challenges.
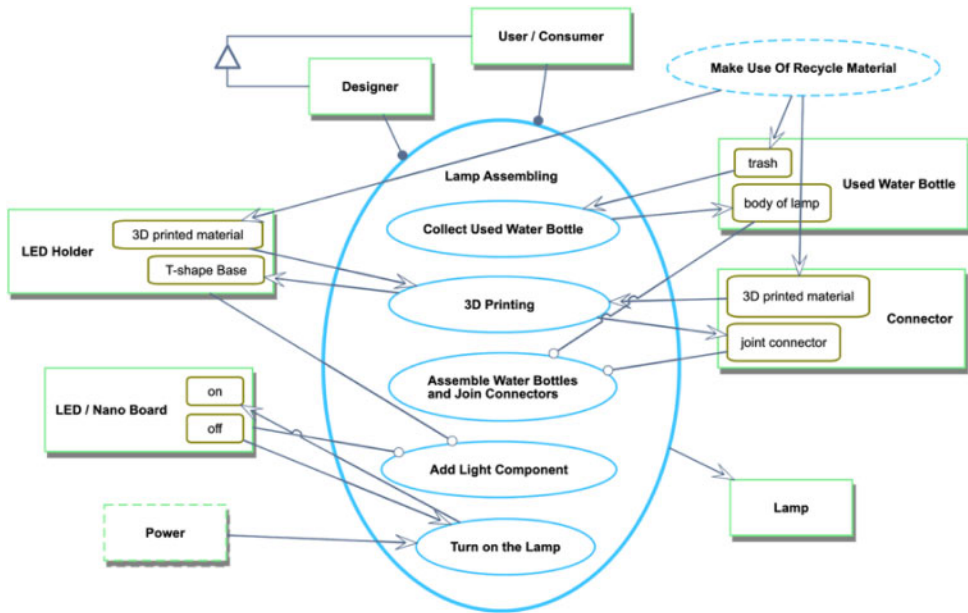
Figure 6. System Diagram (SD) Level 1 of the modular lamp design.

4 THE SUMMARY OF THE CASE STUDY

- **Examine the Critical Components within the System.** In general, the design-related project will become complex as the process of development moves forward. Therefore, there are more aspects e.g., product components, stakeholders, manufacturing, policy, marketing, and other relevant elements that need to be taken into serious consideration. OPM can efficiently categorize the components into either Object or Process through the lens of the system level, which effectively assists the project team to identify the critical components and their relationships to clarify the major problems within the system.
- **Adopt a Holistic View to Revisit the Relationship.** The System Diagram (SD) of the project gives OPM its platform and meaning by utilizing OPM Links to connect the Objects and the Process in the system. SD provides a bird's eye view to examine all relationships to help the project team foresee the possibilities to plan other connections by predicting and analyzing its system pattern to prevent unstable system conditions and environment.
- **Extend the Flexibility and Fluidity of the Project Development.** A typical product design and development approach is a relatively linear process from ideation, prototyping, testing, refinement and manufacturing, which partially limits the flexibility and fluidity of the project development in the face of urgent conditions e.g., the shortage of the budget, the transformation of the organization. OPM is applied to model the conceptual system to simulate multiple scenarios and to adjust its connections and structures between the Objects and the Process in the system according to different situations and criteria, which increases the adaptability of the system (Crawley et al. 2004) to improve the flexibility and fluidity of the project development.

5 CONCLUSIONS AND DISCUSSION

- **Provide a New Meaning of the Sketching in Product Design and Development.** OPM is a collaborative tool to sketch out the model of the product design and development process

covering Objects (forms), Processes (functions), and Links (relationships) in the macro views of a system, which is complementary with the relative micro view adopted by using sketching, a typical product design skill that forms focus features of the typical sketch tool, to explore the form and aesthetic part of the design. It redefines the meaning of sketching in the context of OPM.

- **Reconsider the Product Design and Development Process in a Broader Context.** In the era of transformation, product design and development need to reposition their process and criteria to evaluate the performance and structure of the project. How to adapt the system thinking and its framework to the product design and development process? OPM is one system engineering approach applied to the study as an experimental tool. There will be more opportunity areas to leverage the hybrid methodologies to solve complex challenges.

Future research can explore the best moment and condition to apply OPM for the purpose of system model prototyping, Object-Process relationship identification, and critical form-and-function clarification in the context of the product design and development process and other relevant MBSE languages and frameworks beneficial to the process.

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Manufacturing creative impact: Co-creation toolkits and service design for remote hybrid collaboration experience

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ABSTRACT: Due to COVID-19, many people turned their homes into temporary working or learning spaces. The format and experience of remote working and study have changed dramatically, especially for collaborative works. For remote collaboration, between the level of platform and tool, there is still a missing layer of product that can connect hybrid co-creation experience virtually and physically. Therefore, the purpose of the study is to assist and amplify the remote co-creation experience that bridges learning and collaboration between the tangible world and digital meetings by experimenting with designing the material and process of a remote co-creation workshop. The outcome is the redesign of remote co-creation experience, which enhances cross-disciplinary collaboration, diversifies the format and interaction of online collaboration, facilitates meaningful and efficient communication, extends the co-creation experience from online to offline, encapsulates its service into an education and co-creation learning toolkit—MAKE TO:GATHER, in order to make a positive and meaningful social impact.

Keywords: Participatory Design, Co-design, Co-creation Toolkit, Workshop

1 INTRODUCTION

The intention of this study is to create and curate an experimental hybrid toolkit for remote co-creation experience. During the pandemic, most people needed to work from home, and thus they turned their home into a working or study place. The new changes forced people to adopt new ways of learning, interacting, and communicating (Hotmart 2019; Impact by Design 2020) supported by many digital services and tools (The Best Design Team Collaboration Tools 2020). There are many relevant offerings and ideas that have sprouted in the era of COVID-19 (Stevens 2020), among them online co-creation workshops. This study starts with a study on the experience design of a remote co-creation workshop and tries to answer the following questions: How might we create a remote, immersive, and engaging co-creation workshop for the purpose of spreading existing or socially impactful ideas (Krawietz & Hartmann 2020)? How might we scale the traditional innovation-and-impact-oriented workshop to approach larger user groups through virtual tools (Hotmart 2020)? To understand and answer these questions, we considered the following three points.

The Definition of Co-creation: There are multiple synonyms of the term co-creation, including co-design, participatory design and crowdsourcing. In the study, the term co-creation is defined in the context of the design or creativity field. The broader definition of a co-creation is to bring people who can be target users into the design process (IDEO 2015). Co-creation can spark a spectrum of concepts, ideas, and inspiration directly from target users (Seve & Redondo 2020). The intention of co-creation is to develop processes to understand, support, and design among participants and key stakeholders to form a collective outcome (Retegi et al. 2019). The term co-creation has gradually become a critical fuel for many divisions of design, especially in service and organizational innovation, since co-creation triggers comprehensive knowledge acquisition, social value penetration, and creativity unlocking (Daiberl et al. 2016).

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The Implementation of Co-creation: Applying and integrating the concept of the co-creation into a workshop is viewed as a participative pedagogical approach to receive and generate feedback (Seve & Redondo 2020). In the study, the remote online workshop is the anchor that integrates an interactive co-creation toolkit to bridge participants' experience of the online lecturing and offline hands-on making section seamlessly and inclusively (Emerson et al. 2020). The hybrid co-creation toolkit proposed by the study is an experimental design case study.

The Challenge of Co-creation: The challenge of the co-creation workshop lies in the momentum of participants (Daiberl et al. 2016; Design Council 2015; Impact by Design 2020). Participants may easily get lost if workshop facilitators don't align with their goals. Hosting a successful co-creation workshop with fruitful outcomes requires reconsidering angles including educational purposes such as motivation of participants and vibe of the workshop (Monthan 2020; Retegi et al. 2019). Further research can focus on amplifying and scaling the social influence of a co-creation workshop and its toolkit through a technology-enhanced learning approach (Bayne 2015; Marshalsey & Sclater 2018).

2   RESEARCH—MARKET/BACKGROUND ANALYSIS

To satisfy the increasing needs for online collaboration and co-design, more and more digital tools and platforms have been created to give people better choices and greater convenience. Among tools and platforms are Miro, which enables project teams to co-create and build ideas on one synchronized online board; team workshop management tools, e.g., Session Lab (Workshop Planning Made Simple with SessionLab, n.d.), which provides users with an integrated system to organize and conduct online lectures and workshops; and Howspace, a workshop facilitator and consultancy which offers clients customized online workshops for specific purposes.

Table 1.   The online/offline/hybrid co-creation products on the market.

Online Co-creation Platform	Offline Co-creation Tools	Hybrid Co-creation Platform
SessionLab, Miro & co-creation Template, openIDEO, Howspace	IDEO Design Kit, DIY co-creation tools, Making Sense Toolkit	-ing Creative, Digital Confidence Toolkit, GoNano Co-creation platform

These tools and platforms all provide solutions to users who need to organize an online event or seek general online co-creation experience. Regarding the co-creation experience, offline workshops and toolkits are also booming in recent years. In addition to the widely used IDEO Design kit, (IDEO 2015) toolkits including DIY (Keane et al. 2014) and GoNano creation tools (GoNano, n.d.) have become more and more popular among creative initiatives. These tools are designed and supplied as open-source content which aims at supporting practitioners to invent, adopt and adapt ideas for social innovation. Among these tools are our research targets, mainly the online digital tools and platforms which fit our product features.

3   CASE STUDY—MAKE TO:GATHER

MAKE TO:GATHER is an experimental toolkit and remote design experience process that empowers people who are interested in design or in solving design-related problems that require the co-creation process to work more efficiently and creatively remotely. It not only provides the workshop facilitators with a toolkit to organize a problem-solving workshop in the digital environment, but also enables people from all over the world to collaborate and work creatively in a short period of time. MAKE TO:GATHER consists of three sessions, THINK, MAKE and SHARE. Individual work and team collaboration interweave though the whole process. The team start with the THINK

part to brainstorm ideas, define personas and come up with questions with given tools. After THINK, the team will jump into the MAKE, where they are asked to get the individual hands-on work done with the support of paper prototyping tools. SHARE will provide the participants with tools and guidance to tell the stories of their design and then document them in digital format, where the transformation between offline and online will be accomplished through guidance.

Systematic Process: For the digital experience part, a holistic process has been created to give participants a smooth co-creation experience The offline part mostly focuses on the goal to create accessible tools and leverage the hands-on experience of the attendants. Regarding the process design, neither thinking about creating a whole novel platform to integrate users' experience, nor applying the design thinking process directly are parts of our workflow. We started with doing research on existing online collaboration tools and workshops, to introduce as few new tools to people as possible. As the main source of the design process, design thinking processes enable the offline rapid prototyping and collaboration by going through several steps including empathize, define, ideate, prototype, test and access, which require sufficient offline field research and inter-action between multiple stakeholders. The workflow of MAKE TO:GATHER also follows the converging and diverging process (Design Council 2015).

Online Experience: Considering the online tools and platform for organizing the co-creation workshop experience, the decisions made on coworking online tools and platforms are of great significance. We select among existing synchronized online tools in the process of designing the online part of the workshop.

Offline Activity: To leverage the online and offline experience for participants and make it easier for people to get tangible material, the team started with the idea to create a set of physical materials which can be integrated into the online workshop process. Taking the insights and anecdotes from clients and users, the team starts by testing the prototype with the workshop's physical material from testing the prototype. With the final goal to design a physical footwear product and phone interface to solve the problem of targeted users, the team starts working on the footwear as well as interface design. The workbook (Figure 1) interconnected with a workshop process, the toolkit, on the one hand, provides the attendants pre-reading material to get an overview of the co-creation workshop, and gives an explicit structure to the online workshop on the other hand, which enables participants to do the hands-on design and experience online collaboration.

Figure 1. Co-creation workbook (From left to right: overview of the toolkit, three sessions of the toolkit, the templates provided for taking better photos).

Prototype: After three months of preparation and discussions, the project team decided to conduct the first round of prototyping collaborating with a global co-creation platform provider to test out the co-creation workshop. The original workshop lasted for three hours. Due to the time limit, the length of the pilot test was only as long as the half of the original workshop. The project team invited three people with a non-design background to join the pilot test. During the MAKE and SHARE stages, three participants needed to make their own paper prototypes including interface and footwear separately. In the end, they combined their design works into one design story.

Refinement: The project team identified the following six points as key learnings from this polit workshop: 1) Curate an accessible and welcoming opening of the co-creation workshop to motivate participants in the beginning. 2) Create the pre-assignment for the co-creation workshop to increase

engaged participation. 3) Reemphasize an image and introduction of the target personas to build empathy. 4) Clarify the key steps and result for the team exercise section in the Zoom breakout room to guide participants in the right direction. 5) Leave decent buffer time for participants to express their ideas and concerns within the limited time constraints. 6) Control the time and flow of the co-creation workshop precisely to manage participants' attention.

4   SUMMARY

EXPERIENCE—Co-creation Workshop with Hybrid Experience: The workshop is a remote hybrid co-creation experience. The term hybrid is defined as a combination of the digital experience and in-person experience. MAKE TO:GATHER is designed to integrate online and offline learning experience seamlessly by applying a well-thought-through co-creation workshop structure, which can change from assistant learning tools to frameworks and methodologies (Figure 2).
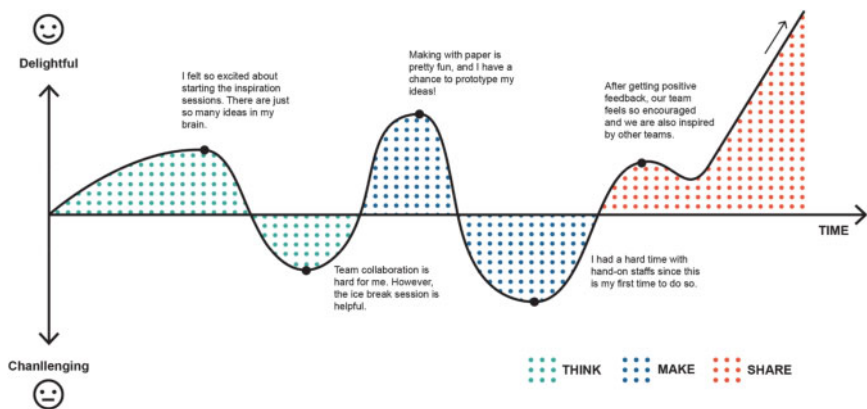
Figure 2.   User experience and design journey.

PRODUCT—The Features of the Interactive Co-creation Toolkit: The workbook design is the highlight of the co-creation toolkit. The project team treats it as a bridge extending the standard online digital co-creation experience to an office hands-on making experience. The complete co-creation toolkit contains a slide template, workbooks, prototyping materials, a host workbook, and digital channels/software recommendations. Figure 3 presents the complete co-creation toolkit, which combines online activities such as THINK and SHARE and offline events such as MAKE. Table 2 shows the four key touchpoints of the co-creation toolkit.
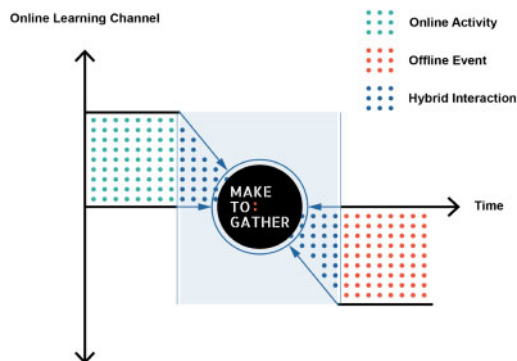
Figure 3.   Apply co-creation toolkit—MAKE TO:GATHER in hybrid co-creation journey.

Table 2.　Interactive co-creation toolkit design features.

Key Touchpoint	Design Features
Learning Asset (Digital/Printed Workbook)	Besides slides to present the main content, the project team also created an interactive guidance material—a workbook to assist participants' overall digital and physical experience.
Medium Converter (Documentation Template, Video QR Code)	After participants make their own paper prototypes, they can follow the instructions in the workbook to take photos and share them with the community. The workbook also provides a convenient feature QR code that allows participants to have quick access to the video tutorials of MAKE.
Interactive Section (Zoom Poll, Google Survey)	During the co-creation workshop, participants were asked to join a few Zoom polls, pre- and post- Google surveys to express their thoughts and ideas collectively as well as increase the engagement of the workshop.
Community Platform (e.g., Slack, Discord)	To extend the hybrid co-creation experience and increase opportunities to discuss participants' questions and thoughts, the project team created a Slack account to maintain connections with participants.

IMPACT—Transform the Co-creation Experience and Scale the Influence: There are four types of innovation for impact in the framework: technological, organizational, institutional, and social. The co-creation toolkit is under the category of technological innovation. We aim to shift the type of the impact from technological and organizational to institutional and social to enhance cross-disciplinary collaboration, diversify the format and interaction of hybrid co-creation, facilitate meaningful and efficient communication, extend the co-creation experience from online to offline, encapsulate the hybrid collaboration service into an education toolkit, and ultimately help spread socially impactful ideas globally.

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Sustainable cities and communities

Halal jewelry from marine biota waste in sustainable product design context

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ABSTRACT: Nowadays, with the increasing world population, the production and consumption of disposable products is very high. Thus, causing waste that fills the land and sea. Not only waste from humans, but the Indonesian sea also produces marine biota waste that is usually stranded on the coasts. Waste of marine life on Santolo Beach, Garut, produces a negative impact on public health and causes environmental disturbance if left around the beach as only a part of it is decomposed in the soil and the rest remains as waste. The purpose of this paper is to design jewelry that also has a traceable supply chain, and can also contribute to the welfare of the environment and local community of Sagaranten, Sukabumi. This can be interpreted as halal jewellery. The author interprets and reinterprets the ethical halal to be applied to jewelry to be Halal in the context of Sustainable Product Design (SPD). This SPD will demonstrate the meaning of halal jewelry by processing, environmentally friendly materials as well as various other considerations in the social and economic fields to achieve sustainable profit-making products.

Keywords: Jewelry, Halal, Marine Biota Waste, Sustainable Product Design

1   INTRODUCTION

With the world's growing population, there is uncontrolled production and consumption of disposable products. As a result, it generates waste that pollutes both the land and the sea. As a result, naturalism's philosophy has been replaced by anthropocentrism. Humans take over as nature's masters. The environment is exploited by processing it in such a way for economic interests by taking refuge behind the frills of successful development programs (Sufia et al. 2016).

Not only waste from humans, but the Indonesian sea also produces biota waste that usually ends up on the coast. Marine biota waste that is left alone around the coast produces a negative impact on public health and disturbs the environment. This is reinforced by Mo et al. (2018) in their research that if left untreated for an extended period, these waste seashells can emit foul odors due to the decay of the remaining flesh in the shells or the microbial decomposition of salts into gases. These issues are expected to produce a negative impact on the quality of life for people living nearby and result in environmental pollution. Meanwhile, marine biota waste has great potential to improve the welfare of coastal communities by utilizing it as a part of their craft products. Winarni et al. (2020) revealed in their journal, that the management of clamshell waste, will be able to provide jobs to the local community, thereby increasing community income and welfare.

There is no simple eco-design because Sustainable Product Design (SPD) aims to achieve Stage-Gate System depicted in Figure 1 and the so-called triple conclusion by integrating the social and ethical aspects of the product lifecycle with environmental and economic considerations. Ethics itself is a transparent and responsible practice using sustainable materials that have minimal impact on the environment, do not cause conflict, and benefit workers through fair wages and a fair working environment (Fuller 2020). Figure 1 shows the Stage-Gate Framework in the SPD of Dewulf (2013), which was utilized in this examination to give an applied and activity guide to work with an undertaking for moving another item project from thought to dispatch.
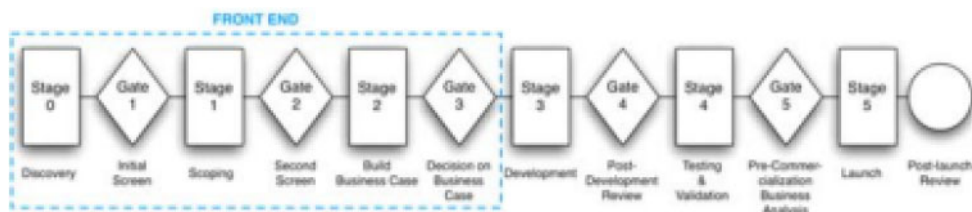
Figure 1. Stage-gate system.

SPD is applied by considering halal which according to Hidayat and Siradi (2015) is something that if used does not result in sin. Halal is interpreted as muttahidah creed or Islamic creed which has relevance between humans, God, and nature as the center of the relationship (Muryono 2014).
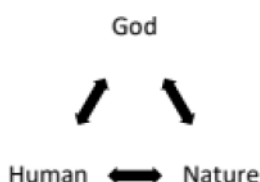
Figure 2. The triangle of muttahidah creed.

Halal has strong implications for eco-friendliness and sustainability following religious teachings. This can be seen in the positive contribution to the existence of human values. Since sustainable design itself has become a trend so far for the environment and social welfare, there is a possibility that the potential will be positioned as a point in the halal industry. The research aims to overcome environmental challenges, empower communities, and increase the halal potential of the jewelry industry with sustainable materials.

2 RESEARCH METHODS

This study uses qualitative methods with details of research methods and analytical methods as follows:

2.1 Methods of data collection

Data collection techniques used include literature studies from journals and articles on the internet, including gondorukem materials and local communities in Sagaranten, Sukabumi. The author also used observation technique to collect material data by visiting Santolo Beach, Garut.

2.2 Methods of data analysis

Using a descriptive-interpretative approach technique in which the author describes the phenomena, facts, and related conditions in detail before making interpretations and reinterpretations to prove the potential relationship of research object with halal theory in a sustainable industry.

3 RESULT AND DISCUSSION

3.1 Halal interpretation

The following are the interpretations from influential figures and organizations and their sources:

1) QS Al-Baqarah: 11 (Dr. Mustafa Khattab, The Clear Quran): "When they are told, "Don't spread corruption in the land," they reply, "We are only peace-makers!"

Interpretation (Greenpeace 2021): Preserving the earth is one of the main lessons in Islam. For Muslims, people are guardians, caliphs who are largely responsible for the earth and its entire life.

2) QS Al-A'raf: 33 (Yusuf Ali): "The things that my Lord hath indeed forbidden are: shameful deeds, whether open or secret; sins and trespasses against truth or reason; assigning of partners to Allah, for which He hath given no authority; and saying things about Allah of which ye have no knowledge."

Interpretation of the Ministry of Religion Summary: Indeed, what Allah has forbidden is persecuting fellow human beings, and raping personal rights or common rights. 3) Hadith on Wages (Ijarah) of Sunan Abu Dawood 3488 (Sahih): "When Allah declared eating of thing forbidden for the people, He declares it price also forbidden for them…"—Ibn Abbas: If Allah forbids people to consume something, Allah also forbids the wages from the sale. All of the above interpretations raise the issue of caring and welfare of humans and other living creatures taking into account the things that are prohibited in each process carried out.

3.2 *Jewelry industry issues*

The following are issues that often occur in the jewelry industry according to several researchers (As'ad 2017; Maier et al. 2014; UNCTAD 2015):

1) No fair pay: Artisanal miners and jewelry craftsmen contributed work but accompanied by serious environmental damage due to mercury and cyanide because workers put less effort by using hazardous chemicals and involving children as a result of unfair payments.
2) Violent Conflict: A large private jewelry industry influences the welfare of society and the environment. Damage from mining owned by this industry usually leads to social protests which is responded by the government as criminalization.
3) Environmental damage: Deforestation usually occurs at mining sites. Moreover, mercury and cyanide chemicals also contaminate soil and water.

3.3 *Halal re-interpretation*

Table 1. Margin settings for A4 size paper and letter size paper.

1	2	3
Does not contain animal raw materials which are prohibited by Islam Concern for the environment and social	More famous in food and cosmetic products Available in various types of products, one of which is jewelry	Honest in weighing and trading Honest in supply chain

3.4 *Halal jewelry*

1) Support Local Communities. According to an article belonging to Sukabumiupdate.com, Kampung Gardu's agate industry has collapsed since 2018, forcing agate craftsmen to become farmers. With the empowerment for the Halal jewelry industry, opportunity for the agate industry employees in the region is rising again. Similar pattern is observed among the marine biota waste collectors in Santolo Beach. As interest in marine biodegradable waste increases, damage to the environment and health around the coast is minimized.

2) Materials are obtained from conflict-affected areas.
3) Offering a sustainable brand with environment friendly products and production processes, community empowerment, and environmental empowerment actions such as tree planting donations.

3.5 *Jewelry design*

According to Arumsari (2019), the current fashion industry explains that market conditions are very supportive for the development of eco-friendly fashion products. Consumers understand and are concerned about the importance of being green in fashion. The fashion product market understands and also needs fashion products with an added value other than their functional or aesthetic value. Sri Mulyani to Tempo, during the launch of the Unilever Muslim Centre of Excellence (2021) program, said that the halal industry, especially food, pharmacy, cosmetics, and fashion, experienced an increase of 3.2% from 2019 which was the year before the pandemic. This is of course a reference that does not rule out the possibility that halal has potential in the jewelry industry including fashion. Therefore, during this ongoing pandemic, the author considers the use of resources ranging from materials to energy.

3.5.1 *Material considerations*
1) Marine biota waste used is coral and clam shells, which are broken down into very small pieces but not to the point of becoming sand. This selection is based on the hardness of the mass of marine biota waste.
2) Gondorukemu according to Perum Perhutani (2011) is a natural resin product obtained by distilling solid pine sap. It contains the potential of managers and businesses to improve Gondorukemu business capabilities and create more employment opportunities in the surrounding community. One of these Gondorukemu works is in Sukabumi Regency.
3) The UV resin used is an environmentally friendly type. The advantage of UV resin is that it is made as a useable material for disposable products such as jewelry.
4) Recycled Silver that can be obtained from the Kapit Mas company in Bali which has ethical sources, they will melt it and will send it in the form of granules or bars.
5) Traceable Gemstone using Blue Opal Mizone from Sagaranten, Sukabumi which is cut by local craftsmen.

3.5.2 *Production process considerations*
Model design is the type of craft jewelry with fine materials because it involves the process of assembling minerals like crafts and combining them with silver.

1) First exploration, gondorukem is heated until it melts. Then it is printed together with the waste of marine biota to dry. Gondorukem has a low melting point, it is assumed that it is very difficult to make gondorukem as an independent jewelry. There must be another material that covers the gondorukem to make it a suitable product.
2) Second exploration, the mixture of gondorukem with marine biota waste is broken down again with a hammer and drilled with a jewelry drill to determine the strength of the material. Is it easy or hard to solve?
3) For the next process which is a cutting gemstone, the author considers empowering local communities in Gardu Village, Datarnangka Village, Sagaranten, Sukabumi.
4) The process of attachment with stones that have been cut and polished, sent to the second production house in Bekasi uses a small amount of gondorukem or liquid UV resin and allows it to dry.

4 CONCLUSION

Halal has industrial potential that can be used to developed halal jewelry. These potential concerns halal and sustainability in jewelry. The use of Sustainable Product Design as a reference in the jewelry design process makes a middle way in answering the problem of marine biota waste in its processing potential into creative products such as fine jewelry with a higher value, namely the value of environmental and social welfare. In addition to being considered by Islamic law, halal jewelry will also expand market reach given the growing public concern about the issue of going green. By including environmental and social concerns such as empowering local communities and using sustainable materials, the market for halal jewelry will grow even wider. Furthermore, halal is not only everything related to food and contains animal elements that are forbidden, but halal products also mean environmentally friendly products.

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Mobile application for donation and adoption of stranded dogs and cats during the COVID-19 pandemic

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ABSTRACT: The situation changes as the COVID-19 pandemic affects the whole world. The impact of the pandemic does not only affect the health sector but also the economy. Restrictions on activities to decrease the spread of COVID-19 produce an impact on business activities and cause national economic losses. Pets are one of the many aspects that have been badly affected by this phenomenon. The donations received by animal shelters have decreased drastically while the number of abandoned animals continued to increase. The limitation of community movement due to social distancing also limits the effective information media during this pandemic. The research method used is qualitative, data collection with literature studies regarding the right media for the socialization of wild animal shelters, interviews with experts regarding the media to be designed, and observations at animal shelters in Jakarta, which is the area of research. Designing a mobile application so that people can donate online and adopt the abandoned animals to help maximize the awareness about the shelter of wild animals to the public.

Keywords: animal shelter, mobile application, pandemic COVID-19

1 INTRODUCTION

Pets are part of the daily life of people in big cities in Indonesia. The number of pet owners in Indonesia continues to increase every year. Indonesia's economic growth from 2015 to 2019 is one of the factors in developing the market and community of pet lovers. The situation changes as the COVID-19 (coronavirus disease 2019) pandemic affects the entire world. The impact of the pandemic has not only an impact on the health sector but also the economy. Pets are one of the many aspects that are badly affected by this economic recession. Donations received by animal shelters have drastically reduced, while the number of abandoned animals continues to increase. Doctor Susana Somali, the owner of Pejaten Shelter, said that many people give away their pets because they have lost their jobs and are unable to care for their pets.

Information media is needed to spread this phenomenon to people outside the animal lover community. Based on data from Impact Marketing, 39% of social media users are spending more time on the internet during the pandemic. Many marketers predict that ads in social media content will increase by 66%, blog content by 57%, and video production by 50%. Therefore, the application's design is appropriate to be a medium of information about abandoned animals for people living in the Jakarta area. The application is also expected to offer a solution to decreasing donations and the increasing number of abandoned animals in shelters by making it easier for people who want to send donations to animal shelters and helping potential adopters to find the right animal for them, according to the location. For this application to be known by many people and design the user interface, visual identity, and promotion through social media are also required.

1.1 *Literature study*

a. Application
   The term application, which is traditionally used in the computer realm, has been adopted throughout the consumer market to refer to the methods used to communicate, entertain, educate, shop, and spend money through mobile devices (Salz & Moranz 2013:1). A mobile app is a software specifically designed to operate on a mobile device, such as a tablet or smartphone. These apps are usually downloaded and installed by the device owner. And once installed, the mobile application will operate simultaneously with the operating system (OS). Once developed, mobile applications are usually distributed through a third party, commonly known as an app store or marketplace. Mobile apps are generally one type of application called native apps. Salz and Morans suggested that native apps can be accessed without a web connection. Native apps are distributed through various app stores, either platform-specific or third-party app stores (Salz & Moranz 2013:6).

b. User interface (UI)
   Deacon (2020) explains that the User Interface is how the user interacts with the product/system. The UI provides a way for users to enter information into the system (input) and receive information from the system (output).
   A UI designer designs the appearance of the system and the interaction between the user and the system. The most important thing in UI design is the ease of users to navigate the system to meet their needs. (Proboyekti in Taroreh and Resmadi 2020)

c. User experience (UX)
   User Experience is how users respond, perceptions, preferences, and behavior when and before using a product/system. (ISO 9241-210, 2020). The job of a UX designer is to research the user experience when using a product and find out which side of the design is less than optimal and then fix it. UX design leads to optimizing user satisfaction after using a product or service.

d. Branding
   Brand (brand) is an emotional approach taken by a company to consumers. A strong brand is a brand that can compete and stand out among other similar products in the market. (Wheeler in Saprillan & Hidayat 2019)

This emotional approach is carried out by attaching a brand identity consisting of values, elements, and promises to a product. Brand identity serves as product differentiation, builds awareness of the existence of the product, and builds loyalty between products and customers. (Swasty 2016:14-16). Swasty argued that branding is an integral part of the process within an entity when determining its values, elements, and promises (2016: 14).

2   RESEARCH METHODS

This research focuses on data collection and data analysis methods which can be described as follows:

2.1 *Methods of data collecting*

The object that will be designed is information media about abandoned animals due to the COVID-19 pandemic in the Jakarta area. The main target in this design is the adult Jakarta community with an age range of 21–35 years. This main target is based on the age of the people who are active in the animal lover community in Jakarta. Therefore, the object of the design is intended especially for people in the Jakarta area. The design is carried out to inform the public about the phenomenon of abandoned animals due to pandemic conditions and facilitate the donation and adoption process for the welfare of abandoned animals. The information media is designed according to the guidelines through visual communication design science, UI/UX theory, and branding theory to achieve the design goals.

2.2 *Methods of data analysis*

The analytical method used in this research is the comparison matrix method and qualitative descriptive analysis method. The comparison matrix method is used to compare the application of animal organizations or animal shelters with the donation feature and to be used as a reference in the design. The comparison matrix consists of columns and rows that represent two different dimensions. The objects to be analyzed are aligned to see where the differences are. According to I Made Wirartha (2006: 155) while the qualitative descriptive analysis method is to analyze, describe, and summarize various conditions, situations from various data collected in interviews or observations regarding problems studied directly in the field. Data analysis in research is supported by literature studies where data acquisition is obtained through various sources such as journals, books, and articles related to the research topic.

3 RESULT AND DISCUSSION

3.1 *Message concept*

This application not only aims to educate the wider community about the existence and needs of abandoned dogs and cats, but also seeks to facilitate people who want to help by simplifying the donation and adoption process for sterilization, vaccines, and treatment. Starting from the recipient of the donation, the use of the application proceeds from fundraising, to the source of dogs and cats that can be adopted can be trusted because it has been checked beforehand and all activities will have evidence for the user. The keywords for this application are; informative, precise, helpful, and trusted.

3.2 *Creative concept*

The empathetic approach was chosen considering that the application's target market is young adults in Jakarta who are active in social issue activities, both offline and online. This approach was also chosen to make people outside the target market interested in finding out more about the abandoned dog and cat campaign in Jakarta.
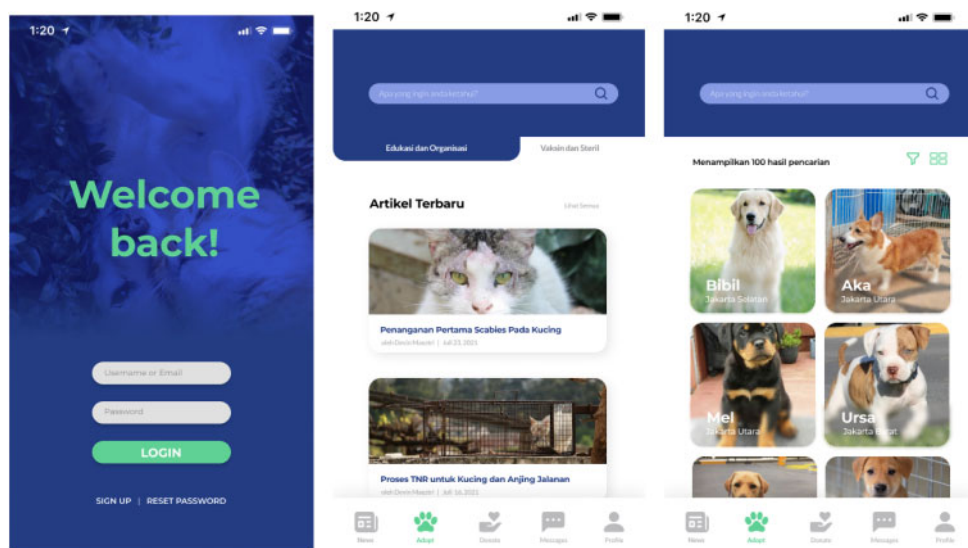
Figure 1. Application design visualization.

3.3 *Visual concepts*

The illustration style that will be used in several displays uses a flat illustration style with a color scheme that is limited to two or three colors and thick lines. This illustration style that seems modern and fun was chosen because it is in demand by young adults who live in big cities. Illustrations will be used as supporting elements for information articles in the application, displays such as loading screens and error pages, icons, and social media campaigns to attract more users.

The selected font type is a bold font with rounded corners. The boldness of the font symbolizes the precise and informative nature of the application, while the angles that tend to be blunt indicate trustworthiness and willingness to help. This type of font was chosen because it fits the illustration style and color scheme which is modern and fun. The red color symbolizes empathy, passion, and compassion, while the blue color symbolizes wisdom and depth of understanding. Orange acts as an 'intermediate color' between contrasting red and blue and symbolizes friendliness and determination. Color selection is based on the design goal of the application which not only provides accurate and in-depth information about the welfare of abandoned dogs and cats but also facilitates users to contribute to that welfare driven by empathy and a desire to make a difference.

3.4 *Media concept*

To increase public awareness about the existence of the application and the importance of sterile and vaccines, social media campaigns will be designed as supporting media. Social media campaigns will be conducted through Instagram or Twitter with media that encourage people to interact directly, such as quizzes and trivia. The offline media that will be designed are through billboards and booths at malls to attract the attention of the target market as well as holding activities with animal organizations in Jakarta to attract the attention of users who are active in animal community activities.

4 CONCLUSION

The results showed that the design of this application was motivated by the lack of media information about the phenomenon of abandoned animals due to the COVID-19 pandemic conditions and the lack of means to inform about the donation procedures required by animal shelters. The level of public awareness of wild animal shelters is still lacking due to the lack of maximum socialization regarding related issues. Therefore, the design of this application is expected to be a solution to these problems. Applications are designed using guidelines that are following visual communication design skills. This application aims to make it easier for people who want to make donations for abandoned animals in shelters and help people who want to adopt these animals.

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Application of brand visual identity in interior design. Case study: Block71 Bandung

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ABSTRACT: The study aimed to look at the similarity, consistency, and authenticity of the visual identity applications of Brand Block 71 that appear in the interior elements of Block 71's coworking space. Interior design is one of the tools that are quite effective in the branding process to visualize the identity of a brand. This research uses qualitative methods. The data is obtained by conducting literature studies and field observations. The results of the study showed that there are several interior elements that apply the visual identity of Block71. This shows that the branding theory that variable similarity, consistency, and authenticity are applied by Block71 Bandung to its interior design. The information obtained through this study is expected to increase interior design knowledge of the interior branding process, apart from adding to the study related to branding in interior design science.

Keywords: interior branding, interior brand identity, brand visual identity, visual identity application

1 INTRODUCTION

Interior design is now a field of science that is growing very rapidly. Clients come from various sectors, both private sectors such as occupancy, retail, office, and others. Interior consultants today are racing to design different interiors and have characteristics over each other. According to Kuhteubl (2016), one aspect that can provide strength in the design of an interior is the brand. Brand not only in the form of logo, it involves telling the story of your distinct point of view—who you want to serve and why you do business—and it's a process that happens from the inside out. In his book, it is stated that several aspects can be a force to form the identity of a brand in interior design, namely clear vision, unique story, and energy. Branding aims to ensure the success of a product or service, in the aspect of interior design means how the process of delivering promises, mission vision, and intangible concepts can be visualized and prospective visitors get an empirical experience through space.

Branding in interior design is known as brandscaping. This process is done by conducting research related to the extraction of conceptual aspects of the brand into a visual identity. The visual identity translates into an interior visual storyboard that can be in the form of visual sketches, materials, colors, and more. This visual identity can be the identity of the brand that appears in the interior elements.

Brand identity helps create relationships between the company and consumers (Fournier 1998), and can lead to perceptions of brand personality (Aaker 1997; Aaker et al. 2004). The emotional relationship between brands and potential customers can increase brand awareness. If brand awareness increases, of course, the value of the brand will certainly increase; eventually it will be formed known as customer loyalty. The brand identity that has been created by graphic designers in the form of logos, colors, typography, and others translated into the concept of the visual interior. The concept of interior visuals will then be applied to interior design so that there is a relationship between

the brand and the brand's graphic identity, and the brand's visual identity in interior design. Building on the customers' emotional bond with the brand through influential interior space is another reason that has emphasized interior design as a brand marketing strategy. However, despite the increasing significance of interior design in supporting and marketing brand identity, there is a lack of comprehensive studies on interior design branding strategies to be used as a reference in real-world practice (Fielding 2015).

The study aimed to look at the similarity, consistency, and authenticity of the visual identity applications of Brand Block 71 that appear in the interior elements of Block 71's coworking space. Interior design is one of the tools that are quite effective in the branding process to visualize the identity of a brand. Block 71 is a brand coworking space and is also a platform for startups to grow their business. Block 71 is a brand coworking space and is also a platform for startups to grow their business. Analysis of visual identity applications in block71 interiors is limited from the parameters of similarity, consistency. Both aspects can shape people's perceptions when interpreting the image of the brand.

2 RESEARCH METHODS

This study used a qualitative method with emphasis on visual identity in block71 coworking space interior in Bandung as a case study, as well as conducting comparative studies with Block71 interiors in Jakarta, Yogyakarta, and Singapore. The selection method is a non-random sampling with a judgmental approach (purposive) based on the three samplings as a comparison of case studies that its criteria have been determined by the author (Kumar 2018). The analysis method for this study is a descriptive qualitative analysis method by processing text data keywords consisting of several elements of visual identity in each case study, which is color, pattern, texture. The variables to be described based on analysis are similarity, consistency, and authenticity which are the key factors of the branding process. The method of data collection is divided into two, namely observation methods for primary data collection and secondary data collection through literature data from related journals.

3 RESULT AND DISCUSSION

3.1 *Result*

Corporate identity has many opinions on how to define it. Through Batraga and Rutitis (2012), The International Corporate Identity Group (ICIG) proposes a comprehensive definition of corporate identity, each organization has an identity that articulates the company's ethos, goals, and values as well as presents a sense of individuality that can help companies to make a difference with other companies or other brands. The term 'corporate identity' is often confused with the terms 'brand identity' and 'corporate image'. Unlike brand identity, which represents a way of the company to consumer perception of products and services, while corporate identity refers to the way the company communicates its identity thoroughly to all stakeholders both internal and external, namely consumers, employees, investors, partners, suppliers, distributors, and governments (Hatch & Schultz 2008).

In the field of interior design, how to communicate the identity of the company can be done through the implementation of the identity both tangible and intangible. Interior Design is a tool to communicate the essence of corporate identity through the design of physical environments among others through aesthetic visuals, or the atmosphere and mood of space. Corporate identity integrates several design elements to convey a visual message to consumers. These visual messages include graphic design (logo, color scheme, font, etc.), product design, and interior design. Visual identity is one of the strategies in communicating the essence of a company, where visual identity that has been designed by graphic designers can be implemented in space. According to Ali & Fathallah
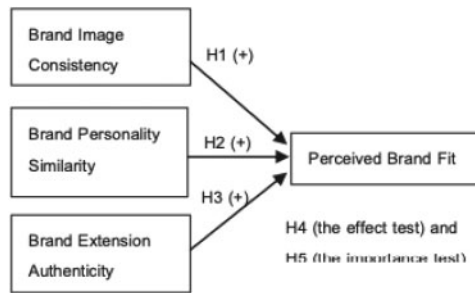
Figure 1. Proposed conceptual framework (Sattayawaksakul et al. 2019).

(2019), visual identity is a concept that can distinguish products and services from companies from other companies, both from slogans, colors, and all that can be seen visually. In interior design this visual concept can be shapes, colors, patterns, textures, light or other aesthetic elements.

Based on Sattayawaksakul et al. (2019), three fundamental components contribute and have a significant impact on the existence of a brand, namely consistency, personality similarity, and brand extension authenticity.

This research focuses on visual elements that consistently appear in the interior design of block71 coworking space. These similarities, consistency, and authenticity will be analyzed through the following comparison table.

Table 1. Comparison of visual aesthetic elements coworking space Block71.

Element	Block71 Bandung	Block71 Jakarta	Block71 Yogyakarta	Block71 Singapura	Description
Tropical Leaves Pattern (TLP)					Consistency of visual elements in the form of tropical leaves pattern. This pattern also shows brand authenticity
Lines Pattern (LP)					Consistency of visual elements in the form of the same line pattern. This pattern also shows brand authenticity
Windows and Building Fasades Pattern (WBFP)			 		Consistency of visual elements in the form of window patterns and building facades.
Interior Color Scheme (ICS)					Similarity and consistency in the use of interior coworking space color scheme Block71

(*continued*)

Table 1. Continued.

Element	Block71 Bandung	Block71 Jakarta	Block71 Yogyakarta	Block71 Singapura	Description
Interior Material (IM)					Similarity and consistency in the use of exposed concrete materials dominant on the walls, wood texture elements on furniture
source	observation documentation	google maps image	google maps image	https://block71.co	

Some visual identities that are identical to block71 identity which is a differentiating value with other coworking spaces are shown in the comparison analysis table above. Elements of identity that consistently and have similarities in each block71 room in Bandung, Jakarta, Yogyakarta, and Singapore are as follows,

3.2 *Discussion*

Table 2. Block71 visual identity application based on branding process key factor: similarity, consistency, and authenticity.

Key Factor	Element	Object Studies			
		Bandung	Jakarta	Yogyakarta	Singapore
Similarity	TLP	∗	∗	∗	∗
	LP	∗	∗	∗	∗
	WBFP	∗	∗	∗	∗
	ICS	∗	∗	∗	∗
	IM	∗	∗	∗	∗
Consistency	TLP	∗	∗	∗	∗
	LP	∗	∗	∗	∗
	WBFP	∗	∗	∗	∗
	ICS	∗	∗	∗	∗
	IM	∗	∗	∗	∗
Authenticity	TLP	∗	∗	∗	∗
	LP	∗	∗	∗	∗
	WBFP	∗	∗	∗	∗
	ICS	x	x	x	x
	IM	x	x	x	x

Based on the application analysis table of interior elements that implement the branding process key factors, key factor similarity and consistency appears in all case study objects, especially on Block71 Bandung. In contrast to the key factor authenticity that for interior elements of color scheme and interior material, does not show authenticity, or can be said to have no uniqueness and originality, because as we know that monochrome colors have been widely used in other interior design, as well as interior materials that are very close to industrial style which is a representation of urban life. The color scheme applied is indeed a derivative and translation of the logo of Block 71, as well as the interior material used refers to the central interior design of Block 71 in Singapore,

and the current interior design trend is industrial style trends. Therefore, related to the application of color schemes and interior materials only implement key factors are similarity and consistency.

4 CONCLUSION

Research shows the implementation of the key factor of the branding process in the interior elements of Block71 Bandung. All the interior elements of Block 71 that become parameters seem to imply key factors similarity and consistency. There are similarities and consistencies in terms of the application of tropical leaf patterns, identical line patterns, building facades, and window patterns, as well as color schemes and interior materials. Related to color schemes and interior materials appear similarities in terms of style, namely industrial style. This industrialstyle has become an interior design trend today that represents a fast and simple urban life, not many ornaments, and prioritizes material honesty. But for the key factor authenticity, it appears that it does not mean the originality or uniqueness of block71 interior design, it seems that the design style is used. Where the color scheme and interior materials used have been widely applied to other interior designs. In interior design specifically, the trend is one approach that can also increase a person's interest in entering the space. In addition, the interior design approach applied to the Interior Block 71 does not fully apply the brand identity of Block 71 and in the context of interior design, science is not wrong. So it can be concluded that Block 71 Bandung applies a visual identity that is a hallmark of Block 71, because of the implementation of branding process key factor similarity and consistency in the interior elements. As for brand authenticity within the limits of visual identity is not quite visible in the color scheme components and interior of the material. The author is aware that there are still many shortcomings of this research because research related to the branding process in interior design can still be said to be minimal. The author will continue research related to branding in the interior by focusing more on brand authenticity in the interior and strive to collaborate across science to produce more ideal research.

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Betawi culture preservation efforts through a design thinking approach: Oplet as a case study

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ABSTRACT: *Oplet* is a popular public transportation in Jakarta from 1930 to 1979. As the Oplet are getting older, there were government policies in 1979 to stop the operation of the Oplet and replace it with the *Mikrolet*. This study aims to find a solution so that the remaining Oplet could have a new function so that the Betawi culture could exist and prevent extinction. How to combine the diversity of Betawi culture is the problem to support the new functions and build a representative appearance of the Oplet. This study used the design thinking approach to create the design concept to implement an Oplet with the new role of becoming a food truck that serves Betawi street food. In addition, the final result of the outer appearance applies several forms of decorative elements characteristic of Betawi cultures, such as roof ornaments and antique chandeliers. The result of this study is expected to make it easy to introduce and educate society on the Betawi culture preservation.

Keywords: Betawi culture, design, Oplet

1   INTRODUCTION

The existence of the Betawi tribe, the indigenous peoples of Jakarta, is increasingly displaced by the urbanites. Since the Batavia era, the population in this area has continued to increase with various tribes and ethnicities in it every year. The number of native Jakarta citizens no longer dominates in the place of origin (Windarsih 2013). Naturally, these conditions will eventually shelve the indigenous Betawi culture and even combine it with the culture of the immigrants or the development of modern culture nowadays. Pluralism population is one reason why the local indigenous culture can change from time to time. Those factors become why the government continues to try to preserve Betawi culture (Musthofa 2020).

Culture is a life process experienced by a group of people to produce an identity or characteristic (Koentjaraningrat 2002). One of the functions of identity that emerges in this culture is to become a symbol system of a civilization experienced by a group of people who continue to learn to improve their standard of living (Keesing 1997). Oplet is one of the symbols from Betawi culture in public transportation. This motorized public transportation tool appears and is used by Jakarta residents, primarily Betawi tribes, because of the changing times that have started to replace animal-powered transportation (Hanggoro 2018). Not only Oplet, but various Betawi cultures also need to be considered for preservation because they could be extinct by the times. Betawi has many cultural elements, such as culinary, decorative elements of buildings, performing arts, and so on, which are accommodated into a social system (Steven & Herlambang 2019).

Morris Minor is a brand car in the 1930s that used to be public transportation named Oplet. By reconceptualizing the Morris Minor, we can revitalize the remaining Morris Minor to change its function instead of displaying them in the museum. Creativity is needed in the design process. According to Suryana (2003), creativity is an ability to create or innovate by developing ideas to solve problems (Hadiyati 2012). Problem-solving that uses creativity is Design Thinking which is a part of the design process. One of the manifestations of the culture is the design that creates

a product that has value at a particular time (Rizali 2020). By design thinking, this study could potentially be the problem solving how to preserve Betawi culture through the medium of Oplet transportation with new functions following current trends. The expected results of this study, the design of the new role of the Oplet can make it easy to introduce and educate the society.

2   RESEARCH METHODS

The design process is carried out through a design thinking approach whose stages are carried out creatively and innovatively (Rao 2018):

1. Empathize by tracing phenomena and problems.
2. Define, and analyze various data obtained to determine the main problem.
3. Ideate, sparking ideas that are arranged in a concept as a solution.
4. Prototype, at this stage, the prototype is made scalable and measurable by digitalization.
5. Test: The final step is testing through visualization close to the actual final design result.
6. Implement, implementing the final result through the digital perspective presentation.

2.1   *Data collection*

Data was collected by direct observation and online research while visiting the transportation museums in Jakarta and Malang to see the exact shape, material, and dimensions of an Oplet or Morris Minor car. An interview with the government in the cultural department is conducted to understand the Betawi culture and is supported by literature studies. A survey was also performed on several societies to find out their knowledge about Betawi culture to achieve the objectives.

2.2   *Data analysis*

Furthermore, all data is mapped through brainstorming ideas to produce concepts as solutions to problems. In this study, data mapping is the first step to analyzing the situation that generates solution ideas and is right on target and objectives.

2.3   *Design implementation*

Making digital visualizations is carried out as a test of composing in a scalable way from ideas in the form of design concepts that have been compiled. A trial is carried out by illustrating it into a realistic 3D image to evaluate the perfection of the final design.

3   RESULT AND DISCUSSION

3.1   *Data analysis*

Regarding the uniqueness of Morris Minor's exterior design found during the observation process, it is essential to keep the authenticity of the design through the appearance of the Oplet. The backroom is quite spacious and simple in shape, so it will be easier to modify. Based on the results of interviews and questionnaires, there are many kinds of Betawi culture, such as the arts, buildings, ways of life, culinary, etc. The most popular Betawi culture in the community, especially the young generation, are Oplet, street food, and decorative ornaments in Betawi traditional houses.

3.2   *Design concept*

The result of design thinking is to combine several Betawi cultures at once in an applicative work through Oplet transportation with new functions, which is a food truck with the Betawi

characteristic. It comes from several Betawi cultures that are popular in the Betawi community. Due to the limited spaces of an Oplet, it only facilitates popular cultures based on the interview and questionnaires. The types of street food chosen were *Kue Pancong, Kue Ape, Kerak Telor,* and *Bir Pletok*. While in the final display, on the front, it will maintain the shape and color of the Oplet, the blue and black lines. Meanwhile, at the back, it has been completely modified to be a place to prepare street food menus, wherein the roof is designed with a touch of a typical Betawi traditional house.

3.3 *Design implementation*

Figure 1.   Design implementation on an Oplet with a new function that is a food truck.

The signature of the Oplet is the unique shape of the front of the Morris Minor car, so there is no change at the front of the vehicle. The color of Jakarta Oplet, in general, is Blue with a touch of black accentuation near the wheel (A). The backside was modified completely. It is used to prepare or cook street food. The center is left empty to allow space for the chef to cook. There are cooking tools for *Kue Pancong, Kue Ape*, and *Kerak Telor* (E) on the right side. While on the left side, there is a table where *Bir Pletok* is mixed (G). The backside of the Oplet is made of a display to serve the cooked food (F). All the furniture that supports the chef's equipment and activities had an adjustment between the chef's needs and the available area so that their activities remain comfortable. Complete the final appearance and the function of the back cover; the roof is made to cover the kitchen against the sun and rain. The shape of the top adopts a shingle roof as in the Betawi traditional house (B). The dimensions of the roof are reduced and adjusted to the size of the rear body. As a complement to the characteristics of the Betawi traditional house that is applied, the roof's edge is given an ornament in the form of a *Gigi Balang* (C). In addition, an antique chandelier with small dimensions is also installed on the backside (D). The shape of the chandelier is similar to the chandelier often found on the front porch of a traditional Betawi house. The design parts could be a new function of the Oplet to be a Foodtruck with the touch of popular Betawi cultures.

4 CONCLUSION

Preserve culture can be done with creativity. This creativity can be built through design thinking. Design thinking starts from finding the phenomenon and problems, formulating the ideas and solutions, and implementing them into the applicable product to support the preservation of Betawi culture.

Based on the design concept, the solution to preserve Betawi culture through implementing the culture in an Oplet is to change them into new functions without changing the signature characteristic. Betawi culture, which is popular in society, is part of the strategy for culture preservation. The implementation of a new function is a food truck. The Oplet can combine several popular Betawi cultures, such as Betawi cuisine as street food that are *Kue Pancong, Kue Ape, Kerak Telor,* and *Bir Pletok*. The other culture adopted in this study is a decorative element in the traditional Betawi houses, *Gigi Balang* ornaments, and an antique chandelier. Thus, the touch of a unique new function in the Oplet can attract the interest of the society to learn about several Betawi cultures.

This study can be used as a reference for producing new products that can increase the value of a Betawi culture that can be applied. Due to the lack of this study, further research is necessarily needed in the future. The prototyping process should be done along with the experiment steps on the object when it is embodied. Of course, it needs to be supported by the availability of sufficient research funds to complete further study.

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Analysis of the effectiveness of the facade design on the visibility of visitors. Case study: resort level, Paris Van Java Mall, Bandung

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ABSTRACT: Paris Van Java Mall is one of the largest malls in the city of Bandung, West Java. The Resort Level at the Paris Van Java mall has its own uniqueness because of the towering retail facade, making it look like a two-story building. However, problems arise related to the dimensions of the towering facade, namely the limited ability of consumers to see the overall design on the retail facade. The limited ability of consumers is influenced by several environmental factors, such as the dimensions of the corridor, the presence of retail merchandising units (RMU), and the presence of decorations or displays in the resort level corridor area. This study uses a qualitative descriptive analysis method to determine the extent to which the effectiveness of the design on the facade of the retail store on the visibility of consumers. Significant results were obtained that the facade design of retail stores in the Resort Level area could not be seen and felt optimally by visitors due to anthropometric and environmental factors. The continuation of this research is expected to be the proper reference for the basis of designing facades inside the mall.

Keywords: Visibility, Facade Design, Retail Store

1 INTRODUCTION

Paris Van Java Mall (PVJ) is a shopping mall that combines Mediterranean architecture and lush greenery to provide a unique and memorable experience. PVJ offers a resort lifestyle place that gives visitors an experience of Paris (www.parisvanjava.id : 2019). Located in the center of the city center, Jalan Sukajadi 137–139 makes PVJ Mall always crowded with visitors. PVJ Mall is divided into several floors; resort level, glamor level, concourse level, and sky level. Resort level comprises a corridor with towering retail store buildings on the right and left. The high-rise building looks like a two-story building, but in reality the building only consists of one floor. With the form of a two-storey building, the facade of the retail store building is designed in such a way (entrance and window display) that the entire facade stands approximately 7 square meters high. Meanwhile, the width of the corridor in that area is 8 square meters. For tenants who will rent a room at the resort level, PVJ has provided a uniform facade shape, namely the facade of a two-story building with window accents equipped with a balcony. However, the tenant may change the facade design in accordance with the regulations brought by the brand of a retail store. The shape of the towering facade is an interesting thing to study. The study is related to human visual abilities related to anthropometry related to the surrounding environment to be able to see and be aware of the facade design at the retail. This is certainly related to the effectiveness of the facade design provided by the brand in a retail store.

1.1 *Storefront*

The interesting aspect about the retail store is the design owned by the retailer. The design owned by a retail store attracts attention or directs visitors, which leads to potential customers. Based on this, the store design functions as one of the stimuli. Levy and Weitz (1998:126) (in Kusumowidagdo

(2015) suggest that the right atmosphere and interior design can encourage consumers to visit a store. There are four design elements that make up the store, namely storefront (front view), window display, interior design, and retail layout. Of the four elements, the discussion in this study is related to the storefront. Kusumowidagdo (2015) says that the storefront has great influence on the store image and should be planned carefully. With unique and attractive exterior, a shop can be interesting to visit. According to Kusumowidagdo (2005), a fairly wide entrance will give the visitors a sense of space and comfort. In addition to making visitors feel relieved and comfortable, with a large retail front area, human visibility can be maximized to be able to enjoy the facade design of a retail store, especially a retail store that has a facade height of 7 meters like at the resort level mall Paris Van Java.

1.2 *Visibility*

Visibility is related to the human ability to see an object. According to Poerwadarminto (1972) (in Kartika 2008) visuals are based on sight or what can be can be seen. According to Kartika (2008) one of the things that can affect a consumer's visibility is scale and proportion. The spatial quality of the area can be achieved depending on the high and low ratio between the height of the building (H) and the distance between opposite buildings (D) (Kim 2017; Maharani et al. 2019) said that D/H is a measurement that architects have used since a long time to measure enclosures. Maharani et al. (2019) adds the resulting value from the distance between spaces (D) and divides it by the height (H) of the building that surrounds, which is the degree of enclosure. According to Nugroho (2014) (in Maharani et al. 2019) if D/H$\leq$0.25, the space is narrow and congested, observers passing through this corridor will feel like they are on a narrow cliff, and only a quarter of the building's elevation can be seen. If D/H<1, the space will have an intimate impression, a sense of enclosure will arise, the shape of the building can be seen even though it is not the whole. If D/H=1, a balance is reached between the buildings and the distance between them. If D/H>1, the space is spacious and open.

1.3 *Anthropometry*

Human anthropometry related to visibility is the distance of sight. This criterion relates to visual obstruction as a function of the eye position factor and the estimated location of the barrier. According to the theory of the eye's ability to see, based on the eye's point of view on an object taken from the book (Panero 2003) "Human Dimensions and Interior Space", the ability of the human eye to see vertically has a comfortable standard of view, namely an angle of 40° down from the eye's line of sight and 30° up from the eye's line of sight assuming the eyeball is looking straight ahead. At that angle, the eye can analyze color differences well so that objects will be seen clearly when they are within the range of that angle.

1.4 *Environment quality at resort level*

The environment is an area that is around a shopping center, usually associated with spatial planning, or the condition of the population around the shopping center (Sinarwastu 2016). The environment around the mall in this study refers to things that can affect the visual ability of visitors to consciously and clearly see the facade design in retail stores, including Retail Merchandising Units (RMU), plants or trees, decorations, and more. The quality of the environment in the Resort Level area can cause disruption to visitors' attention to the design of the retail store facade. Yoshiko and Purwoko (2016) say that attention is an important part of cognitive function that can be measured directly by involving visual stimuli. Yoshiko and Purwoko (2016) add that attention is a process of choosing an object and maintaining attention to the object and solving problems or obstacles in the process. It can thus be concluded that if the visual ability of the visitor is given special attention to be able to see the design on the facade of a retail store, then environmental factors in the form of RMU,

decoration, and plants can be considered obstacles so that their usefulness or specifications must be reviewed, especially in the Resort Level area.

2   RESEARCH METHODS

This research uses the descriptive analysis method. Winartha (2006) said that the method of qualitative descriptive analysis is to analyze, describe, and summarize various conditions and situations that arise from various data collected in the form of interviews or observations about the problems studied. In this study, the analysis was carried out to examine the condition of the facade design in the Paris Van Java Resort Level area related to human anthropometry. Environmental analysis around the Resort Level area is also carried out considering that the environment can affect the visual ability of visitors. There are two types of data collected in this study, namely primary data and secondary data. Primary data are obtained directly by researchers. The primary data in this study are the result of observations of the Resort Level area. While the secondary data in this study were obtained from the Paris Van Jawa mall website, such as the vision and mission, the purpose of building a resort level, layout resort level, and so on. In this study, researchers conducted observations to collect data. Observations were carried out for approximately 6 months to obtain various conditions, such as conditions during the day, conditions at night, conditions during weekdays, conditions during weekends, and conditions when there were special events (sale or special event). The data analysis technique carried out in this study used a qualitative method with a descriptive analysis model. The stages in analyzing the data are; collecting data on Paris Van Jawa Resort Level, identifying problems that exist in the area with a design approach, searching for literature related to human visual abilities, especially anthropometry and spatial quality, providing an overview of the relationship between anthropometry and resort-level conditions, and providing recommendations on the effectiveness of designs on retail facades, especially those with limited areas.

3   RESULT AND DISCUSSION

After the researchers made observations and obtained some related literature, the results were obtained regarding the extent to which visitors can see or experience the designs that exist on the facades of retail stores on the Resort Level area. The visual ability that is analyzed is when visitors are walking in the corridors of the Resort Level area. Resort Level area is a long corridor with rows of retail stores on the left and right. In this area, there is a walkway that is placed in front of the retail store. Besides being used for walking, the trail area is also a limitation for visitors not to walk in the middle of the Resort Level corridor. This is because the middle area of the corridor is filled with Retail Merchandising Unit (RMU), plants, trash cans, decorations, etc.

Based on the analysis of the visual capabilities, visitors then pursed against the vertical visual dimension. Panero (2003) said that the ability of the human eye to see vertically has a comfortable standard of view, an angle of 40° down from the eye's line of sight and 30° up from the eye's line of sight, assuming the eyeball is looking straight ahead. At this angle, the eye can analyze color differences well so that objects will be seen clearly when they are within the range of that angle. At this angle, the design on the existing facade can be seen and realized by visitors.

If you look at the analysis of the sketch above, it can be concluded that when visitors are in front of or passing through a retail store, the visitor cannot be aware of the design on the top of the facade of the retail store (Picture 1). Visitors are only aware of the existing design at the bottom of the facade, namely the window display. This of course makes the design at the top of the retail store ineffective. While the design unity that exists at the top and bottom of the retail store building can be considered as a storefront. Kusumowidagdo (2015) says that the storefront character in a retail store has a great influence on the store image and must be planned carefully. The shop facade can be defined by the exterior condition of the store. This includes signage, entrances, lighting effects, and construction materials (Kusumowidagdo 2015). In accordance with this theory, careful planning
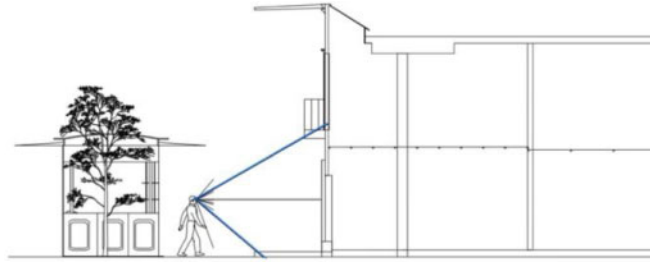
Picture 1.   Analysis sketch when visitor are in front of a retail store (the blue line shows the range of visitor's vertical dimension).

should also involve the scale and proportion of visitors' visual abilities to be able to realize the design of the entire retail store facade. According to Kartika (2008) one of the things that can affect a consumer's visibility is scale and proportion. In calculating the degree of space closure, it can be concluded that the value for the position of visitors when they are in front of a retail store is 0.28. The value is obtained from D (200)/H(700) resulting in <1. D is the size of the corridor in front of the retail store, which is 200 cm and H is the height of the facade of the building, which is 700 cm. From this value, the space formed will be too narrow and congested. Kartika (2008) adds that the real measure of the relationship between landscape components and their environment or the proportional relationship between buildings or architectural works with one another that creates an orderly atmosphere between visual elements. Careful planning is needed to place signage, lighting effects, logos, and others on a storefront, especially with a towering shape but in a limited corridor width area. That way, the effectiveness of the application of the design on a building facade will be obtained so that it can be enjoyed by visitors and, of course, it will become a separate image in a retail store.

The researchers do more analysis to see an illustration of visitor activity when walking and looking at a retail store, which is opposite (Picture 3.2). Visitors who walk across retail stores at the distance of 8 meters appear to have a higher visual ability to be able to see and be aware of the overall design found on the facade of a retail store. However, this visual ability can be distracted by environmental factors around the Resort Level area assuming the average visitor height is around 160 cm and the corridor width is 8 square meters.
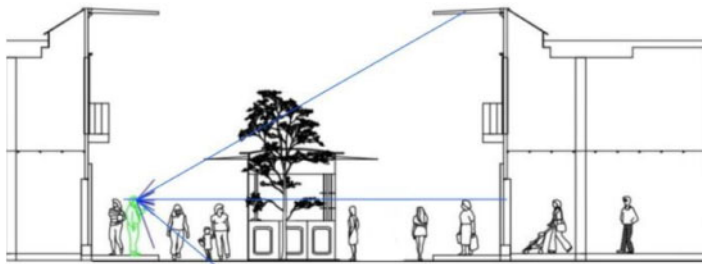
Picture 2.   Analysis sketch when the visitor crosses a retail store (the blue line shows the range of the visitor's vertical dimension).

The environment is an area located around the shopping center, usually associated with a spatial, or conditions of people around the shopping center (Sinarwastu 2016). The environment around the Resort Area in this study refers to things that can affect the visual ability of visitors to consciously and clearly see the facade design in retail stores. Then the calculation of the degree of space closure is carried out in the sketch above, with the condition that the end is opposite to the retail store

with a distance of 800 cm, the result is D(800)/H(700) is 1.14. This value results in D/H> 1, which means the space feels rather large. However, the human visual ability to see the overall appearance of the retail store facade is hindered by the surrounding environmental conditions. In the sketch above, it can be seen that the visitor's eye can reach the entire design view on the facade of the retail store, but there is a possibility that it is blocked by the Retail Merchandising Unit (RMU) building, plants or trees, decorations, or even visitors passing by. The environment around Resort Level has many variables that hinder the human visual barrier if we examine the effectiveness of the design on the retail store facade. Yoshiko and Purwoko (2016) add that attention is a process of choosing an object and maintaining attention to the object and solving problems or obstacles in the process. So it can be concluded that if the visitor's visual ability is given special attention to be able to see the design on the retail store facade, then environmental factors in the form of RMU, decoration, and plants can be considered as hindrances, such that their usefulness or specifications must be reviewed, especially in the Resort Level area.

4   CONCLUSION

From the results of the analysis using qualitative methods, it was found that the facade display at the retail store in the Resort Level area of the Paris Van Java mall could not be enjoyed optimally by visitors. This is based on the study of the D/H ratio. For the position of visitors who are in front of the retail store, the result is D/H < 1, which means that visitors feel that the corridor space is narrow so they are not free to enjoy the overall appearance of the retail store facade. Then the position of visitors opposite the retail store actually has a result of D/H > 1, which means the room feels quite spacious, but the environment at the resort level such as plants, RMU, and decorations hinders visitors' visual abilities. This study also uses a sketch simulation that describes the position of visitors when they are in front of a retail store and opposite a retail store to test human anthropometric abilities. The results of the sketch analysis carried out also illustrate that the appearance of the facade of the retail store cannot be enjoyed optimally by visitors. That can be influenced by the dimensions of the building, the width of the corridor, and the distraction from the surrounding environment, such as Retail Merchandising Units (RMU), plants or trees, decorations, and others.

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A user-centered approach in developing Duet, a co-parenting mobile app to facilitate childcare coordination for Indonesian parents

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ABSTRACT: The way a father and a mother interact and cooperate in their duty as parents is referred to as co-parenting. Parents with a positive co-parenting connection can be more productive and have a more enjoyable parenting experience. Co-parenting is divided into four categories (Feinberg et al. 2012): childrearing agreement, support/undermining, satisfaction with the division of labor, and family management. Each domain has its characteristics, and parents may have difficulties in their relationships, which contribute to the various co-parenting domain circumstances. This study aims to create a mobile application that would allow users to better coordinate in parenting. The study was conducted in two sequential phases; phase 1 was to design Duet using a user-centered approach and build and test the prototype. In phase 2, feedback was collected from a group of parents that used the app. The survey was conducted on 110 Indonesian parents to identify user preference with regard to interface design. To maximize the application's features, focus group discussions were conducted with 32 parents (16 mothers and 16 fathers), divided into four categories according to the child's age: toddlers, elementary, junior high, and high school. The application was found to have significant potential in providing Indonesian parents with information tailored to their unique requirements. Duet is a promising tool to help parents maintain balance in parenting and improve a child's entrepreneurial character development.

Keywords: co-parenting, mobile application, UI/UX, user-centred design

1 INTRODUCTION

Childcare is not only dependent on a mother but the support of both parents plays an important role in the development of a child's identity and personality, which is strongly influenced by parents (Janis 1969; Küçük et.al. 2012). Father's participation in parenting is very important in the development of children who are socially and emotionally healthy (Setiawan 2017). According to Pruett and Pruett (2009), the quality of the father–mother relationship in parenting has a significant impact on children's growth and development, both positively and negatively. If co-parenting is done well, then the child will be able to develop well, and vice versa. Not only at an early age, the results of the study also found that parents play an important role in the development of adolescent identity (Berzonsky 2004; Sartor & Youniss 2002).

Internal and external sources of stress and support influence the operation of the co-parenting subsystem, which is frequently regarded as being at the center of family functioning (Feinberg 2018). Good co-parenting is often a challenge for parents. This is due to differences in values and expectations between fathers and mothers. Such factors make it difficult to achieve cohesiveness in co-parenting. Because good co-parenting is key to shaping the entrepreneurial character of children, it is important to take efforts to help parents develop good co-parenting. Not only that, along with technological developments, efforts to help parents strengthen the co-parenting need to be carried out using media that are easily accessible and in accordance with their daily lifestyle, such as the use of computer programs (mobile applications and websites on gadgets). Through this research, a user-based collaborative platform—Duet—was created. A design and development methodology

that focuses on users, such as user-centered design (UCD), is required to boost the acceptance and success of such applications.

1.1 *Co-parenting*

Co-parenting is a collaboration between a father and a mother in parenting, which contains commitment, agreement, and coordination (Mc. Hale, et.al., 2011; Cordova, 2009; Riina, 2014). Co-parenting can also be referred to as partnership parenting, which is a type of parenting wherein the father and mother work as a team and play an active role in parenting (Pruett, 2009). According to Feinberg (2018), co-parenting is a way for parents to work together and share parenting roles. These roles are divided into four main components, namely:

1.1.1 Support/undermining. This aspect of co-parenting entails each parent's validation of the other's parental ability, acknowledging and appreciating the other's contributions, and upholding the other's parenting decisions and authority (Belsky et al. 1996; McHale 1995; Weissman & Cohen 1985).
1.1.2 Childrearing disagreement. The differences in opinion on a variety of child-related matters, such as moral values, discipline, educational standard, priorities, safety, peer associations, and so on.
1.1.3 Division of labor, tasks, and duties linked to daily routines, childcare, and domestic work; financial, legal, and medical issues; and other child-related responsibilities.
1.1.4 Parents' management of interactional patterns in the family comprises three aspects: conflict, coalitions, and balance. The primary issue in terms of how parents jointly handle relationship conflict is how children are exposed to conflict—especially frequent, unresolved, and/or physical conflict (Grych & Fincham 1990).

1.2 *User-centered design (UCD)*

UCD refers to how end users influence a design through their participation in the design process. It encompasses a philosophy and a number of approaches. User involvement in UCD can range from simple observation of end users in their work environment to including user representatives on the design team (Hermawati & Lawson 2014). The UCD method is based on the understanding of ergonomics and usability to determine the demands of the user. It's a project-based method to developing interactive systems. The technical standards of the UCD method are determined by ANSI-ISO (International Organization of Standardization), which stands for American National Standards Institute. The ISO defines user experience as "perceptions and responses resulting from the usage or anticipated use of a product, system, or service." As a result of the preceding, every effort made to meet account requirements and technological features should be given the same priority as those made to improve user experience (Chammas et al. 2015).

2 RESEARCH METHODS

This study makes use of mixed methods. In contrast to study questions or hypotheses, mixed method research collects both qualitative and quantitative data. By integrating these data, explaining the data, building from one database to another, or embedding the data within a wider framework, the two types of data are incorporated in the design analysis. The data collection process is carried out by distributing digital questionnaires using a Google Form. The questionnaire contains 20 open-ended and close-ended questions that aim to ask the most suitable design options for users. In addition, data collection is also deepened through focus groups discussion (FGD) to ask for the appearance and main features of the application according to the needs of each parent.

2.1 *Methods of data collecting*

The data collection methods through a survey conducted from 6 to 15 May 2021 obtained 110 responses that match the criteria. Respondents' criteria include being married and the age of marriage is not more than 25 years. 20 questions given to the respondents, which were divided into three sections, included basic information about respondents, childcare conditions, and co-parenting applications. The answers to the questions in the section on co-parenting applications are used as recommendations in designing the visual of Duet application. Figures 1 and 2 show some questions regarding the visual alternatives. Respondents were also asked to provide reasons why they chose each alternative so that the answers could be used as consideration in making visual designs.
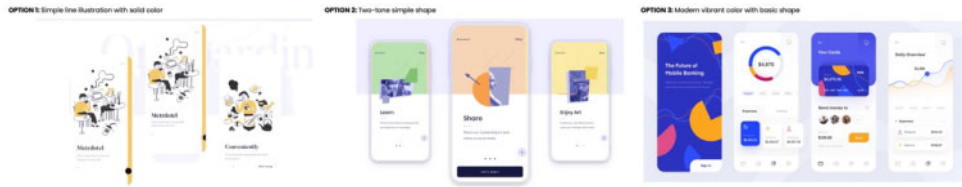
Figure 1.   Visual alternatives.

Figure 2.   Color combination alternatives.

2.2 *Methods of data analysis*

From close-ended questions about visual alternatives for co-parenting application designs, the following results were obtained (Table 1).

Table 1.   Results of the questionnaire about the co-parenting application.

Alternatives	Likert Scale (%)					*Avg*
	1	2	3	4	5	
Option 1	2.8	8.3	31.5	36.1	21.3	3.65
Option 2	3.6	13.6	44.5	30.9	7.3	3.25
Option 3	0.9	14	33.6	43.9	7.5	3.5
Color 1						21.8%
Color 2						39.1%
Color 3						35.5%
Other						2.6%

3 RESULT AND DISCUSSION

From the questionnaires that have been distributed, it can be concluded that the most desirable visual design is Option 1 with a choice of Color 2 so that the visual appearance made adjusts to the results (see Figure 3). For logo creation, considering the results of the questionnaire, many also choose Option 2 because the basic form is simple and easy to remember (see Figure 4).
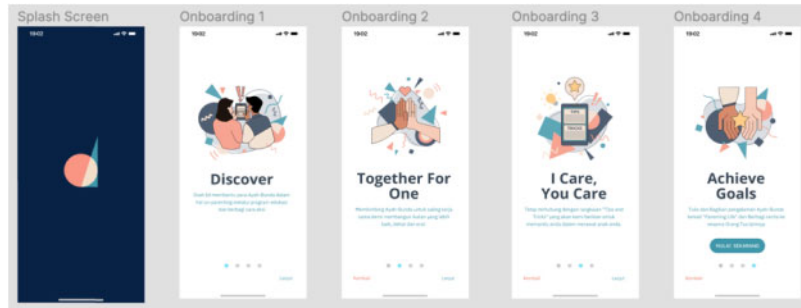
Figure 3.   Design visuals for Duet.
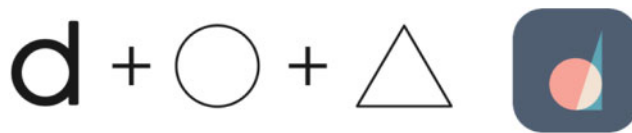
Figure 4.   Logo Duet.

The Duet logo concept is combining two circular and triangular shapes into the letter "d" making an element that can represent the familial bond between a spouse and their child. The use of blue is often a sign that the application or service provided is trusted, honest, and reliable. Pink color symbolizes emotion, love, and passion. White gives a neutral and calming impression.
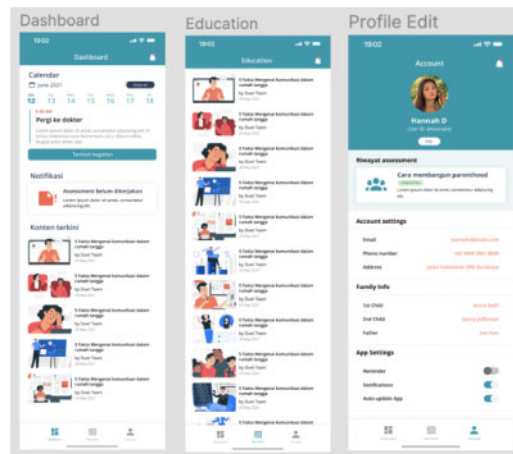
Figure 5.   Main features of Duet.

To deepen the result of the data collection, FGD was conducted for 4 days (18, 19, 20, 25 May 2021) on 30 parents who were divided into four categories according to the age of the child—toddler, elementary, middle school, and high school. The results of the FGD are used to determine the main features that will be made for Duet, which would enhance parenting coordination between fathers and mothers. From the FGD results, it was also concluded that in the initial prototype of the Duet application, there were only three main menus (Figure 5), namely:

Dashboard. This page features some highlights such as calendar, assessment, and articles. The calendar was made because from the results of interviews conducted during FGD, most respondents felt that coordination would be easier if both fathers and mothers understood their children's important schedules, such as immunization times, tutoring, extracurricular activities, and so on. In addition, the selected articles also make it easier for parents to read and get inspired in parenting activities.

Education. The education page contains selected articles that can inspire activities that can be done with children, tips on parenting, and information on parenting styles suggested by experts.

Profile. The profile page is used to update family information, making it easier for parents to access data and get advice on information that is appropriate for the child's age.

4 CONCLUSION

Previous research has shown that the development of children's character cannot be separated from the cohesiveness of parents in carrying out parenting tasks or what is called co-parenting. In reality, many parents are not able to do co-parenting properly, so that parenting patterns for children become ineffective. Therefore, this study aims to identify co-parenting problems and develop a computer program that can strengthen co-parenting. With this application, it is hoped that more parents in Indonesia can be empowered to do co-parenting so that parenting becomes more effective and optimal. To make parents interested in using the application, we need interesting and needed things. So, in this research, the focus is on finding a suitable visual style for users and the main features needed. In the first year of application development, only three main menus were designed that can represent the needs of parents in the division of co-parenting tasks: the main dashboard, which contains schedule and activity highlights; education page to inspire parents to do co-parenting; and profiles that each family can update. Because this study only aims to find designs and features that best suit the basic needs of the user, further research and expert validation are needed, which would help improve this application.

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Physical and philosophical value of traditional snack *Nagasari* as design inspiration on environmentally friendly food delivery system

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ABSTRACT: *Nagasari* is one of the traditional snacks which is often served in several sacred celebrations in Indonesia, because it is considered to have a special meaning. Signature of the snack is that it is wrapped in banana leaf which is organic or can be decomposed by nature. But nowadays, *Nagasari* is often found in a plastic wrapper that is inorganic or difficult to decompose. *Nagasari*'s values and facts have inspired this research and planning to collaborate with the growing culinary world, which also has problems related to disposable packaging usage, especially from purchases through delivery services. The design thinking method is employed as a pattern so the mapping is directed and supported by literature from scientific journals, cultural, and technology theory. There is an expanded opportunity on innovation strategy to produce a more sustainable delivery services system under the name *Nagasary.id*. This system is expected to be developed for other delivery services, in addition to online food purchases.

Keywords: application system, environmentally-friendly, food delivery, *Nagasari*, traditional culinary

1 INTRODUCTION

Amid the diversity of Indonesian cuisine, *Nagasari* is one of the traditional snacks which can be found easily in the community. In Javanese culture, this cake is often presented at several celebrations because it has a special value or meaning (Tania 2019). In addition, the selection of inspired cultural or traditional elements is a form of representation and concern for preserving the existence of an object (in this case *Nagasari*), both at the moment and long term (Ciptandi 2021). In connection to today's culinary, online purchase systems such as ordering through applications are not novel for community. Wherein a courier personnel takes the food from the restaurant then delivers it to the customer, and the payment is done with non-cash system or known as cashless. This rapid development makes things easier, however, environmental issues arise, these include use of disposable food packaging which becomes waste, especially inorganic (hard to decompose). The rapid trend of environmental action movements has led to competition in industrial circles. The delivery services industry can be a potential market, including food delivery, which is the development of related journals (Hiqmah 2017) *Observasi Tren Perilaku Pembelian Hijau Konsumen Indonesia Di Berbagai Industri*, so that it becomes a novelty in green products scope. Therefore, interpreting the value of *Nagasari* is presumed to be important as a sustainable food delivery innovation system, as an initiative to reduce packaging waste from food vendors to customers, so all of their payment goes only for food, and the packaging is excluded.

1.1 *Nagasari's physical value*

The signature of *Nagasari* is its white-colored batter, filled with a banana slice, as it is made from tapioca or rice flour, sugar, and coconut milk, and wrapped in banana leaves (Achroni 2017). These wrappers can be recycled by nature or commonly called as organic waste, but over time, *Nagasari*

Figure 1.   *Nagasari. Source: Dapur Kobe* (2020).

is wrapped in plastic. Distinctive aroma of this cake is also produced from banana leaves. This physical value can be developed into innovative joint design of *Nagasari*'s non-physical elements or values.

1.2   *Naga mythology in java and Nagasari's name history*

Nagasari consists of two syllables, *Naga* and *Sari*, in KBBI *sari* means the core of an object, while *Naga* has a mythological value in Javanese history, which means *Naga* Serpent in Sanskrit, one of them is Basuki (Putri 2019), and according to (Sejarahbali 2017) Basuki symbolizes balance over nature and its cycles. Meanwhile, one of the stories about origin of the name *Nagasari* is from 1528 AD (Raditio 2017 in Tania 2019), from an Indonesian Buddhist figure named Mahawiku Astapaka who received a dish from the First King of Pajang Kingdom and his consort. Impressed by his sincerity, the food was given the name *Nagasari* which symbolizes sincerity, disease prevention, and bad luck avoidance by the will of God Almighty. Based on the literature, symbol of balance and nature in *Naga*, as well as the meaning of *Nagasari* such as being sincere and maintaining or caring need to be elaborated on the creative concept of today's culinary.

1.3   *Culture, technology and online food delivery trend*

According to Utami (2018) food is a medium for people to express themselves, expressions of *we are what we eat* and *we are what we don't eat* show the cultural identity of a community, even showing a nation's identity on a broader aspect. Food and cultural development happen side by side with globalization where the rapid flow of communication technology continues to develop and cannot be avoided (Wahyudin & Wulan 2018). With regard to technology, online food purchasing has certainly become a trend that still exists, and according to (Setyowati 2019) there was a research by Nielsen Singapore on 1000 respondents in big cities in Indonesia wherein 95% stated that they bought ready-to-eat food within three months, 58% of them used delivery services through application or an average of 2,6 times per week. This figure could be potentially presenting disposable packaging in every transaction from seller to customer. In addition to COVID-19 pandemic situation in Indonesia has changed since 2020. People's consumption patterns have changed quite a bit and considering hygiene, online delivery services have become very reliable. There is data in (Setiawan & Tobing 2020) regarding the amount of waste from the capital city of Jakarta to Bataragebang, Bekasi which shows that 35% is inorganic (non-biodegradable) and 14% of waste comes from households. In a journal, there is a statement that the national standardized waste management technology for the next few years is not yet available (Uthe 2019). Given this fact, it is necessary to increase collaboration between traditional values or elements with technology to show that both can work synergistically (Ciptandi 2019). From the literature and data above, the objectives of this research and design are to adapt innovations that involve cultural elements, including *Nagasari*'s

values application, by integrating them with technology to overcome problems, one of which is the environmental issue of disposable food packaging.

2 RESEARCH METHODS

This research uses the qualitative method, with literature review or study by using various official sources for validation. This research and design cannot take some of the values possessed by *Nagasari* as elements that can inspire the design. Meanwhile, the environmental issues explored focus on the issue of disposable food packaging resulting from the purchases at delivery services.

This research and design consider the point of view of culture, history, mythology, and physical value of Nagasari. It is also supported by cultural literature, technology, food delivery trends, as well as journals that have a common thread, especially about similar issues. Here, the author focuses on journals that discuss environmentally-friendly lifestyle trends that produce creative strategies as solutions to address one or more environmental issues. Considering that food is the primary need of the community, and the value of technology that always bridges trends, this design considers various aspects related to user convenience as well as strives for reduction of waste. The whole process of this design uses the Design Thinking method, to facilitate the author in mapping, analyzing, until the stage of development into an innovative idea.

2.1 *Design thinking*

Design Thinking is a human-centered approach to innovation that is taken from designer tools to integrate user needs, technology, and business continuity elements (Brown 2020), divided into 5 stages including Empathize, Define, Ideate, Prototype, and Implementation. As for empathizing, there is a process of collecting literature related to *Nagasari* as an inspiration and finding factual data which becomes reference as well as keywords for planning, while the define stage is the problem identification of disposable packaging waste that needs improvement. Furthermore, in the ideate stage, the selected elements are developed into a creative concept in the form of a visual identity sketch along with the system development stage or delivery feature. The prototype stage involves making system simulations as well as product testing by users, measuring system effectiveness, convenience, and other related matters are carried out. If the system is functioning well and users feel comfortable with the product, it will proceed to the implementation stage to prepare a ready-to-use finished product.

3 RESULT AND DISCUSSION

Looking at results from the accumulation of related literature, *Nagasari*'s physical and philosophical elements are obtained. Physical value's form is visible, for instance, the cake is wrapped in environmentally friendly packaging, as banana leaves can be recycled. Meanwhile, the philosophical or non-physical elements are taken from the perspective of mythology and history-related element values of this traditional cake, including raiser, balance, and the universe. All of these discovered elements become a unified identity which is the inspiration for designing sustainable system innovations to overcome the disposable packaging waste problem. Following figure is a design concept mapping collaboration between *Nagasari*'s value and elements commonly used by the market, i.e technology.

As we take a look at five stages of the design thinking method, currently the design process is at the ideate stage, with the final result in the form of a strategic creative concept, and research development can advance to the next stage. Referring to the discovery and analysis above, the concept of the design idea will focus on how to change the pattern of using disposable packaging into reusable packaging to keep food contents hygienic, by adapting delivery-order patterns that are still handy for users. Thus, the objective in designing this system is to build waste-free delivery
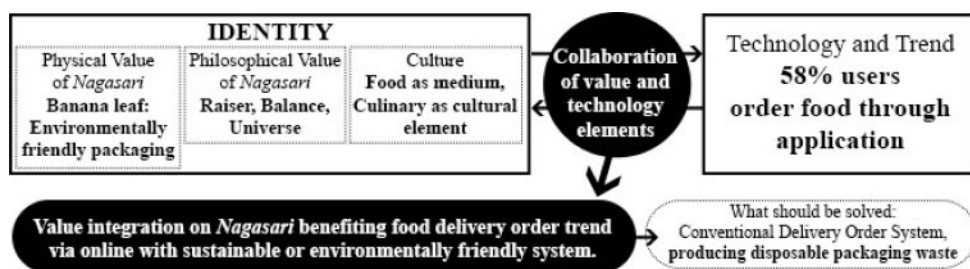
Figure 2.   Design concept mapping.

service by reducing disposable packaging waste such as plastic wrap, food wrap, plastic cups, straws, and their derivative products. Its strategy is picking up used packaging before heading to the place of food purchase, starting with scheduled daily catering so that the distribution of food and packaging can be taken into account.

The target market for this service user is urbanites who live in big cities, as their profession requires fast-paced and scheduled working hours or activity patterns but are keen to adopt an environmentally-friendly lifestyle. This service system will accommodate the need for food delivery under the name *Nagasary.id* which stands for *National Green Action System and Delivery*. Its name is expected to elevate the traditional market snack globally, apart from being known as a system that supports environmental action, and also maintains the cultural identity and values of Indonesian culinary.
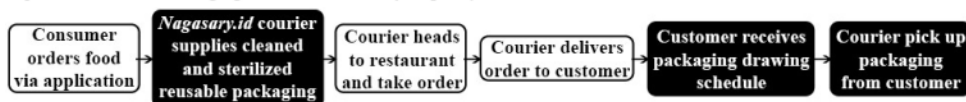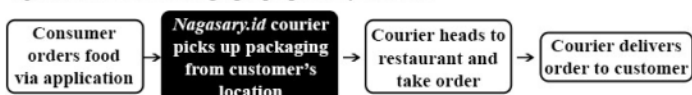
Figure 3.   Alternatives of innovation on food delivery order system.

4   CONCLUSION

Along with the rapid technological advancements, *Nagasari*'s values can serve as an inspiration for the food delivery innovation system which already has been a community mainstay service with all of its conveniences. *Nagasary.id* is one of the concepts offered in the hope to connect people who already are used to ordering food online but do not produce any disposable packaging waste. This concept has a great opportunity to be developed in further research, to follow up on the maturity of the system, order flow, and branding strategy so that *Nagasary.id* can be applied not only to food delivery services but also to all other lines of delivery industry.

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Design of learning area and site of Firdaus Public Junior High School Bandung in response to the pandemic and post-pandemic conditions in Arcamanik, Bandung City, West Java

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ABSTRACT: The development and growth of the students, who increase every year, at the Junior High School (SMP), related to the COVID-19 pandemic and learning activities, must continue to be carried out. It is necessary to redesign the learning methodology for efficient learning. Until now, the design only focused on improving the class according to the capacity of students. The benefits of this design can be used by the school as a guide in designing classrooms with the aim of holding face-to-face learning as well as maintaining health. In addition, the design is also needed so that the layout can provide fulfillment of health values, especially those related to the needs of the new normal in teaching and learning activities. This research and design were carried out using a case study method at the Firdaus Open Junior High School in Arcamanik – Bandung. The final result of the design produces an alternative floor plan for the entire room consisting of a classroom, teacher's room, and custom furniture adapted to the results of the analysis of seating needs determined from user behavior during the pandemic and after the pandemic.

Keywords: Public Junior High School, Class Room, Layout, New-Normal/Post-Pandemic Conditions

1 INTRODUCTION

Firdaus Open Middle School in Bandung is located in Jl. Paragliding No. 2, Cisaranten Endah, Kec. Arcamanik, Bandung City, West Java 40293. This school is located in the middle of a residential area and is a medium-level community education facility that prioritizes the value of life as the basis of education. The number of students is increasing every year, and expanding the school's coverage to surrounding areas outside the Arcamanik environment requires careful planning so that education can take place efficiently according to the objectives of the Small Matahari Organization. The following are the locations and environmental conditions of the Firdaus Open Middle School in Bandung.

Interior of the class situations.
Source: Private Document.

During pandemic students are prohibited from studying in class and are required to continue learning online. However, this is hampered due to limited data coverage and different financial capabilities. So to deal with this issue, in this study, a redesigning of the learning area will be carried out so that students can still study in class and have activities in the area around the room. Judging from the school area development plan, the foundation wants to maintain the learning area and supporting facilities as a place for teachers and students to work. This design focuses on student learning areas that can be used both during a pandemic or after a pandemic (new normal), so users will still feel safe and protected when doing activities around the classroom. The design does not only change the classroom area but also redesigns the teacher area, toilets, library, and warehouse. Redesigning was also considered for custom furniture and classroom equipment in response to the pandemic in terms of room and classroom furniture.

In addition, other problems faced are the need for designs that put forward the theme of health, especially in dealing with the new normal and the comfort of students in the classroom, as well as the need for a sustainable site design between existing buildings and new buildings, namely classrooms so as to create a healthy, safe, comfortable, and in accordance with the functions and needs of the Firdaus Open Middle School. In the context of designing safe and healthy schools for face-to-face schooling, it is important to limit the number of students and determine the maximum duration of each lesson. As per the green building council book, healthy and comfortable schools during the pandemic and post-pandemic are schools with natural ventilation. To create a conducive school environment during pandemic, two main aspects must be considered; First, reduce the chance of the spread of the virus in the school environment. Second, maintain and improve the comfort of the study room for students and teaching staff. Users who feel comfortable when doing activities in buildings have been proven to increase concentration in learning and reduce symptoms of sick-building-syndrome that can interfere with the body's immunity.

2 RESEARCH METHODS

In this research, the method used is a case study. The problem is based on the Firdaus Open Junior High School in Bandung, which is analyzed in terms of the interiors and exteriors of the building. After studying the case, the researcher conducted a survey on the existing location to find out the atmosphere and original condition of the building. During the survey, taking pictures and videos was also carried out as documentation data collection. In addition, researchers also conducted interviews with school partners represented by Mrs. Kansa to obtain complete and detailed data on the actual condition of the building needed. When all the data is collected, the researcher continues by analyzing and sketching alternative designs as solutions to existing problems. From the data obtained, the available classrooms can accommodate 45 students from three classes, 10 teachers in the teacher's room, library, warehouse, computer lab, creativity room, and one restroom for girls and one for boys.

3 RESULT AND DISCUSSION

This research was conducted regarding the increasing number of students enrolling in open schools but limited space and unsupported learning facilities. The arrangement of furniture in a room can affect human movement, thus it becomes the basis for this design rule (Nurkamalina 2018). The importance of this research is also increasing the need for responding to the pandemic, to create a proper learning area in terms of the size of the room, learning facilities, and student comfort when in the classroom during the learning process. One of the data obtained from the interview process is a building plan that will be processed into a three-dimensional design.
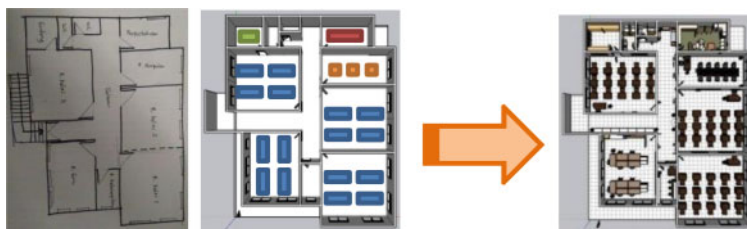
Before After layout plan.

Source: Private documents.

The design of student classrooms is intended to meet the current number of students at the Firdaus Open Middle School, and all students can study comfortably. The use of environmentally friendly designs and materials is also one of the considerations in the planning of this class building. This is in accordance with the journal, which states that the material in the room can affect the growth and development of children. Especially during this pandemic, direct study area arrangements are needed so that children can still feel comfortable during the learning process in class and the health of children and teachers is not compromised (Rahmawati 2019). Thus, a class solution was created as shown below:

Design alternative for classroom.

Source: Private Documents.

For the minimum distance setting and the rules of social distancing used in this design during pandemic, refer to the book "Manual of Physical Distancing: Space, Time, and Cities in the Era of COVID-19". In addition, Safe and Healthy Return to School during the pandemic and post-COVID-19 pandemic by Green Building Council Indonesia is also used in the design of learning areas, teacher rooms in particular (Lewis 2020). The teacher's room was also rearranged to maximize the number of teachers who could use the room at one time. Like the classroom, the teacher's room is also designed in advance because it has to change all furniture positions. In the student seating section, there is a 40-cm per table rule in the student seating section and table size of 60 cm x 40 cm for each table. Thus, each classroom accommodates 15 students and 1 teacher. Indeed, in the standard of maintaining distance, this is a bit too close together. Therefore, the provision of partitions on the right and left sides of the table helps reduce the spread of droplets.

Design alternative for teacher room.

Source: Private documents.

The skills room and computer room were also rearranged as part of the Firdaus Junior High School redesign. The space was maximized so that students could do their best and develop creative ideas. In the skill room, a large shelf was added to store students' work that is being done or has been completed. The design of this skill room also takes the arrangement of the work storage area. These are made with open shelves or glass cabinets in air-conditioned rooms or rooms with good air circulation (Hindarto & Honggowidjaja 2016). The library has not changed much. Maintaining several bookshelf positions in the room and maximizing the function of the space by adding a computer desk that can be used by visitors to access books and information digitally. Books are compiled based on related subjects. In the teacher's room, which previously could only accommodate 8–12 teachers sitting next to each other, currently, the teacher's room accommodates 12 teachers with a more organized and directed seating layout. Of course, it is also regulated by the use of partitions on each table to prevent the spread of droplets.

Design alternative for creative room.

Source: Private documents.

Design alternative for library.

Source: Private documents.

Furthermore, dead space functions such as in warehouses and toilets were revived to maintain them. In the warehouse, there is a storage rack attached to the wall so that when you want to store things you don't lie and scatter on the floor. The toilet is provided with additional sinks and a replacement of ceramic material so that it is not slippery, thus preventing any accidents. Toilets are divided according to gender. The hallway provides an open corridor with an overhang for shading and wind direction, openings in the form of a net that can provide cross ventilation. With the arrangement of classroom settings and several supporting rooms in the school, it is hoped that it can maintain users' health, increase students' imagination and creativity, and maintain users' emotional intelligence during the ongoing pandemic. This is related to the discussion in the journal Designing Learning Spaces with the Approach of Improving Children's Creativity and Emotional Intelligence and Imagination and Creativity in Childhood, Journal of Russian and East European Psychology (Rastegar & Charehjoo 2017).

4 CONCLUSIONS

In the implementation of this research, there were several obstacles, namely the difficulty of conducting face-to-face meetings with the school or community and direct site surveys due to the COVID-19 outbreak. Hence, there were some initial errors in data collection. This can be minimized later with additional information about the existing condition of the building obtained from the school to provide an overview of the conditions in the field. In addition, in the middle of the community service process, partners from the small Matahari social community were very difficult to contact and retrieve lost news to discuss the final design directly. Finally, they were contacted even though it took a long time. At the sharing session stage, the discussion was also tense because it was hampered by signals from the school. Hence, the time to start the discussion was pushed back up to 3 hours. In the process of making the furniture that will be judged, there was a problem with material communication with the craftsman, so they had to change the material, and it was resolved properly. This research takes longer in discussion because several times it is a little bit constrained in terms of problems of each member.

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The effect of bicycle colour and type for the user interest, case study bike-sharing Bandung

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ABSTRACT: After the pandemic Covid-19 strikes, bicycle as a mode of transportation has become a trend in achieving a healthy lifestyle. Bandung city government has already provided the 3rd generation bike-sharing system. Unfortunately, trends in using bicycles do not significantly impact the use of bike-sharing, and people tend to buy a bike instead. This research aims to find whether aesthetic features of colour and bicycle type affect the interest in using bike-sharing. The data was obtained in a qualitative method using a stated preference questionnaire, followed by interviews of Bandung bike users. The results show differences in the preferences of the colour chosen than the available bike-sharing, but not type of bicycle. The type preferences are different between the aim of the bike user in using bicycles, whether for sport or commuting. The result of this study can be used as a reference for the bike-sharing provider.

Keywords: bike-sharing, bike colour, public bicycles, bike model

1 INTRODUCTION

The use of bicycles suddenly arose after the pandemic of covid-19. The semi lockdown in Indonesia called PPKM is an abbreviation for restriction on community activities, making the streets not congested with the traffic. People use this situation to ride their bicycles to work and do sports. Besides the reason for no traffic congestion, it is also correlated with a healthier lifestyle. Doing cycling boosts immunity, with a 28% lower mortality rate on the body mass index for people who cycle to work (Ege & Krag. 2005). A common problem like the infrastructure where most of the roads or streets in Bandung are not suitable for bike lanes; only 42 out of 151 are qualified (Weningtyas et al. 2015). However, this situation does not affect the trend of the use of bicycles.

Hence, considering the trend, the Bandung city government that provided 350 bicycles in the bike-sharing system has no significant growth in the user during this pandemic. The trends in using bicycles only have a minor impact on the use of bike-sharing. People tend to use their bikes; even those who do not own bicycles prefer to buy their own instead of using the bike-sharing system provided. Therefore, a question has been raised about whether the aesthetic features of colour and the type of bicycle used in the available bike-sharing in Bandung impact consumer preferences? Does it become one of the reasons why people prefer to buy than use the bicycle sharing system?

1.1 *Bandung bike-sharing*

Bike-sharing is a bicycle rental system that allows no cost to pick up a bicycle at one point and return it to a different place, where the bike can be rented to another (Castro et al. 2010). Created

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by GIZ – a Sustainable Urban Transport Project, the Public Bicycle Schemes system (PBS) is a renting bicycle by the scheme for a fee or free of charge. This system is convenient because the user can get the bike anywhere and does not have to return it in the first place (Kodukula 2010).

Bike-sharing in Bandung itself started to operate in 2011. The 1st generation bike-sharing system in Bandung was initiated under the name Bike.Bdg. However, the community has not adopted the transportation system to carry out daily activities. The rental registration system is still separate between the stations. It is still done manually by depositing an ID card or other identity card, paying rent, and the user must return the bicycle they use to the origin station. Then in 2017, bike-sharing Bandung improved with 3rd generation named *Boseh*. Boseh is an acronym for *Bike on Street Everybody Happy,* which means: Bikes on the streets and everyone is happy. The word "Boseh" literally means the word bicycle pedal activity, another term that is also often used by cyclists is the word ride. This new bike-sharing system has simplified rental registration and has already adopted digital systems. Furthermore, the user or renter does not have to return the bicycle to the first station, and the station itself has been placed in numerous places. The main reason for the bike-sharing in Bandung itself is to reduce traffic and allow people to use bicycles as public transportation integrated with other public transport, so personal vehicles could be reduced.
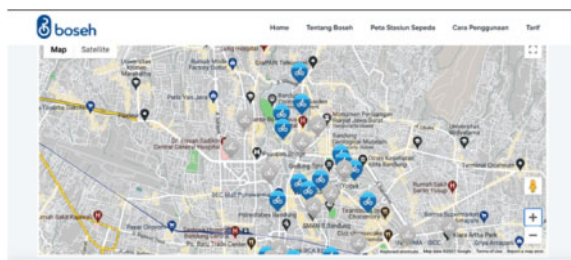
Figure 1.   The Boseh Bike-sharing station in Bandung.

1.2 *The bike-sharing (Boseh) user in Bandung*

Boseh user data shows that the users mainly used bicycles on weekends. From May-August, monthly data shows that the user rises around July during the school holidays, and the number drops again when the school holiday is over. To sum up the figure, the users of Boseh use it on weekends and holidays for sports or recreation. The habit does not work for going to school or the workplace.
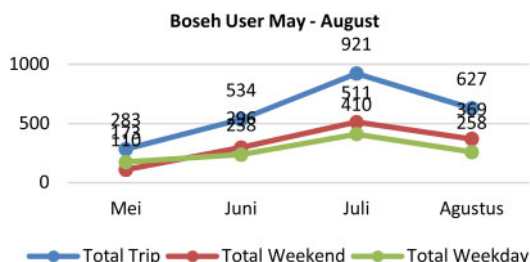
Figure 2.   Boseh bike-sharing user from May to August 2019 (Fenmala Af. 2019).

1.3 *Type of bicycle and colour*

The bike-sharing in Bandung uses a city bike used in the urban with frequent short trips. It is also a bicycle that is used for everyday riding. A few things have to be concerned to provide a

bicycle sharing system: the safety, well-connected network of cycleways, convenience, policies to discourage car use, and a well-managed public transportation system integrated with cycling facilities (Wang et al. 2014). Safety and comfort will be highlighted in the research because they are crucial factors related to the bicycle's colour and type. Based on the safety, the colour used must be bright, and the yellow bicycle colour is the fastest spotted by the driver (Szubski 2017). The fluorescent orange, yellow, and yellow-green were highest in perceived importance (Zielinska et al. 2014). Fluorescent colour contrasts with the environment, and night riding will be safer. If the bicycle colour is not included in the safest colour list, the bike should be completed with other safety items such as lights or wearing a safety jacket when riding at night.

1.4   *Colour in consumer preferences*

Colour preferences are believed could affect the intended product and the decision to purchase, but also the functionality of the product can make the personal colour preferences secondary (Yu et al. 2018). The survey result will be compared to the bike colour used by Boseh to the colour chosen by the user.

2   RESEARCH METHODS

The research method used is a qualitative descriptive method by collecting data through surveys and observations, analysing the survey results and providing conclusions from the analysis results.

2.1   *Methods of data collecting*

The surveys have to be spread among the bike rider to find the best data result. The other methods also study literature about the bike type and the colour used in the bike-sharing worldwide. The online surveys and field observations were carried out to collect data systematically. The data were taken with the bikers passing by Djuanda Street. The online surveys gather information about the bikers on working days and during the weekend. The collected data is about the preferences, colour, and the type of bicycle found most used by bike users. It is believed the most suitable for the user to ride daily.

3   RESULT AND DISCUSSION

3.1   *The most chosen colour of the bike-sharing*

The total number of respondents obtained in the survey is 122 respondents, where 40,2% were female and 59,8% were male. The result has shown that the colour of the bicycle chosen mainly by the respondent was grey. Both gender, men and women, chose the grey colour as the most preferred colour. The second preference is green for men and turquoise for women. Blue colour is the colour used by the bike-sharing provider in Bandung. Still, the blue colour is not prevalent in women from the results. It is only the least preference the result for women and the number 6th of preference in male out of the nine colours surveyed. From here, we can see that the blue colour itself—which is not popular, must be affected the user, as the colour influences the consumer's decision to use it. If a bicycle is provided with the favourite colour of bikers, it may get the user's interest first for them to try and ride. For safety reasons, the bike colour is also surveying the fluorescent colour, and the result stated fluorescent orange is the most chosen between men and women.

   Because the favourite colour in Bandung people likely chose a natural colour or not the colour that contrasts the environment. The use of the grey colour and green colour that has low contrast in the city of Bandung must be completed with the other safety equipment.
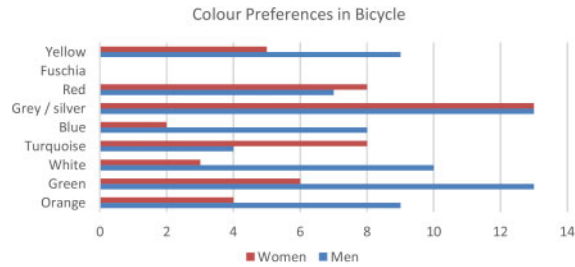
Figure 3.   Colour preferences in bicycle.
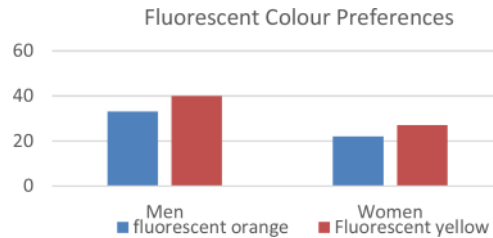
Figure 4.   Colour preferences in bicycle (fluorescent).

3.2   *The bicycle type*

The preference type of bicycle used by bike users in Bandung from the survey is a mountain bike. This answer also reminds us that the road in Bandung city is primarily downhill and uphill with the curvy road. They believed mountain bikes are best in use for the hilly route and also lightweight. The city bike used for bike-sharing weighs around 16 – 23 kg, but mountain bikes weigh less. It is approximately 10–13 kg only and could be the other reason people chose to buy their bike because the city bike provided does not match the hilly road in Bandung and is more convenient in weight.
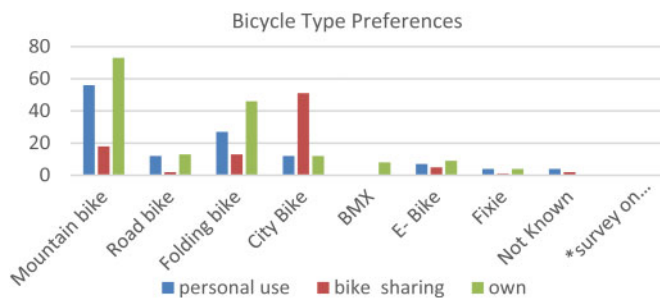
Figure 5.   Bicycle type preference to be used.

Another survey is about the reason for using the bicycle. The surveys found that the most popular reason is doing sport and recreation. This contradicts the aim of the bike-sharing system, which the objective was to provide a system for commuting. City bikes are also not designed for sports but short distance trips and low pace rides. However, it could be the answer to why the use of the bike-sharing providers has not significantly increased, and people tend to buy the bicycle that suits them the type and the colour.
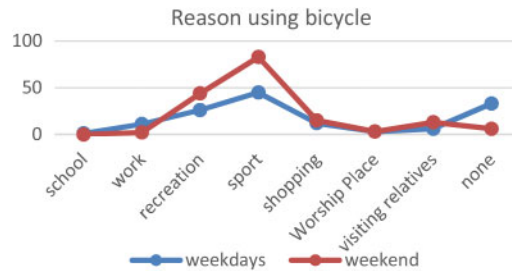
Figure 6.   Reason for using a bicycle.

4   CONCLUSION

The result of a preferable bicycle chosen by the user is a mountain bike, and the colour is grey. The Bike-sharing system provided by Boseh is a city bicycle in blue colour, which could be why people tend to buy their bicycles than rent from bike-sharing. As for the type of bicycle as most common use is for sport and recreation the most chosen type of bike is a mountain bike, which is contrary from the purposes from the bike-sharing which is for commuting and the also type of bike used is city bike. The peak day for the user in bike-sharing Bandung is the weekend when they ride their bike for sports and recreation.

Further studies, the use of colour and the type of bicycle should be analysed for the safety and comfort of riding on the road of Bandung. The colour contrast with safety and the kind of bike that matches the hilly Bandung road. Suppose the grey colour is used for the bicycle sharing system. In that case, it has to be completed with the safety items or further research about the colour contrast in the city of Bandung to test whether the bicycle colour is safe to use in the street.

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Are there creative process needs in social distancing? A case study of designing portable seating pads for public areas

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ABSTRACT: Social distancing has become a normal lifestyle in the current times. This also has an impact on the work habits of creative people who still need a supportive environment or ambience to embrace their imaginations when they create ideas during the creative process. The environment situations that enrich imagination can come from various conditions and locations. They could be workspaces or even public spaces that provide a dynamic and diverse atmosphere. The focus of this study is the need to embrace environmental factors to get the best ambience, which is considered to support the four stages of Wallas's Creative Process. It is narrowed down to the situations of the environment in public space, which could be obtained by the creative people and keep becoming an attention to social distancing protocols. A case study observation is used as the research method and design analysis in meeting the needs and behavior of users. The outcome of this case study becomes the basis for the idea of designing a portable seat pad for personal use in public space as the needs of creative processes in social distancing meeting.

Keywords: creative process, social distancing, new normal, portable seat pad, public space

1 INTRODUCTION

Creative people have their own uniqueness of working. Their work ethos has flexibility in process, action, and evaluation (Best 2006; Cross 2011). The work environments of creative people sometimes cannot be set at the rigid times and rigid office systems, making some creative people not comfortable or not suitable for working at formal work culture. The situations of work environments are usually needed to enriching the imagination. It comes from various conditions and locations. They could be the workspaces or even the public spaces that provide a dynamic and diverse atmosphere. Nonetheless, social distancing has become a lifestyle that is applied in today's society and also has an impact on the work habits of creative people. They have to adapt and adjust the work habits into some regulations to maintain the distance when meeting other people and maintain personal hygiene among each other.

On the contrary, creative people need to obtain creativity by going out to some spaces to enrich their imagination of ideas. Wallas' 4 Creative Stages (1926) are preparation, incubation, illumination, and verification. Each stage has variables to trigger creativity. As per se, reading is one of the activities which could trigger the creative process. Thus, it is analyzing, perceiving, and interpreting some knowledge carried out by the reader to obtain the message conveyed by the author in various kinds of written media. It can eliminate anxiety and worries about unintelligence. With a lot of reading, a person can develop their knowledge and gain experience from the written stories. Although this activity is doable anywhere, this research is focused on the outdoor reading activity which provides a dynamic and diverse atmosphere for creative people to enrich their process of ideation.

However, as it is mentioned above, social distancing and maintaining hygiene is a must nowadays. How could we do that? What must we do to comply? Is it safe to sit for long hours in public for readings? What can we use as our hygiene pads? Those are the questions in creative people's minds

when they try to embrace the need of a supportive environment or ambience to get the imaginations when they create ideas during the creative process. With the constraints of a place to sit while reading, and the difficulty in carrying seating pads when moving from one place to another, the author proposed a solution by designing a seating pad to carry without difficulty. The seating pad is designed using lightweight materials and it has small dimensions. So it can support outdoor reading activities. The design requirements of seating pad are:

1. The seating pad is designed with small dimensions, is lightweight, strong, and effective
2. The material used is environmentally friendly
3. The seating pad is designed to make it easier for users to carry when moving from place to place.

2   RESEARCH METHODS

2.1   *Methods of data collecting*

In managing design problems in both processes and practices, the decision making is conducted in the event of specifying design materials, working relationships, and ethical responsibilities (Best 2006). This is considered as meeting the needs of creative processes and social distancing, as the reading activity could be done in public areas by applying social distancing protocols. Considerable imagination is required by designers and can often be unpredictable in its outcome. This creative process to manage design problems enhances divergent and convergent thinking, which are the most crucial things in blending both concerns (Yudiarti & Lantu 2015, 2017). The techniques used in data collection are interviews and observations.

a. Interviews were conducted with few participants as a sample group of the object research. This technique is carried out to obtain more detailed information to find problems that will be processed to solutions. The following are the problems found from the interviews, namely:
   (1) Using old tarpaulins or tarps, or unused banners when reading. The participants only provide used tarpaulins or banners to sit during outdoor activities, because there are no facilitating products on the site. Tarpaulins were unfolded on pavement and used as a seat. Also bringing a tarp is more practical than bringing a chair on a motorbike.
   (2) Limited space for placing chairs. A tarp is only part of the sidewalk that can be used and can be occupied by several people than using a chair because using chairs take more space than they should on-site and it is also difficult to bring a chair from basecamp to the location by motorbike.
b. Observations were conducted by going directly to the field, observing the activities carried out by the participants, finding facts that support, and strengthening the core of the problem that will include giving solutions to problems that are being experienced, starting with preparation for the location, then preparing for activities at the location until preparing to return to the basecamp.

2.2   *Analysis data*

Triangulation facilitates validation of data through cross verification from two or more sources by combining multiple observers, theories, methods, and empirical materials as the application and combination of several research methodologies in the study of the same case or phenomenon (Bogdan & Biklen 2006). This research triangulates the data collected, which are obtained from observation, interview data, and documents (Figure 1). The observation was the major data collection in this research; the literature review as the path of theming data collection to reshape the model from the phenomenon occurred; and finally the structured interview as the confirmatory data about the phenomenon captured in the observation stage.
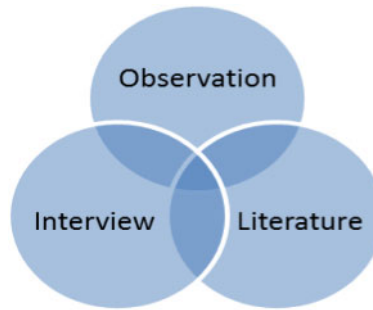
Figure 1.   Data triangulation.

3   RESULT AND DISCUSSION

The first consideration in designing a product is to determine the design aspects that will support the creation of a product and ensure that it will be applied to the product. There are two materials used. The result of comparisons or parameters with other alternatives materials, the product is designed with mixed material, on the part of the product frame is made using stainless steel material and on the base is made using fabric material which has higher water resistance, and is easily cleaned up. Because the product is designed to be used for outdoor purposes so it must have the durability of outdoor products.

The seating pad is applied with several systems. As the result of analyzing the system parameters, a system applied is more practical, easy to carry, and simplified the roll system like rolling a mat. Then it is added with a locking system that uses hinges or a fastening system after using the product. Or more practical using the hook button and scrolled manually. It is used by unrolling the pads and spread them out in the flat spaces. The product is designed for outdoor activities. It uses weather-resistant materials, so during bad weather, it is easier to pack and clean. The product could be placed on the sidewalk in a form of a flat cushion using a roll system for easy portability. The product is designed to serve function as a seating pad during outdoor reading activities. Users are provided with seating pads so they can read books comfortably in public areas.

3.1   TOR

a. Product Description
   A seating pad is designed and inspired by a soft and comfortable prayer rug used by Moslems. The materials used in the design are using stainless steel, fabrics with a high level of water resistance, and natural materials. The materials are selected based on the function and usefulness of the product that meet the criteria of outdoor activities. The packing set of the pad is designed in small dimensions and enlargeable dimensions when it used. The product uses a roll system accompanied with a lock. The product is design with selectable colors based on the user's preference.
b. Design Considerations
   Products made with a minimalist and elegant concept. As the percentage of materials, 75% of all parts of the products used are of water-resistant fabrics, 5% of stainless steel, and 20% of natural materials (Rattan). The shape of the product is like a roll cake, with a roll thickness of 30–50 cm and a seat width of 40–60cm, using automatic roll system and strong lock. The use of materials affects the weight of the product.
c. Design Constraints
   The materials used are those that are easy to maintain, such as some water-resistant and weather-resistant level fabrics and materials, lightweight steels, and additional Rattan materials. The materials are chosen to give the high-level durability for outdoor use. Thus, the system used is

the roll system, because it is simpler and more practical. If you use another system, it will not necessarily facilitate activities.

4 CONCLUSION (VISUALIZATION PRODUCT)
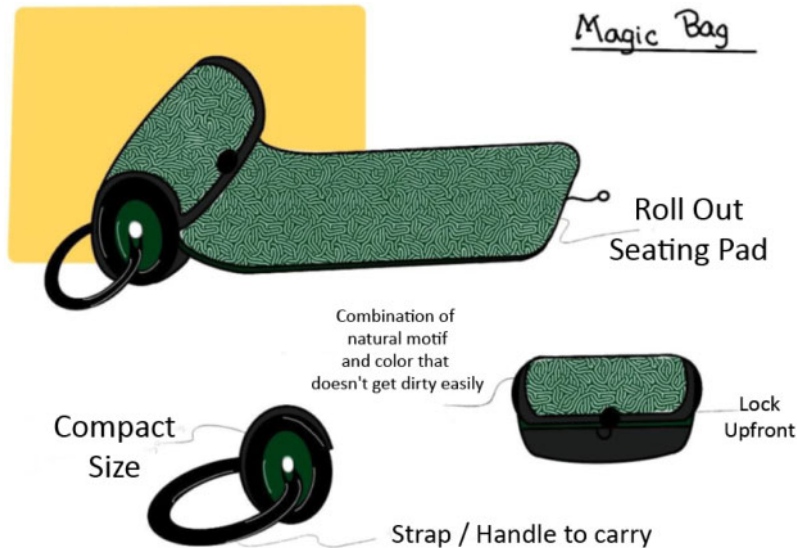
Figure 2. Seating pad (magic bag).

As the necessity of meeting the Creative Process needs in Social Distancing protocols, as per se the reading activity in pubic area, this study proposes equipment to provide the same. Portable seating pads were designed for personal use in public spaces. A seating pad is made with a minimalist and elegant concept with automatic roll system and lock. It is inspired by a soft and comfortable prayer rug and designed using high-level water-resistant fabrics and materials. The choice of materials supports the function and usefulness of the product that will be used outdoors. The use of materials affects the weight of the product for compatibility and easiness to carry. Because the seating pad is need to have a small dimension in packing and cover a board spaces when it used. It is designed using materials that are easy to maintain and weather-resistant to prolong the use of the product outdoors.

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Characteristics of the interior attributes of the ideal bedroom as a means of forming subjective well-being

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ABSTRACT: This study aims to formulate interior elements that can produce an ideal design for a bedroom space. Our responses to the design of spaces are sometimes conscious and sometimes unconscious. Interior design is able to support the well-being of occupants but not provide it. This research is a pragmatic research called mixed methods. The data was obtained by conducting a literature study and field observations through the distribution of online questionnaires. The results of the study show that suitability with activities, room size, completeness of facilities, space atmosphere, and accessibility are attributes of the ideal bedroom, which are considered the most important variables that must be met to produce the subjective well-being of the occupants of the room. The information collected is expected to increase knowledge related to environmental psychology science to become the basis for planning interior space design, especially for the adaptation period of new habits after the pandemic.

Keywords: ideal bedroom, well-being, interior design, framework positive design, place attachment

1 INTRODUCTION

Our responses to interior spaces are sometimes conscious, sometimes unconscious; most of us have clear opinions about tastes that we can define, but many of our reactions to space take place beneath the surface, planned and tied to our instincts for safety and stimulation. Never has this been more important than during the coronavirus pandemic, when the entire world seemed to be mired in anxiety. The ongoing pandemic has disrupted the daily routines of billions of people worldwide, forcing everyone to sit back and do everything from home. But, perhaps more than anything, the pandemic has pushed us past a tipping point when it comes to health and well-being. This pandemic makes us feel interior space is the only thing we have to keep us safe (Clark 2021).

In fact, every individual's home needs to feel like a sanctuary from the rest of the world. So this psychology must always reflect good design (de Button 2007). A good space design will be closely related to the welfare of its users. Well-being is a condition where there is a feeling of wellness and happiness in all three parts of the self, wherein the body feels light and healthy, and the mind and emotions become clear (Grigoriou 2019). Interior space as the most important area that can protect humans today must ultimately be able to meet the welfare of space users. A 'built environment' always consists of various levels or 'skins': architecture, interior architecture, and interior architectural objects. Together, these skins form a 'whole' that can be understood and controlled, but must also be inspiring, meaningful, and empowering from the point of view of the people who inhabit the space (Ann & Pohlmeyer 2014). The multi-component character of happiness is reflected in the design literature: different initiatives focus on different components of subjective well-being (Desmet & Pohlmeyer 2013).

This study aims to formulate interior elements that can produce the ideal design of bedroom space. The background variable used is the point design for pleasure, one of the positive design component frameworks by Desmet and Pohlmeyer (2013). The design for pleasure is described as

happiness that comes from enjoying the current state. A particular well-being can be attained by the amount of one's occasional pleasure. The focus is on the here and now, the existence of positive affect and negative affect. The measurement itself is formulated by asking for residential satisfaction and the criteria for the respondent's dream room. This is done with the idea that residency satisfaction is closely related to the happiness that comes from enjoying the present moment. In addition, the significance of a place can encapsulate the feeling of emotional closeness and aesthetic pleasure that is more abstract, especially in a space that is very private. In many ways, all the richness of environmental meaning is magnified in private areas which are often considered to have special personal meanings and reflect broader cultural values (Canter 1995).

Residential satisfaction, and one's attachment and love for a place or residential environment (place attachment), are important concepts in Environmental Psychology (Altman & Low 1992; Bonaiuto et al. 1999; Sundstrom et al. 1996; in Mustikawati & Ernawati 2010; Tognoli 1987). For this reasons, the sense of comfort in the bedroom is used as a reference, the extent to which a person is satisfied with the private space in the space he occupies. The more he feels he has a sense of belonging, the more likely the occupant will have a high attachment to his bedroom. The choice of room space as a case study area refers to earlier research from Rachman and Kusuma (2016), which identified the type of place that made the most comfortable. Where the results are that the house and bedroom are the most comfortable types of places. The fact that modern humans spend approximately 90% of their life in indoor spaces is also reflected in the road map model of coexistence with covid during the adaptation period of new habits which explains that people with COVID-19 will be allowed to recover at home, so there will be less concern about the healthcare system being stressed. Besides the demand that people who feel sick have the awareness to stay at home and prevent employers from faulting them, this research is considered relevant. The position of this research is the initial research to be used as a basis for the next stage of research.

2 RESEARCH METHODS

This research is a mixed-methods study (Creswell 2002) with one time setting of cross-sectional studies and the number of contacts (Kumar 2005). The sample analyzed is the result of the analysis of data collection in one contact with the respondent through the distribution of online questionnaires. This technique is considered quite in accordance with the position of the research, which is in the early stages, where this method allows data to be generated in a short time and covers a wide population of data.

2.1 *Methods of data collecting*

In this study, the literature study data (secondary sources) were collected from scientific journals, articles, and theories derived from literature books. This data is used to find the theoretical basis and determine the research variables as for the primary data collection method using the online questionnaire distribution method. Questionnaires are intended for groups that have been determined and have qualifications as part of the research sample, i.e., male or female aged between 18 and 40 years. Sampling itself uses a non-random/probability sample method or has been directed from the beginning of the study using the accidental type, where the selected sample is anyone found by the researcher and meets the sampling requirements. At this stage, the writer acts as a non-participant (Kumar 2005). There were a total of 106 respondents who filled out the questionnaire, with the youngest age being 16 and the oldest being 40. In addition, there are 7.5% (8 respondents) male and 92.5% female respondents (98 respondents). The ages 18–21 is the age range of the highest respondents who filled out the questionnaire (27 respondents), the next range is 27–30 (26 respondents), and the next is 21–24 (21 respondents).

2.2 *Methods of data analysis*

This research is categorized as descriptive research (Kumar 2005). The data analysis method used is mixed method analysis (Creswell 2002). The questionnaire was made by formulating the results of a literature study. Furthermore, the results of the questionnaire were analyzed using a frequency distribution diagram. After that, the resulting diagrams are given a descriptive interpretation based on the variables that have been determined. To enrich the results of the analysis, the authors also collect secondary data in the form of theories and results of earlier research to enrich the description of interpretation.

3 RESULT AND DISCUSSION

3.1 *Result*

According to Generreux, Ward & Russel, 1995, the internal representation of a place, or the meaning of a place, can easily be considered to involve at least three different types of knowledge, including (1) knowledge of the objective attributes of a place, (2) knowledge of its affective qualities, and (3) knowledge of the behavior that occurs in the place. The private space referred to in this discussion is an individual's zoning strata level, in that area, a person has privileged access to territory, so it is assumed that he can do whatever he wants, namely the bedroom. For the criteria for a room that makes the user feel at home are that a room is comfortable, the territory of the occupants can be controlled, and allows the occupants to be responsible for space. Room comfort is manifested by feeling calm, safe in activities, able to rest well, and psychologically comfortable. So from the information above the author formulates it into Table 1 below:

Table 1. Formulation of concepts, indicators, and variables that prove that interior design has a role in creating place attachments.

Source	Attachment Assessment Concept Formula (*Place Attachment*)		
Generreux, Ward & Russel, 1995	Knowledge of its effective qualities	Knowledge of the objective attributes of a place	Knowledge of the behavior that occurs in the place
Rachman & Kusuma, 2016	Comfortable room	Allows residents to be responsible for the space	The territory of the occupants can be controlled
	Rating Indicator		
Groat, 1995; Korpela, 1995	• Familiarity	• Belongingness	• Control/Freedom of expression
	• Memories	• Value/ preferences	• Privacy
	• Purpose	• Idea	• Activity
	• Feature of the place	• Conception of behavior	• Humanization

From the table above, it is explained that yellow columns are concepts that are directly related to interior design aspects. This is evidenced, among other things, by the statement of Rachman and Kusuma (2016), which explains that the indicator of the completeness of facilities (feature of place) consists of measurable variables, such as furniture, facilities, and entertainment facilities, which is realized, for example, with complete and comfortable room furniture or the existence of internet access. Or an attractive room design becomes a variable for the criteria for staying in

the room. These factors are then used as variables in determining the questionnaire questions. In general, this stage is the stage of processing qualitative data.

3.2 *Discussion*

Every design work always has a successful reference, as well as the bedroom. The following is a formulation of things to consider when designing a bedroom (Figure 1):
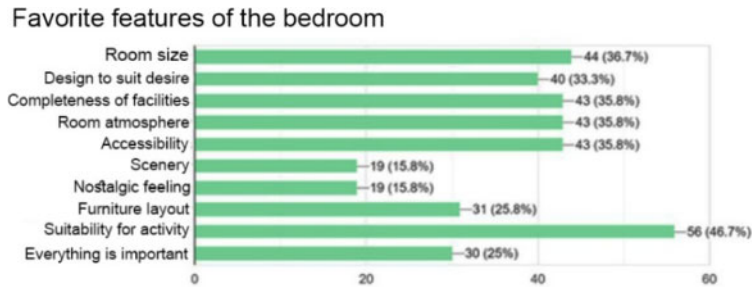
Figure 1.   Favorite features of the bedroom diagram.

From the preference diagram above, it can be concluded that in determining bedroom design preferences, the main thing to consider is the suitability with activities (form, follow, and function) followed by the completeness of facilities, room atmosphere, and accessibility. In addition, the control they have over a room and the feelings of attachment of each individual are different, for example, can be seen in the diagram (Figure 2) below:
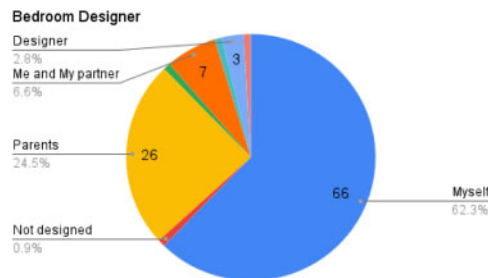
Figure 2.   Diagram showing the respondent's position in the bedroom design process that is currently occupied.

The diagram above illustrates that the control factor is very influential when it comes to a person's freedom of expression, one of which is in designing a bedroom. Most of the respondents who are single can freely determine the changes that will be made, in contrast to when someone already has a partner or is married. The function of the bedroom is no longer private so that in determining the design, or changes to be made, someone will consult with his partner. Likewise, for respondents who are still at the student age, most of the bedrooms are designed by their parents, so they must consult with their parents when making changes. This is required by several answers to the questionnaire respondents. An example is a respondent no. 27 who is single and designs his own bedroom. He admits that in his room, he can freely place attributes and designs according to his wishes. This was done because according to him, no one would object if he made changes to the design of his bedroom. In contrast to respondent no. 40 who works as a housewife and designs bedrooms by discussing with her partner, even though she feels her partner will not mind if she makes changes to their bedroom space, she still limits herself and consults when buying attributes for the bedroom or making changes to design. The condition of her room she told was different from when she was single.

Thus, it can be concluded that the more control the room owner has, the higher his courage to make changes or add and replace attributes in his bedroom. Conversely, when we do not have full control, there are other individuals whose feelings and needs must be considered so that the freedom to make changes and describe personal identity will be increasingly difficult. Associated with attachments are likely to be felt more when the occupants have great control over their bedrooms. The results of this analysis are in accordance with the statement in table 1 where control/expression of freedom is a factor that affects attachment. More broadly, in the context of eliciting subjective well-being factors, this variable is closely related to design for pleasure (Desmet & Pohlmeyer 2013), where occupants can more broadly be associated with one of four distinct types of pleasure that people may seek in human-product interaction, namely the physical aspect.

4 CONCLUSION

The research shows that suitability with activity, room size, completeness of facilities, space atmosphere, and accessibility are attributes of the dream bedroom, which are considered the most important variables that must be met to produce the welfare of the occupants of the room. The criteria for the ideal room to produce subjective well-being for its users are more specifically stated by some unique keywords by the respondents. Among them, there is complete furniture to support activities, has many pillows, and and be used to rest as well as work (category according to activity). In addition, the large size can be used for children to run (category of room size), aesthetic, elegant, good ergonomics, and is minimalist (the design category as desired), as well as good lighting, large window sizes, earth tone room colors, and choose a certain style (space atmosphere). All the information collected is expected to increase knowledge related to environmental psychology science to become the basis for planning interior space design, especially after the pandemic period or facing a period of adaptation to new habits (new normal). This is important because it is suspected that people will still be advised to stay at home a lot so that the dwelling automatically functions as the main shelter, which must be the best place to provide a sense of security. The author is aware that there are many shortcomings in this study. Because this is still preliminary research, the next research is planned to deepen the search for aspects that affect wellbeing by using a positive design framework as a whole. And also to take more samples so that the results of research dissemination can be more valid. In addition, in further research, the current criteria factors can be adjusted and discussed at each point in accordance with the rules of 10 Well Concepts for Achieve Well-being for Well Certification.

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What makes it home: An assessment of place attachment in displaced persons with case study of Sidoarjo Mud-Flow victims

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ABSTRACT: The role of a house in human life is not just a place to live in but also in forming the shape of human life. However, in displacement cases where many houses can no longer be inhabited by various forces, this attachment is severely damaged. The psychological damage caused by force-displacement affected thousands of households in the 2006 mud-flow disaster in Sidoarjo. Therefore an attachment with a new house needs to be built. This paper explores how displaced persons perceived their new settlement and what factors significantly influence people's dwelling on forced displacement cases. A set of questions and questionnaires were given to displaced persons who were the victims of Sidoarjo Mud-Flow. From this research, we found that besides the length of residence, so many factors stimulated the sense of places such as social bonding to community and environmental compatibility that led displaced persons to dwell in their new environment. However, there seems to be a lack of sufficient consideration concerning the psychological needs of affected people for the decision-making of relocation shelter.

Keywords: dwelling, place attachment, relocation shelter

1 INTRODUCTION

Dwelling is safe in a safe place (Norberg-Schulz 1979). While it is a primary or basic condition of humanity, dwelling also can be built to be a meaningful relationship between humans and their environment (Norberg-Schulz 1985). Discussion of the meaning of home and dwelling has been debated over decades and its meaning can differ from physical and abstract (Coolen & Meesters 2011; Sixsmith 1986). Its existence affects the well-being of human life.

Meanwhile, in forced displacement cases where disruptions are caused by external factors such as natural disaster, armed conflict, or man-made disaster, there is a significant impact on the psychology of victims or Internally Displaced Persons (IDP) (Erol & Munir 2005; Morina et al. 2018). In forced displacement cases when the displaced community gets thrown away from their natural environment caused by disaster, they need an immediate alternative environment for survival. This temporary settlement and dwelling lead to forced adjustments.

Sidoarjo Mud-Flow erupted at the end of May 2006 and affected more than 14.000 households (Badan Penanggulangan Lumpur Sidoarjo, BPLS 2010). For more than fourteen years from the initial eruption, all of the victims have been relocated to several places. Length of stay in a new settlement can be measured by a place attachment scale to look further at what makes Internally Displaced Persons (IDP) feel at home in a new settlement. Relocation of the victims did not come in an easy way, there were some cases where a victim did not want to move to a disaster relief shelter and be relocated to a semi-permanent shelter. This raised a question that if the factors such as place of attachment in a new settlement after forced displacement be a ground element for the adaptation process, which in the end fosters a sense of attachment.

1.1 *Place attachment in dwelling*

Some results in research written by Scannel and Gifford (2017) stated that the benefits of bonding of people and place can make up on memories, sense of belonging, relaxation, positive emotions, activity support, comfort-security, personal growth, freedom, entertainment, connection to nature, practical benefits, privacy, and aesthetics. Place attachment is directly related to the concept such as sense of belonging to the community, sense of coherence, sense of security, and confidence and older adults with a positive sense of place have better well-being (Afshar et al. 2017; Rollero & De Piccoli 2010).

In general, place attachment is linked to the well-being of people who experience this sense and causes physical health problems, lower grades, sadness, and longing when disrupting like in cases of forced displacement (Fullilove 1996; Scannell & Gifford 2017b).

1.2 *Place attachment in displaced persons*

Internal Displacement Monitoring Centre (IDMC) reported that 17,188,000 people around the world became displaced persons as a result of the disaster in 2018, stretched from drought in Afghanistan to flood in Nigeria. In Indonesia alone, the record states that 445,000 new displaced persons caused by an earthquake in Lombok Island in 2018. Disaster relief shelters significantly impacted death reduction and vulnerability towards affected people after the disaster (UNDRR 2019). The post-disaster shelter is more than just a roof. It becomes the grass-roots motivation of survivors, their families, and friends (Ardizzola et al. 2017). According to UN/OCHA/ESB (2006) stated by Bashawri et al. (2014), housing shelter must cover basic needs of livelihood with underlying principles that all households have a right to adequate, appropriate, and safe shelter. All households have a right to access housing options that best suit their needs and desires (Hodkin 2014).

After surviving, the existence of DR (Disaster Relief) shelter became the very first act in the post-disaster period. Typically a home is associated with strong feelings of security and safety developed by recurring activity bound to a sense of stability (Altman & Low 1992). When this bond gets disrupted by disaster, the sense of stability along with a sense of security and safety brought by the existence of home gets damaged along with the loss of residential buildings. And this causes a change in a psychological state of an individual who experienced forced displacement.

2 RESEARCH METHODS

The method of this paper is qualitative method with descriptive analytic on depth interviews of selected participants. Participants must dwell in disaster-affected areas and displaced persons should be those affected by Sidoarjo mud-flow disaster. An interview must be conducted with displaced people to know their perception of home, their attachment to the old house (affected area), and the new house (after relocation). This method is most suitable for analyzing the underlying meaning of the home of Internally Displaced Persons (IDP) and their attachment to their houses. Several factors need to be looked at, which are the length of residence of the old dwelling in the affected area and the length of residence of the new dwelling. These factors are crucial in analyzing the depth of their attachment to places.

The bonding that increases attachment to places consists of place interactions, place identity, place release, place realization, place creation, and place intensification (Scannell & Gifford 2017b). These bonds can be built using aspects that act as predictors to increase place attachment, such as the physical (rootedness) aspect and social (bonding) aspect (Kamalipour et al. 2012). Suspected factors are being tested and questioned to each participant. Place attachment factors in the old and new settlements are tested to see which settlement has a higher score. A set of questionnaires are studied and analyzed to know which factors have a higher contribution in the making, growth, and development of place attachment.

2.1 *Methods of data collection*

There were four participants in the age range of 40 to 51 years, with three females and one male from three different affected areas; Jatirejo, Porong, and Gempolsari. Interviews were conducted in an open setting with the help of a Javanese language translator.

Data collection was limited to depth interviews with a set of ten main questions. The categories are shown in Table 1. The questions were not limited to open discussion on those topics and further questions were made on personal experience on relocation after they became victims of Sidoarjo Mud-Fluw. During the interview, participants were open in sharing an intimate story when we brought a distant memory of home.

Table 1.   Categories of main questions.

Categories	Topic
Factors	Location
	Building
	Environmental Facilities
	Surrounding Environment
	Neighborhood (community)
	Accessibility (to the main road and other city facility)
Variables	Perception on Force-displacement Condition
	Feeling at Home on Old Settlement
	Feeling at Home on New Settlement
	Length of Residence in Affected Area
	Length of Residence in a new settlement
	Other variables (personal experience)

Apart from four main participants, a set of questionnaires was distributed to 30 participants to test the score of emotional attachment in the old settlement that was affected by disaster and in the new settlement after relocation. This comparison is needed for knowing which aspects have a higher contribution in increasing the attachment of places and speeding up the adaptation process after relocation.

3   RESULT AND DISCUSSION

Place attachment is a bond of people with places that occurs because of a collective concept that shapes the sense of place and gives meaning and value to the experience of places (Altman & Low 1992). An attachment is not a unitary concept but made up of independent dimensions that allow four forms of attachment to be defined such as social attachment; institutional ties, social activity, local intimate, and affective attachment (Lee 2003). One of the participants stated that an emotional eruption was experienced when they were reminded of the old settlement. The length of residence in the new settlement affected the depth of emotional attachment to the new environment, but this may differ from case to case depending on personal experience. The community had a big and important role in some of the victims of Sidoarjo mud-flow. A few numbers of victims chose to be relocated to the same area with the same neighborhood.

With a wide range of meaning put into 'places', the environment where individuals live can be named as 'places'. After losing the entire neighborhood where most of the participants had longtime lived, it was a difficult journey for them to find a new home finally. One of the participants stated that some years after the disaster, she was still feeling very emotional just driving through the affected area. Some groups of victims chose to be relocated or move to a new settlement with several households from the old neighborhood. This case shows that the community is one of the significant factors for emotional attachment.

3.1 *Shelter disaster for displaced persons*

Sadiqi et al. states that factors of failures in building a housing after a disaster can be summarized into lack of– or problem in the community participation, relocation issues, fraudulent use or waste of project funds, and ignorance of the local needs and culture (Sadiqi et al. 2012). Therefore, it is important for the stakeholders to comply with guidelines that focus on rebuilding housing or recovery shelter to avoid issues that arise later. IFRC guideline book of recovery shelter after the disaster (2015) mentions several points to be considered to build adequate shelter, including; community willingness, effective government structure, adequate funding, technical competencies in all important fields such as architecture, planning, engineering, etc. From this research, emerges an additional factor to be considered, which is a shelter design that can adapt to local culture and climate. Lacking one of the points will lessen the success of the project.

Three of four main participants were reluctant to move to a temporary shelter provided by the local government immediately after the disaster. This was caused by an attachment to the old settlement and neighborhood. Even after several eruptions of mud-flow, there are still some households who stay in their home. The temporary shelter provided by the government is emergency shelters that are not supposed to be used for the long-term and a sense of belonging to this settlement is not built. Thus, the adaptation process is almost not progressing. Although cultural appropriateness is mentioned as one of the things to consider in the design of shelter recovery development programs, psychological needs from affected people are rarely mentioned as a significant factor to be one of the determining factors in recovery programs mentioned above.

4 CONCLUSION

Many government policies regarding the relocation of disaster victims or urban eviction for city development didn't consider the psychological needs of relocation victims. The study of psychological needs and emotional attachment that stimulated through the interior and architectural design of settlement for disaster relief shelter is limited. Attachment to places can indicate both positive and negative impacts of people-environment bonding. As for negative attachment, it occurs due to negative experiences of the environment. From the evidence in psycho traumatic research and disaster relief shelter guide, we are aware that shelter design must provide the psychological needs of the affected population that focuses on a transitional dwelling.

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Utilization of woven bamboo as zero waste packaging for organic product from *Warung 1000 Kebun*

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ABSTRACT: Today's packaging that is often used by the community is paper and plastic packaging. In addition, plastic packaging is considered non-eco-friendly because plastic is tough to decompose by micro-organisms, so the potential for environmental pollution is tremendous. An effort is needed to reduce the use of single-use plastics by applying the principle of Zero Waste to change the mindset about waste and the behavior in managing it. In this case study, one of the shops in Bandung named *Warung 1000 Kebun* is currently implementing the principle of Zero Waste but is still not wise in using plastics, especially for vegetable and fruit products. The aim is to apply the Zero Waste principle using packaging and sustainable theory and visual communication design. Then data will be collected in the form of observations, interviews, and analyzed using the SWOT method.

Keywords: packaging, plastic, zero waste, eco-friendly

1 INTRODUCTION

Most individuals are aware that organic food has numerous health benefits. However, because organic ingredients are perceived to be significantly more expensive, some people are still hesitant to include them in their daily meals. As the proprietor of Warung 1000 Kebun, Ali Abdullah knows how deeply this stigma is rooted in urban neighborhoods. As a result, Ali seeks to eradicate this stigma by selling organic ingredients through the 1000 Kebun Community program. The 1000 Kebun Community is a gathering place for residents who share a passion for gardening and a common goal: to eat healthy food grown in their gardens. Beginning with a shared practice of purchasing organic materials, they found numerous benefits to growing it yourself. In 2017, Warung Sehat 1000 Kebun was founded two years later to promote a healthy lifestyle through organic food. Ali hopes that by establishing Warung Sehat 1000 Kebun, the public's understanding of eating nutritious, organic food will grow.

Each category of Warung 1000 Kebun's items has a different price. The following is the price range for Warung 1000 Kebun's items.

From spices to hobbies, Warung 1000 Kebun employs many ecologically friendly or readily biodegradable materials in its packaging, although certain items, such as vegetables and fruits, still use plastic packaging. The Zero Waste concept is now being implemented in Warung 1000 Kebun. Paul Palmer popularized the phrase Zero Waste by naming his chemical firm, Zero Waste Systems Inc. when it was formed in California in 1974. Because the word had such a broad and rapid worldwide reach, its definition became less specific than Paul Palmer had anticipated. According to Paul Palmer, the Zero Garbage idea is a redesign of all commodities and processes in people's lives. No more objects become waste since they may be reused at multiple levels (zerowasteinstitute.org, 26-08-2021, 16:00).

However, they continue to use plastic wrapping for produce such as vegetables and fruits. According to the findings of interviews with the owner, Warung 1000 Kebun is not yet used as a proper solution for using environmentally friendly paper bags and cardboard, but logging requires a lot of

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Table 1. The cost of items sold at Warung 1000 Kebun.

Product	Price (IDR)
Spices	75/g
Vegetables	6.000–56.500
Fruits	30.000/kg
Animal Product	30.000–80.000
Processed Drink	25.000–80.000
Processed food	19.000–30.000
Rice, flour, and beans	20.000–30.000
Sugar and honey	26.000–220.000
Pasta, noodles, and cereal	15.000–20.000

energy. The design of Zero Waste packaging is one alternative media that may be used to reduce the use of single-use plastic since Zero Waste packaging has various advantages over other types of packaging. There is no waste generated because this packing may be reused or recycled. Furthermore, it can make use of natural resources and local craft artisans. Consumers can use Zero Waste packaging for various purposes, including edible containers, "plantable" paper, and embedded seeds.

In light of the preceding, there is a chance to educate the Zero Waste concept in the customers of Warung 1000 Kebun through Zero Waste packaging design by taking advantage of the different advantages of Zero Waste packaging design as a medium for reducing the use of single-use plastics. In 2004 the Zero Waste International Alliance defined Zero Waste as an ethical, economical, efficient, and visionary goal. It directs people to change their lifestyle and behavior to imitate the natural life cycle, where materials no longer needed are designed to become other sources. By implementing Zero Waste, we will be able to reduce the damage to land, water, and air that threatens life on Planet Earth (Agustina 2013).

2 RESEARCH METHODS

Warung acts as a forum for producers to market their products directly to consumers. In addition, it also functions as a knowledge center, community center, and information center regarding healthy lifestyles for consumers, the producer community, namely local farmers and MSMEs, and the local community there. It could be said that W1000K is a real action from the 1000 gardens community to participate in spreading the principles of a healthy lifestyle, zero waste, and supporting agriculture and sustainable development.

Also, the data about the promotional efforts that have had a significant impact on Warung 1000 Kebun's goals has been obtained. Because of selling products, W1000K, a forum for local farmers and artisans to market their wares, also embraces small farmers who are unsure how to market their wares, lack management skills, haven't received much standardization, and have limited access to knowledge.

According to GreenBlue (2011), sustainable packaging is a packaging system that uses recycled materials and remains economically beneficial as long as recycling is carried out. The Sustainable Packaging Coalition (SPC), a GreenBlue project designed to be effective and safe throughout its life cycle to meet market performance and cost criteria, is made entirely using renewable energy. Once used, it is efficiently recycled to provide a valuable resource for the next generation. The mission of the Sustainable Packaging Coalition is to use thorough research and a science-based approach to help advance and communicate a positive, solid environmental vision for packaging and support innovative and functional packaging materials and systems that promote economic and ecological health (GreenBlue 2011:1).

W1000K also offers seminars and talks in the community about healthy lifestyles to be aware of the things they will consume. The W1000K is focused on two different target market behaviors. The first is on the purpose of organic food and drink to help people live a healthier lifestyle, and the second is people who are self-conscious of their appearance. Organic products can improve consumers' self-image who are concerned about their health and the health of the environment.

2.1 *The needs Warung 1000 Kebun*

According to the results of an interview with Ali Abdullah, Warung 1000 Kebun requires biodegradable packaging. Warung 1000 Kebun has done its part to decrease plastic waste by providing customers with shopping bags. Warung 1000 Kebun has a paper based shopping bag that incorporates handicrafts from local artisans, such as woven bags. Warung 1000 Kebun also wishes to benefit from the work of artisans, such as bamboo artisans. Not only that, but they may also use the craftsmen's results to help them improve their economy and preserve their culture.

To be able to make readily biodegradable packaging, in designing sustainable packaging things that must be considered according to Istigfarin (2017): 1) Finding more sustainable materials without compromising economic and social functions; 2) The goal is to find creative packaging designs that can solve packaging waste and reduce the carbon footprint. Also, consider the contents' size, weight, and safety; 3) minimize the size of the material used and the waste generated. Also consider cuts, waste, production processes, and costs; 4) Explore the efficiency of using ink; and the last 5) Packaging usage patterns.

For the time being, vegetable and fruit products at W1000K still use plastic packaging compared to the other products that already use environmentally friendly or biodegradable packaging. To meet the needs of Warung 1000 Kebun, the design of Warung 1000 Kebun was assisted by bamboo craftsmen Mr. Pibsa from Sukabumi. For the packaging, usually, it takes two days to manufacture. The price range offered by Mr. Pibsa is 10k–30k. To determine the price, Mr. Pibsa calculates the difficulty level and the size desired by the consumers. Choosing the bamboo and how long it takes to make a bamboo woven for one product takes sufficient time. And also, the packaging needed about four days for six packaging models made by Mr. Pibsa.
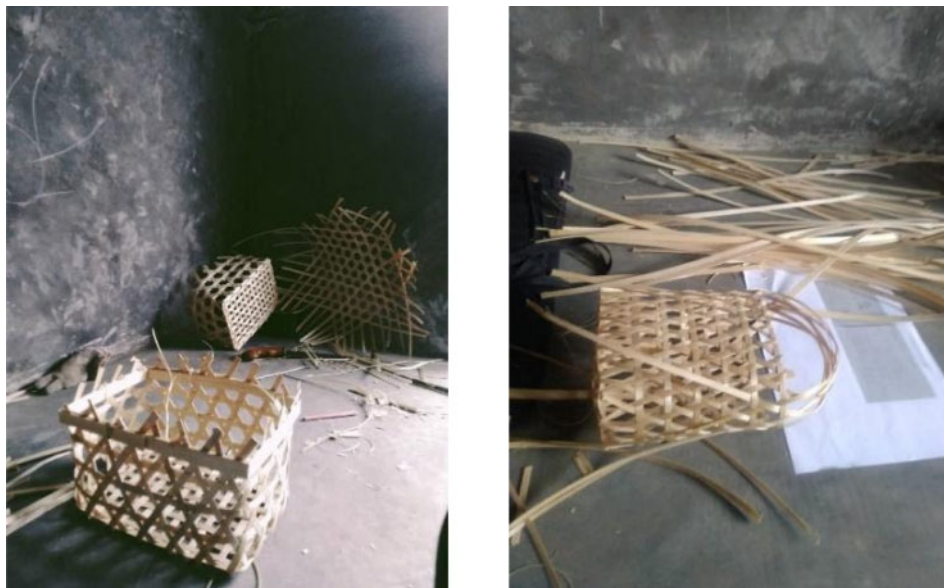
Figure 1.   Packaging manufacturing process by Mr. Pibsa.

3 RESULT AND DISCUSSION

Warung 1000 Kebun is a shop that sells organic food and encourages people to live a healthy lifestyle. It creates a platform for local producers or farmers to sell their goods directly to customers. Warung 1000 Kebun's existence aims to propagate the ideas of a healthy lifestyle and assist agriculture and the Zero Waste lifestyle. The primary goal of Warung 1000 is consumers who value the function of organic foods and beverages. Those who want organic products and want to live a healthy lifestyle, as well as customers who are self-conscious about their appearance. Organic products can help consumers feel better about themselves and the environment, so the Zero Waste packaging method should meet the needs of Warung 1000 Kebun's producers and customers. The author has utilized bamboo to depict the Zero Waste package design for Warung 1000 Kebun. Because bamboo has robust and elastic properties, it is usually used to create packaging. The colors utilized in the design of the Zero Waste packaging has vivid colors on the label. The choice of vivid colors was meant to reflect Warung 1000 Kebun's customer behavior and depict the color of the vegetables and fruits themselves. There were additional supporting colors, such as black and white, which are used as typographic colors for body text on packaging labels in addition to the primary color.

There are three sizes of Warung 1000 Kebun available: small, medium, and big. The three versions each have their groupings, and not only do they have their packaging, but they also have labels that provide information.
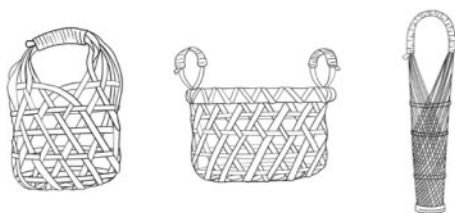
Figure 2.   The 1000 garden Warung packaging sketch and dimensions.

Warung 1000 Kebun, a shop that sells organic ingredients for daily needs, supports a healthy lifestyle. Provide a forum for local producers or farmers to market their products directly to consumers. With the existence of Warung 1000 Kebun, they want to spread the principles of a healthy lifestyle and support agriculture and the Zero Waste lifestyle. Woven Bamboo or *Besek* is considered more natural and healthy because it does not contain many chemicals. Therefore, it triggers the behavior of consumers of typical souvenirs, preferring the use of *Besek* packaging as packaging. Besek as packaging arouses consumer interest because it can explain the benefits of health, prestige, and luxury with icons. This design can support the fulfillment of psychological needs and facilitate the purchase of these products (Lukitasari 2013).

Figure 3.   Packaging prototype.

4 CONCLUSION

The design of zero-waste packaging aims to reduce single-use plastics and make the W1000K more plastic efficient. In addition, it is obtained that the looks on packaging result is luxurious and has a better image as woven bamboo material. It also increases public awareness to consume organic food for personal health and reduces the use of single-use packaging for human survival with the proper lifestyle.

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Study of zero waste pattern cutting (ZWPC) for sustainability Batik shirt products

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ABSTRACT: Every clothing production produces approximately 15% of textile waste in a clothing production process, and this is no exception for batik-patterned shirts. Shirts are one of the fashion products that men widely use as a choice for everyday clothing. Shirts have experienced rapid growth, especially batik-patterned shirts. Innovation and creation for designing the motifs for the batik-patterned shirts are not always handled with the impact on the environment. On the other hand, the ZWPC technique isn't found in the development design of batik-patterned shirts, even though its use can reduce waste by up to 0%. For this reason, this study will discuss the formulation of the design of a batik-patterned shirt using ZWPC. The results of this study are the formulation of the technique of designing a batik-patterned shirt using ZWPC, where the design is made by analyzing ZWPC, developing motifs, and applying motifs to ZWPC.

Keywords: Zero-Waste Pattern Cutting, Shirts, Batik, Sustainability

1 INTRODUCTION

The increasingly diverse choice of clothing styles grows by the massive production of clothing that comes with various models, colors, and motifs. The variety of techniques used can spur a favorable economic climate in the clothing industry. But, in their research, Risannen & Almond (2013), the waste of clothing production brings new problems that need to be solved. They explained that each clothing production can produce approximately 15% of waste which is obtained from the remaining pieces of cloth. However, not all of the waste produced can be recovered into a product because it requires special skills for its development; thus, the development of waste into new products cannot be relied upon in the management of waste leftover from clothing production.

Aware of the above conditions, researchers and designers are developing the concept of zero-waste fashion design to support sustainable design, one of which is zero-waste pattern cutting (ZWPC). ZWPC is a technique/ method that creates clothing patterns without textile waste;s it integrates the pattern-making in the design process (Rissanen 2016). However, there is a difference between the conventional production process and ZWPC; the difference lies in the pattern design and cutting. In conventional concepts, these concepts were different, while in ZWPC, the processes are united. With integration of processes, waste is not a top priority in the design, which enables pattern-making and fabric-cutting into a single unit that is more concise and efficient and allows each clothing production not to produce waste.

Several studies and designers have already used this study on fashion sustainability. In general, these developments include the utilization of textile and non-textile production waste as value-added products and the efficient use of materials by developing a zero-waste pattern and its application to fashion products. But, unfortunately, it is not applied to men's clothing products process, especially shirts. A shirt is a type of clothing commonly used by men in everyday clothing; in Indonesia, the batik-patterned shirt is one of the most popular shirts and is a clothing choice.

The innovation of the composition of batik motifs in batik-patterned shirt products develops and adds clothing choices for men. Batik was used as clothing material in the form of a long cloth

wrapped around the body, but nowadays, many fashion products use batik as material, one of which is men's shirts. Suryana (2013) said that the batik-patterned shirt was a development of batik cloth which was initially used as clothing material and has now adapted to modern needs. Batik-patterned shirts as a fashion product are growing, especially in the visualization and composition of the motifs. Harmonizing various visualizations and compositions of batik motifs on shirt parts is an essential part of the aesthetics of batik-patterned shirts (Mulyanto et al. 2019). To produce harmonious batik motifs on shirts often create waste because harmonious visualization plays an essential role in batik-patterned shirts. Because at first, the reference pattern in the design of the motif was still made in general and not counted the waste risk at the end of the clothing production process. On the other hand, the development of shirt patterns with the concept of zero-waste has been widely developed, provides opportunities, and can support fashion sustainability in the clothing production process.

The conditions above will examine the formulation of particular patterns in the design of batik shirt motifs by utilizing the ZWPC technique and the development of batik motifs. Formulating a motif development technique in the design of a batik-patterned shirt product can drive a sustainable climate and streamline the production process for the clothing industry players and batik craftsmen.

2 RESEARCH METHODS

The research method in this study uses qualitative methods descriptively. The analysis approach on this study is fashion design, through an analysis of studies that researchers and practitioners have developed in fashion and batik. According to Davis (1980), there are three main components to designing fashion. It's structural, functional, and decorative components. All of it united to use in a fashion design. The analytical step to formulating the development of particular patterns in the design of batik-patterned shirts by utilizing ZWPC is carried out by analyzing the ZWPC pattern shirts as structural and functional components and developing batik motifs as decorative components.

3 RESULT AND DISCUSSIONS

Sustainability in fashion design drove from a production process from upstream to downstream, which still impacts the environment. Based on Jin Gam in Muthu (2020), the clothing industry is the largest contributor to environmental damage in the textile category. Its needs to be solved by designers to create environmentally friendly fashion innovations, for that designers play a significant role in implementing the concept of zero-waste fashion design. Zero-waste fashion design itself is a concept of minimizing waste from upstream to downstream, starting from the use of materials, material processing involving water, pollution until the product is ready to be marketed, even after use (Rissanen 2013, 2016).

There are two categories of fashion process, namely individually and en masse, which have different process flows. Mass production involves time, human and material resources, and a longer design process than individual production processes. The two clothing design methods apply the design process, pattern making, and material cutting in separate work lines, unlike the production process with the zero waste concept, which combines the three techniques in one work line. Muthu (2020) explained the meaning of Zero-waste Pattern Cutting (ZWPC) according to Risanen (2016), Joseph-Armstrong (2010), and Saedi and Wimberly (2018) it's a technique or method of designing a pattern without waste. The pattern has different principles; development of conventional patterns that develop based on changes in the dart, adding fullness and contouring.

According to Davis (1980), it is necessary to consider structural, functional, and decorative components in designing clothing itself. Structural components in clothing are components related to the construction of clothing, such as the location of pockets, cuffs, and other things related to making fashion patterns. Functional components focus on the function of each piece and details of
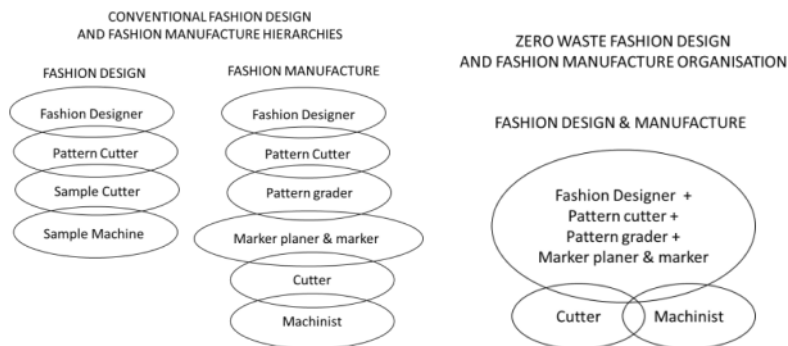
Figure 1. The concept of fashion design using conventional methods and zero-water fashion design (Risannen & Almond 2013).

clothing, so it can use when it is worn, such as openings using buttons or zippers. And decorative components, namely components designed to visually appeal to a fashion design, for example, motifs on the surface of the fabric or motifs generated by weaving or even clothing details as decorations.

As with other types of clothing production, the batik-patterned shirts process is not much different. Batik cloth as the primary material in making shirts, intended initially as a clothing material/cloth wrapped around the body, the adaptation of batik cloth to modern needs (Suryana 2013) gave rise to batik in a different form shirt. This changing form affects the batik design process. Previously, the making of batik motifs referred to a long cloth or sarong with a pattern consisting of a *kepala, badan, hiasan pinggiran* (Djomena 1990). Cutting its batik-patterned fabric by the shirt pattern with a particular placement on the surface of the cloth; this technique results in a lot of wasted cloth residue and eventually becomes waste (Bimantoro et al. 2015).

This study aims to develop environmentally friendly batik products formulas; it's coming from the identification of ZWPC and batik motifs was carried out. Previous explanation of the components of fashion design, the ZWPC pattern has been analyzed by the previous researcher, namely Timo Risannen (2013); the results of the analysis show that the pattern does not match both in terms of detail and dimensions of the fabric. Therefore, for shirts, it needed to be developed again with the needs of batik shirts. The detailed adjustment of the shirt, such as the length or short sleeves of the shirt (in the development of the Risanen pattern only long-sleeved shirts), pocket details, and the dimensions of the fabric to be used; for batik cloth using a cloth width of 115cm, while the Risanen pattern shirt did not explain it in detail. Based on these findings, the ZWPC pattern design for shirts considers the size, dimensions of the fabric, details, and type of clothing. Scope size includes the available user sizes based on fabric optimization (because this system does not recognize size grading). The dimensions of the fabric are the width of the material. The last is details; parts of clothing attached to the shirt, such as collars, pockets, plackets, and cuffs on long-sleeved shirts, and the type of clothing means a variety of shirt styles; standard type or casual shirt, short or long sleeve.

Furthermore, for the decorative component, identification of motif development is carried out by analyzing the pattern of motif development; referring to Susanto (1973), the way of developing batik motifs can be categorized into several types, namely geometric and non-geometric groups. In general, the composition of batik motifs consists of three main categories, namely the central motif, complement, and *isen-isen*. The main motif in this category refers to the dominant motif compared to other motifs, while what is meant by complementary motifs are supporting motifs that complement the central motif. And for the *isen-isen* motif is a small stuffing motif in a series of motifs (Doellah 2002; Susanto 1973). Furthermore, the repetition pattern in batik motifs
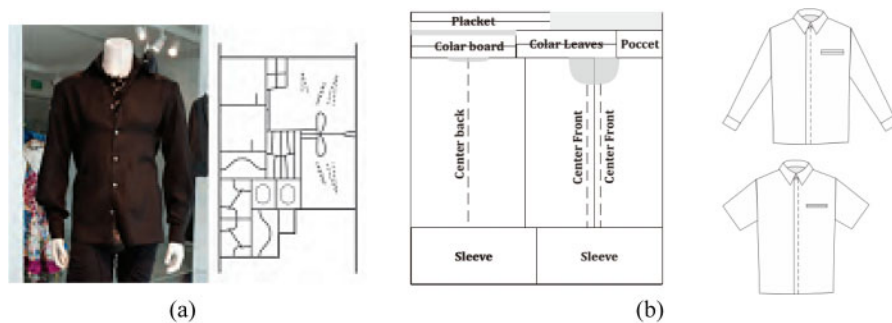
Figure 2. (a) ZWPC Risanen shirt pattern development (Rissanen 2016a); (b) author's ZWPC shirt pattern development (short sleeve).

is composed as a group into 1) *Tubrukan* system, 2) *Onda-onde* system, 3) *Parang* system, 4) *Mubeng* system, 5) *Mlampah sareng* system.

In the process of designing batik motifs, according to Kudiya (2019); The pattern of placement of motifs in batik shirts can classify into 1) Pattern-I, 2) Pattern I-I, 3) Pattern U, and 4) A-symmetrical pattern. In another explanation (Rifaah 2020), the placement of motifs with specific patterns, such as patterned batik cloth products, can be categorized as particular motif patterns. The design of motifs in shirt construction needs to pay attention to the repetition and continuity of motifs on parts of the shirt, such as the front of the shirt with buttons, the left and right sides, pockets, collars, and cuffs on long-sleeved shirts (Mulyanto *et al.* 2019). In his research, the shirt pattern used did not apply the ZWPC concept, so it seemed to have a reasonably large remaining part as waste.
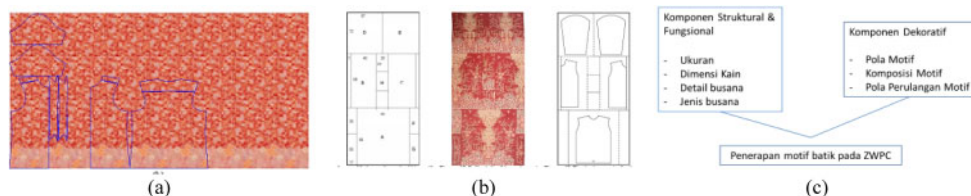
Figure 3. (a) Batik fabric with the application of a shirt pattern (Bimantoro et al. 2015); (b) Batik fabric with special pattern placement (Mulyanto et al. 2018); (c) formula design of motifs with ZWPC.

With the explanation above, the arrangement of batik motifs on shirt products needs considering composition in clothing patterns; in this study, the ZWPC pattern is the basis for developing motifs. So motifs can be composed in harmony with specific motif preparation techniques that refer to the concept of developing batik motifs; this method can optimize fabric dimensions through the ZWPC pattern. More than that, it also gives an aesthetic and harmonious motif at the end of the product.

4 CONCLUSION

A designer plays an essential role in driving the concept of sustainability in the fashion world. Innovation in various aspects is needed to impact the environment positively; one aspect that needs attention is the clothing production process. This study focuses on the types of batik-patterned shirts. The production process of batik-patterned shirts still generate waste. This study optimized material by designing shirt motifs that used the ZWPC technique as the basis for developing motifs. Whatever steps need to be taken, namely analyzing the ZWPC, analyzing the development of batik

motifs, and applying batik motifs to the ZWPC. ZWPC analysis includes size, fabric dimensions, details, and types of clothing to be developed. The motive analysis consists of the kind of motif, the composition, and the pattern repetition. Application motif to ZWPC is placing the composition of the motif on the parts of the ZWPC by attention to harmony and aesthetic aspects.

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Upcycled design: From plastic bag to bicycle bag

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ABSTRACT: Upcycling is a method of turning waste or used goods into new materials to make products with higher functional and economic values than the original materials. This method aims to reduce the amount of product waste that is not used by converting it into potential, reprocessing into raw materials and new products. The plastic bag is one of the waste materials that can use again by the upcycling method. Plastic bags are one of the most significant contributors to waste in the world. Eco Watch data present that the percentage estimation of plastic waste is about 10% of the whole waste in the world. Indonesia is ranked second as the biggest waste producer globally, with a total amount of waste reaching 187.2 million tonnes. The purpose of processing waste material using the concept of upcycling is to reduce the amount of waste, especially plastic bag waste, and produce new products with economic value. An alternative product from processing plastic bag waste with plastic melting techniques is a bag for a bicycle rack. The product was chosen by considering the character of the upcycled material that is suitable for use as a bag material, with surface characteristics and textures that give a unique impression. In addition, the need for bicycle bags is increasing along with the increasing way people use bicycles as a mode of transportation during the pandemic.

Keywords: bicycle bag, design, plastic bag waste, plastic fusing, upcycling

1 INTRODUCTION

1.1 *Sustainable design concept*

At the beginning 1990s, the concepts of eco-design and green product design developed. The company's approach was to reduce the negative impact on the environment from their industrial production activities. Until 1997 UNEP announced a statement regarding eco-design; it is an understanding to create products and sustainable consumption (UNEP 2009). The statement is the forerunner to the beginning of the current sustainable design concept. In order to regulate the movement of industrial expansion so that it is in balance with the environment, the environmentalist organizations expand their scope of reach by including social, economic, and environmental issues to give a source to the concept of sustainable design.

According to McLennan (2004), Sustainable Design is a design knowledge that attempts to maximize the quality of our ecosystem while reducing or discharging negative impact to the natural environment." The concept of sustainable design is an answer to environmental collapse due to air polluting, the greenhouse impact, and deforestation, which causes a more significant problem, specifically global warming. Sustainable design relates to the mindset and responsible human activities in harmony and respect for nature-based on three principles of sustainable design: environmental, social, and economic ecological parts (Walker 2006). All of them are related to the practice and application of the concept of sustainable design. So that in the application of the concept of sustainable design, it is not only focused on environmentally friendly design but also being engaged for the community's social life and creating economic value or increasing economic growth both locally and globally.

1.2 *Plastic waste*

Based on the UNEP (United Nations Environment Program) data in 2017, the estimation of plastic waste pollutes the environment is about 8 million tonnes, especially the pollution that occurs in the oceans. Almost 80% of plastic waste originates from household consumption activities. It is mainly plastic bag waste; Plastic bags are the most common plastic waste found in household waste because regularly, these plastic bags get free of charge when buying at the market.

After China, Indonesia is the second-largest waste-producing nation, with 3.22 million tonnes of plastic trash discharged into the ocean (Jambeck 2015). The Ministry of Environment and Forestry data said the projection of Indonesia's total amount of waste would reach 67.1 million tons in 2020. There are three more significant types of waste:

1. Organic waste (38.4 million tonnes)
2. Plastic waste (8.96 million tonnes)
3. Paper waste (5.76 million tons)

Household activities are the most significant origin of waste in Indonesia, 48% of the total waste. Plastic bags are the most common type of plastic waste, almost 265.000 kilograms per month. With a massive quantity of waste, it is vital to do fit and proper waste management.

Meanwhile, in practice, plastic waste management is still not optimal. About 69% of waste piles up in landfills outwardly being correctly managed and processed. It becomes a problem that is quite worrying if it occurs continuously and then can cause more significant problems, both environmentally, socially, and economically around the area.
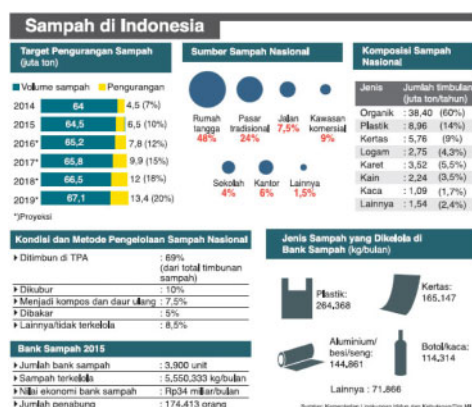
Figure 1. Waste data infographic in Indonesia (Source: Ministry of environment and forestry).

1.3 *Plastic bag*

There are three most popular plastic bags, i.e., HDPE, LDPE, and PP. Each type of plastic bag is often seen and used in household activities. The first type is HDPE plastic, which has a more robust and stiffer material with a darker and duller color than other types of plastic. It is more resistant to high temperatures, so it requires much energy during the smelting process to be recycled. The thickness is between 0.015 mm to 0.150 mm. They are usually used for packaging or plastic bags to contain food with high heat temperatures. The second type is that LDPE plastic is more plastic than HDPE and PP. Better recognized as Plastic Kresek, for carries groceries at the market and is also used as a garbage bag. This type is most commonly found in household waste. The third type is PP plastic; The material is translucent but not see-through. Thin and sturdy, resistant to fumes and oil penetration. They are usually used as packaging for dry food, wet food, and beverages. Often found as food packaging in fast food restaurants.

1.4 *Upcycle material*

Upcycling is a method of turning waste or used goods into new materials to make products with higher functional and economic values than the original materials. This method aims to reduce the amount of product waste that is not used by converting it into potential, reprocessing into raw materials and new products (McDonough & Braungart 2010). This method will decrease the need for brand-new raw materials to make unique products. This method helps decrease energy usage, air polluting, water contamination, and also greenhouse gas emissions.

By using the up-cycle method will provide better benefits than materials processed by the recycling method only. Here is a comparison between up-cycle and recycle materials:

- Recycle:
  - Decreasing the result of waste on environmental pollution
  - Turning used waste materials into brand-new raw materials
  - Not all kinds of waste could be processed into new raw materials
  - It takes a complex process and enormous energy
- Upcycle:
  - Decreasing the impact of waste on environmental pollution
  - Turning used waste materials into raw materials or new products
  - Almost all used waste materials can be treated by this method
  - Provide products of good quality from the previous starting material
  - Provide products with unique and beautiful material characters
  - Produce new functional products and have more economic value than the previous original raw materials

2 RESEARCH METHODS

The type of research conducted is qualitative research. Qualitative research is a method for finding out and understanding the context of social problems in specific communities. This process requires critical basic steps, such as asking and collecting questions, collecting and analyzing specific data from participants, events, or issues that occur, analyzing the data inductively, and interpreting the context and content of the data obtained. The results of this study are usually flexible depending on the point of view and research objectives (Creswell 2014).

The qualitative research strategy applied in this design is a material study approach and product design. Material studies were carried out using the plastic fusing technique, a heating process on the surface layer of plastic bag waste. This method was chosen because it is considered the easiest to do with minimal resources.

The analysis that will be carried out in this study focuses on selecting bag waste and applying the plastic fusing method to produce new materials for up-cycled products. The following points of analysis will be carried out:

a. Analysis of sorting the type and amount of household waste plastic waste
b. Technical analysis of the application of the plastic fusing method
c. The concept of up-cycled product design that will be made based on the plastic fusing method

2.1 *Plastic fusing method*

According to Instructables.com (2021), the fusing or heating method is one way to change the flexible plastic character to become stiffer by heating the plastic stacked in several layers. The result of this fusing is a rigid plastic material, a unique texture, and a vintage-inspired color. The tools and materials that must be prepared are as follows: The first step, prepare some sheets of plastic waste, iron, scissors, parchment paper, or tracing paper. The next step is to cut the top and bottom of the plastic, then unfold it so that it opens into a rectangle. The next step is to

cover the bottom of the base with parchment paper or tracing, then place the plastic on top. The number of layers of plastic is adjusted to the desired result. The ideal number of layers of plastic is approximately 5–7 layers. Then cover the top with parchment or tracing paper. After that, iron slowly and evenly. Use enough heat to prevent the plastic from melting. The final result of fusing is ready to be used for materials to make new products.

3 RESULT AND DISCUSSION

3.1 *Selection of type and amount of plastic bag waste*

The first step that must be prepared for processing plastic bag waste using the fusing technique is to select the type and number of plastic bags to be used. The choice of the type of plastic bag will affect the product material, texture, and shape. The number of plastic bags will affect the thickness and strength of the product later.

a. Choosing the type of plastic bag waste
   - Avoid using biodegradable plastic bag waste. Using this type of plastic bag in the fusing technique is not recommended because the material will crumble more easily when heated.
   - The recommended type of plastic bag is the LDPE type; this type is the most widely used and found in household waste. The low melting point makes it easy to process using simple lats, such as a household iron.
b. The number of plastic bags used.
   - The number of thin plastic bags required is about 5–7 pieces of plastic.
   - With this amount, the strength and thickness of the plastic bag fusing results can be achieved well.
   - The number of thicker plastic bags required is about 3–5 pieces. With this amount, the strength and thickness of the plastic fusing results can be achieved well.

3.2 *Application of the plastic fusing method*

The plastic waste material processing method used is a heating process using a simple tool in an electric iron. The focus of the material used is plastic bag waste. This material was chosen because of the abundance of plastic bags, and it does not sell well if sold to plastic waste collectors because it is difficult to recycle into quality plastic products. The heating device used is a household iron; this tool was chosen because it is easy to obtain anywhere and produces enough heat that can be used in the material processing process.

The result of processing is sheets of raw material from plastic bag waste with an attractive texture and vintage impression. The resulting material is also more robust than before, as it consists of several layers of plastic sheets. It can be used as material for craft products such as bags, wallets, cell phones, or tablet pockets to cardholders.

Figure 2.   Result of plastic fusing method and product example.

3.3 *Concept design*

The product design concept to be made must consider the following parameters:

- Ease of application of plastic fusing techniques so that they are easy to made.
- Efficient use of tools, as much as possible, the tools used are simple tools that are easy to obtain and use.
- Functional product
- Dual mode bag, first tote bag mode, and second is bicycle rack bag
- The target market for the product is young people who are aware of
- the environment and enjoy using upcycled products.

Figure 3.   Result of plastic fusing method and product example.

4   CONCLUSION

Applying the upcycled design concept by using the plastic fusing method to treat plastic bag waste can produce new and valuable products. The fusing plastic process results produce a new material with a unique texture character and are more robust than the initial material (plastic bag waste). Thus, the fusing plastic method can become an alternative for processing plastic bag waste into new materials and products as a form of sustainable design concepts. In the future, the product development resulting from the plastic fusing method can be developed for each type and design. We still need to improve the quality of the material so that it can be used in other products.

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Association rule mining: Design of product customization systems in user preference context

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ABSTRACT: The ability to customize a mass product is one solution for the survival of the industry in today's global competition. Hence, understanding what users want becomes a very important aspect of the customization ability of a mass product. The emotional side of the user is often used as an approach to understand and evaluate the needs and wants of the user. Thus, the emotional satisfaction of users is a determining factor for the success of a product in the market. This paper proposes the Association Rule Mining (ARM) method to map the emotional side of the users from a product design in which the basic requirements that the user needs and wants can be identified. Using the "rule mining" method to evaluate users and product specifications (in the form of a motorcycle as a case example), this study was conducted in three phases: data preprocessing, extracting association rules, and rule evaluation. This approach can be useful for designers and the industry to develop a mass product that can satisfy the emotional side of users so that mass-produced products can be more personally accepted by users.

Keywords: Rule Mining Association, User's Preferences, Customized Product

1   INTRODUCTION

The excess production of manufactured products can lead to heavy competition. To be able to maintain an edge in the competition, the ability to provide products that can meet individual needs at competitive prices with mass products emerged as a very important ability. This capability is called mass product customization.

Goebert and Rosenthal stated that the main problem of a product is not related to the original value of a product, but is in the relationship between the product and its users (Goebert & Rosenthal 2001). From this opinion, it can be interpreted that what is the main consideration for users in choosing a product depends on their emotional point of view when interacting with the products they are dealing with.

Users do not have access to an original design of a product, but they have control over the choice of which product they will buy, when, how, and where to use it (Norman 2004). This means in a competitive market condition, it requires the manufacturer to be able to understand how the emotional condition of the potential users is so that the product created can have a greater possibility of being accepted by its users.The main problem faced by producers in terms of emotional design, of course, started from the difficulty of translating subjective emotional terms into the structure of certain design elements.

Initially supported by the strong rule concept, Rakesh Agrawal, Tomasz Imieliński and Arun Swami introduced ARM to search out regularities among products in huge-scale data transactions recorded by point-of-sale systems in supermarkets. For example, a rule found in supermarket sales data would indicate that if customers buy onions and potatoes, they're also more likely to shop for

burgers. Such information is often used as a starting point for creating decisions about marketing actions like, for example, promotional pricing or product placement (Agrawal 1993). In this study, the concept of the same method is applied to find out about several things that are interconnected when a user customizes his product. The ARM method is used in this study because currently it is rarely used to understand user behavior in the realm of product design.

2 RESEARCH METHODS

To map the emotional side of the user from a product design in which the basic requirements that the user needs and wants can be identified, this study was conducted in three phases: data preprocessing, extracting association rules, and rule evaluation (Figure 1).
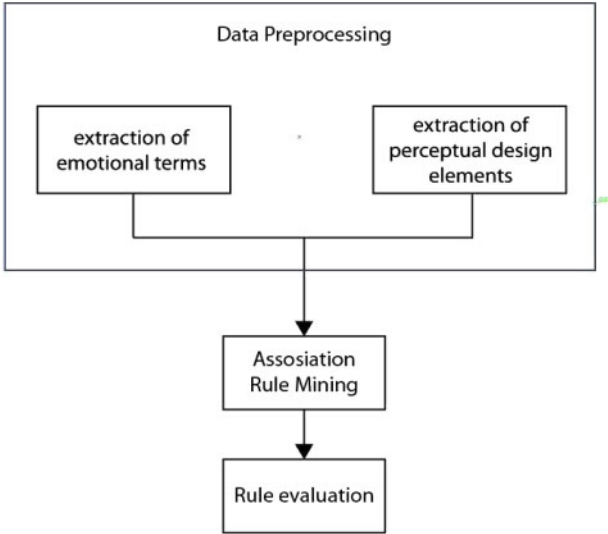
Figure 1.   Steps that used to conduct this study.

This study uses data on sales of motorcycle product modification services from Geba Leisure Parts Bandung, as a case study for the data collection and processing process, taking into account the sales data for modification services which are quite good, and motorcycle products are the main means of transportation for workers who make up the majority of the population in Bandung. Data mining in this study involved several data from 40 customers and 40 modified motorcycle prototypes, which were provided by Geba Leisure Part, Bandung.

3 RESULT AND DISCUSSION

3.1 *Data preprocessing*

Customer evaluations of motorcycle modifications were taken from data belonging to Geba Leisure Parts and perceptual design elements extracted from data with the same owner. Certain market segments were selected for a simple illustration after preprocessing the data on as many as 40 evaluations on 40 motorcycle prototype models were used for analysis.

3.1.1 *Extraction of emotional terms*
Customer response evaluation data were taken from the Geba Leisure Parts customer satisfaction survey in free form. Extraction of emotional terms is done manually by merging for terms with

similar meanings (17 emotional terms collected). Positive responses are processed for extraction in this stage as shown in Table 1 below.

Table 1.   List of emotional terms extracted.

Sporty	Ergonomic	More agile
Classic look	Comfortable	Great build
Great-looking	Beautiful color	Overall good
Stylish	Rider-friendly	Worth
Perfect	Rocks	Solid
Fantastic	Feature-rich	

3.1.2   *Extraction of perceptual elements*

The perceptual elements must be extracted from factor categories available as Geba Leisure Part standard specification. With a total of 9, perceptual elements (see Table 2) that might relate to customer evaluations have been extracted manually from the factor categories.

Table 2.   List of perceptual elements extracted.

Category	Perceptual Design Elements	Number of supporting models
Basic factors	New combination	14
	Unexpected application	23
Interface factors	Color	11
	Fit	19
	Shape	14
	Functionality & Convenience	29
	Sense of material	22
Emotional factors	Ambient	32
	Design Image	29

3.2   *Association rule mining*

The Apriori algorithm was chosen for mining association rules. The C# implementation found on the "Free data processing Source Code" website (http://www.kdkeys.net/forums/) was modified to be used for this approach. General properties of the required rules like support level, confidence level, and the number of things, are configured during this interface.

3.3   *Rule evaluation*

It can be noted that the rules are not completely exclusive because the design elements revealed by the rules for a particular customer's emotional needs can be combined to serve as product requirements.

From the report sheet of data processing obtained as shown in Table 3, it can be seen through the generated rating results, several groups of rules are the main consideration for customers when they carry out customization activities on their motorbikes. In this simple case study, a map of consumer priorities is formed and can be seen based on the customer's emotional needs and desires. In the table above (see Table 3), it can be seen that "new combination" is the main thing that attracts users' interest, followed by "unexpected application", and so on.

Table 3. Rules table.

ID	Rules	C	S	W	Rating
1	New combination	95.2%	15.9%	100	95
2	Unexpected application	93.8%	11.9%	100	93
3	Color	85.2%	18.3%	100	85
4	Fit	85.7%	14.2%	100	85
5	Shape	88.5%	18.3%	100	88
6	Functionality & Convenience	88.5%	18.3%	100	88
7	Sense of material	88.2%	23.8%	100	88
8	Ambient	90.3%	22.2%	100	90
9	Design Image	92.3%	19.1%	100	92

4   CONCLUSION

This approach applies to the evaluation of a customer who made modifications to his motorcycle at Geba Leisure Part, Bandung as a pilot, to gain valuable information to assist in emotional design works to be applied elsewhere in the future. Through this case study, it is shown that this approach can reveal rational rules for a particular customer's emotional needs, and the found rules can be used to determine the minimum requirements on the product platform. Also, this approach can be easily adapted by the manufacturer to reveal valuable information from extensive data. The approach needs to involve a lot of manual information extraction and filtering and is an obstacle that needs to be addressed in future research.

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The effect of using tie/rope connections on the stability of building construction using bamboo material for sustainable technology in the field of building construction

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ABSTRACT: Assembling bamboo as a building construction material becomes challenge to using a sustainable technology. One technique for assembling bamboo is to unite bamboo using ropes or items with long threads, made from various materials, such as coconut fiber, artificial fibers, plastic, etc. some of which are spun. The principle is to use the frictional force between the surface of material that is tied to material of the strap. This study aims to show the behavior of use various materials that are often used in tying bamboo for building construction and recommend the type of fastening connection. The research was conducted by observation and experimental testing to make a bonding model on bamboo and then described it descriptive. The problem that occurs is that over time the construction of buildings from bamboo using tying techniques will experience changes in shape due to loosening of the bonds at the joints which disrupt the stability of the building construction. The cause is the occurrence of expansion or shrinkage of the bamboo stem and its binding tools.

Keywords: bamboo, construction, fastening, stability, durability

1   INTRODUCTION

The use of bamboo as a building structure material, especially in Indonesia, is not a foreign thing. The issue of using environmentally friendly building materials instead of wood that can be cultivated with a life cycle or fast harvest cycle so as not to disturb the balance of nature and facilitate the supply and content of materials that do not harm living things, especially humans, re-elevates bamboo into building materials in the current era. In addition, bamboo also has strength, stiffness, and ductility according to the requirements of the criteria for building structural materials, which are shown in the following table (Rittironk et al. in Dewobroto 2012):

  Bamboo material for building materials is generally arranged in the form of a portal structure, which is a combination of column and beam elements that work in a single system to carry the load which is then channeled to the ground. In assembling bamboo as an element of columns and beams, care must be taken so as not to experience construction failures that cause the collapse of the building with bamboo as its structural constituent.

  Setyo (2012) discusses that one of the causes for failure of building structures made of concrete, steel, wood, and bamboo is related to the problem of assembling, or it can be said that the connection factor is a weakness of the structural and construction system in buildings. The techniques and methods of assembling bamboo and the tools used. One of the problems that arise is that bamboo cannot be notched or welded for the connection process because bamboo is a natural material in the form of fibers arranged in parallel and physically in the form of a hollow tube inside (Gunawan et al. 2020). The simplest connection tool and often used in a series of construction with bamboo

Table 1. Mechanical properties of some construction materials.

| Materials | Density (kg/m^2) | Elastic modulus (MPa) | Intensity (MPa) | | Intensity + Density (IE+6 * 1/mm) |
			Melt	Ultimate	
carbon fiber	1760	150,305	–	5650	321
Steel A 36	7850	200,000	250	400–550	5.1–7.0
Steel A 992	7850	200,000	345	450	5.7
Aluminum	2723	68,947	180	200	7.3
Cast Iron	7000	190,000	–	200	2.8
Bamboo	400	18,575	–	60*	15
Wood	640	11,000	–	40*	6.25
Concrete	2200	21,000–33,000	–	20–50	0.9–2.3

material is a tie system/technique. The fastening system/technique in construction with bamboo material is considered the lowest-strength connection tool (Morisco 2006). This study aims to open up development or engineering opportunities to improve the weaknesses of the system/binding technique on the portal structure with bamboo material.

The benefit of this research is to find out the weaknesses or shortcomings of the tying system/technique, either because of the influence of bamboo or the material used for tying tools. Furthermore, the weaknesses or shortcomings of the system/binding technique will be used as a foothold in designing new connecting devices as sustainable technology in the field of construction from bamboo material. Besides that, this research can be used as a basic guide or reference related to how the system/technique of tying in assembling bamboo for building construction.

2 RESEARCH METHODS

This study uses a quantitative descriptive analysis method, data collection is carried out first by conducting field observations as primary data is carried out to create a model to see or validate the researcher's hypothesis, which is strengthened by secondary data obtained through library data from related journals. The model is made with a measured scale of 1:1 focusing on the study of the connection of the same binding system/technique on a series of portal structures made of bamboo with a variety of different binding materials. Grouped into 2, namely: natural materials group: materials made from natural fibers, namely palm fiber rope, group of artificial materials: in the form of plastic rope, wire, and rubber tires. Compression and tensile tests were also carried out on the model, to see the behavior of each binding system/technique with different binding materials.

3 RESULT AND DISCUSSION

The choice of the material for the fastener is adjusted to the modulus of elasticity of the material that is often used, which can be seen in the following table (Gere & Timoshenko 2000).

Why this can happen is because the mechanical properties of bamboo are heavily influenced by the load it experiences (Prayitno 1995) from the bamboo factor, which is influenced by the age of the bamboo used, the diameter of the bamboo, the thickness of the flesh of bamboo, the density of bamboo fibers, the position of laying the connection in the hollow or bamboo segments and the ties used. The material is more influenced by the plastic–elastic properties of the fastening material used and the ability to create a frictional effect from the surface of the smooth or textured/rough bonding material due to friction or shear forces between the bamboo surface and the connection tool.

Table 2.   Modulus of elasticity of the material.

No.	Materials	Density (kN/m^3)	Elastic Modulus (MPa)	Poisson Ratio
1.	Aluminum	26–28	70.000–79.000	0.30–0.33
2.	Steel	77	190.000–210.000	0.27–0.30
3.	Rock	9.4–28	20.000–100.000	0.20–0.30
4.	Cast Iron	68–72	83.000–170.000	0.20–0.30
5.	Concrete	23–24	17.000–31.000	0.10–0.20
6.	Glass	24–28	48.000–83.000	0.17–0.27
7.	Rubber	9–13	0,7–4,0	0.45–0.50
8.	Wood	4,7–7.1	11.000–14.000	–
9.	Plastic	8.6–14	700–3.400	0.40
10.	Copper	87	110.000–120.000	0.33–0.36

Table 3.   Experimental results.

No	Pull Position Connection	Press Position Connection	Evidence
1			Palm Fiber The connection tool is not damaged, just shifted and the bond is still strong.
2			Wire The connection tool is damaged, something breaks, the bond becomes loose, the position shifts but is still binding.
3			Plastic Rope The connection tool is intact, not damaged but the bond loosens and shifts away from the initial position.
4			Used tire rubber Fixed position, does not move or change much, the connection tool is not damaged, the bond is still tight. Able to withstand the movement of loads in the circuit.

Bamboo experiences shrinkage due to changes in air conditions related to humidity or in other words a change in the air content around it. This causes the bond to become loose unless the material is made of rubber. Rubber fasteners can be said to have the best performance. But the rubber material has problems becoming brittle over time due to hot and rainy weather. In addition,

rubber and wire experience strain, which causes a decrease in the value of the strength of the material. For materials made of natural fibers, in this case palm fiber, the bond is very strong and has a higher frictional force but will loosen when the bamboo experiences shrinkage. Plastic straps have poor performance. In addition to the bamboo shrinkage problem, the smooth surface of the splicing tool does not produce maximum friction on the slippery bamboo surface and the slippery splice surface.

4   CONCLUSION

It is necessary to know the mechanical properties and characteristics of a material to know the weaknesses and advantages of the materials used. This is reinforced by the modulus of elasticity of the splicing material which affects the stability of the joint, particularly in relation to the elastic and plastic properties of the material, its durability and resistance to weather, such as in the case of rubber fasteners.

This research opens opportunities for further research related, firstly: modification of the binding system for connecting bamboo such as techniques and methods of binding, secondly, engineering materials that are suitable for use as fastening materials.

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Lighting schemes at Asia Africa street corridor as part of city identity

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ABSTRACT: As part of city development, the identity of a place is taking high priority. The dif-
ferent appearance and activities during the day and night will provide a different spatial experience
in terms of the identity of the city. Bandung, as one of the cities in Indonesia, has several places that
deliver a strong identity, one of which is *Jalan* Asia Africa, which has significant historical value
to create the identity of Bandung. This study was conducted to identify and review the identity of
the Asia Africa corridor at night, using the theory of lighting scheme from the elements that build
its corridor. As result, the identity of Asia Africa corridor as a public space with strong historical
value is supported by its warm color temperature, heightened position of the light source, repet-
itive density, and the up-lighting. This study can be used as a reference for future lighting design
improvements.

Keywords: city branding, city identity, urban lighting, nocturnal city

1   INTRODUCTION

An image of a city is strongly related to its identity. City identity is an environmental image that
distinguishes it from others as a separate entity (Lynch 1960). In the Architectural context, it is the
qualities of the city's image which act as attributes of the city's identity and provide structure to the
mental image of the observer, namely imageability and legibility. Imageability is the quality of a
physical object, for example in shape, color, or arrangement that produces a strong image for the
observer. While legibility is the ability of the observer to be able to navigate himself to be able to
move with the help of physical form.

As a spotlight in the development of today's cities, a strong identity of a city function as selling
point in the promotion of a city. This can happen through steps, such as creating events in the city,
carrying out restoration, promoting the history of the city, and constructing iconic buildings in the
city (Hankinson 2007; Kavaratzis 2004). Bandung has also taken steps regarding its identity by
enhancing its identity as tourist-friendly city as mentioned in Regional regulation no.15 of 2015
which includes the street corridor of Asia Africa. It is done by doing continuous development of
the city of Bandung, in form of revitalization, maintenance of historic areas and buildings as well
as the creation of iconic buildings and facilities.

At night the identity of a city becomes important in relation to the promotion of a city (Li et al.
2017). In creating identity at night, the image of a building and street corridor elements becomes
important, because through a good lighting strategy, those physical elements such as shape, color,
arrangements, ornaments, or any special façade characteristics, can be beautified thus creating
different effects compared to lighting during the day (Nikoudel et al. 2018).

At Asia Africa Street corridor, where this area has a high historical value, and as one of the
centerpieces in creating the identity of Bandung, the image quality of several historical buildings,
namely the Great Post Office, PLN Building, Merdeka Building, Preanger Hotel, Savoy Homann

Complex, the State Finance Building and also landmarks such as the Bandung square and the Bandung Grand Mosque need to be perceived strongly both during day or night time to create the identity of the place. During daytime, one can perceived the image clearly but at night time the perceived image by the observer should be studied further in relation to the lighting schemes that used. Until now there are less research regarding the use of lighting design in relation to the identity of the Asia Africa street corridor and what kind of lighting schemes have contributed to the creation of the city's identity.

2   RESEARCH METHODS

The method of this study is carried out using qualitative research through the elaboration of the lighting scheme theory on historic buildings along the Asia Africa road corridor. The first step is to describe what elements are part of the lighting scheme. Descottes stated that there are six visual principles that are the main part of lighting design that contributes to the image perceived by observer, namely, illuminance, luminance, color and temperature, height, density, and direction and distribution (Descottes 2011). These six attributes are an integral part in creating visual elements in buildings through artificial lighting.

Ganslandt and Hofmann stated that there are two parts to the lighting strategy of the building, namely quantitatively and qualitatively (Ganslandt & Hofmann 1992). Quantitative lighting design has a lot to do with creating sufficient lighting to carry out certain activities, while qualitative design prioritizes visual perception of the objects being lit. From the two theories above, this research will take part in qualitative lighting design elements, which are obtained from six principles of visual perception in lighting design as follows; color, height, density, directions, or distribution.

Perception of color is the ability of the human eye to receive light stimuli in various spectrum waves. Another thing that is assessed in color perception is the degree of color of light or color temperature, which is likened to a black body radiator in receiving heat in degrees Kelvin, thus giving color to the object. It is divided into three parts, namely; 500–3000 K described as warm white, 3000–4000 K described as neutral white, 4000–6500 K described as cold white, above 6500 K described as sky blue. Height is defined as the height a light source is placed on. The height provides a spatial relationship between light sources, ground planes, ceilings, and our bodies to determine understanding, placement, and exploration of environmental boundaries.

Density is measured in meters, providing the perception of movement or rhythm through the quantity and spatial composition of the light source. In lighting design, density provides an overview of armature placement or lighting quantities such as illuminance and luminance in the illuminated field in the form of rhythm. Direction or distribution is described as processing light as a medium and then adjusting its direction and distribution so that it gives different effects on the object being lit. In the direction or distribution, the division can be divided into; Concentrated downlights, concentrated uplight, diffuse downlights, diffuse uplight, and multidirectional light.

Data collection was carried out through direct observation of lighting that occurred in historic buildings along the Asia Africa road corridor. The assessment of the elements assessed is based on the identity that formed the city based on Kevin Lynch's theory, such as Path, Edges, District, Landmarks, and Nodes. Paths are circulation routes that are used by humans to move from one place to another. In this study, the path taken as the path is pedestrian walkways and their lighting elements such as public street lighting. Edges are the edges of an area. This boundary is formed because of the influence of the building facade and because of the characteristics of its function. In this study, the boundary used is the intersection between *Jalan* Tamblong and *Jalan* Cikapundung Barat, related to the historical value of the road as a form of city identity.

A district is a specific area whose boundaries can be physically identified. In this study, the Asia Africa road corridor area is a downtown district, economy, tourism, and worship, with high historical value. A city's landmark is a city-forming element, it can be in the form of physical buildings, mass compositions, spaces, or architectural details that are specific and highly contextual to the area. Within the Asia Africa corridor area, the landmarks are the city parks, namely the square and the

Great Mosque of Bandung. Nodes or activity centers are areas that become the center of activity so that people can feel a change in the structure of space, for example, the meeting point of movement, and the end of the road. In the Asia Africa corridor, the nodes are the road elements that change the spatial structure such as gates, monuments, road boundary markers such as sculptures.

From the description above, the elements that are taken as the identity-forming the city at night are part of the elements forming the city and the image formed at night on the following buildings or road corridor elements; Buildings that have a high historical identity, namely the Great Post Office building, PLN Building, Merdeka Building, Preanger Hotel, Savoy Homann Complex, and the State Finance Building. Landmarks are also elements that become the identity of the city, such as the Bandung square and the Grand Mosque. Nodes that are part of the Asia Africa Road area such as gates, monuments, and road boundary markers such as sculptures.

3   RESULT AND DISCUSSIONS

The method used is to provide identification to the lighting schemes being used to illuminate the building or street corridor elements in creating perceived images by the observer, thus creating the identity of the city.

Table 1.

No.	Rated Elements	Image	Color	Height	Density	Direction or Distribution
1	Building: Post Office		Warm white	3.5 m	Repetitive Per 6m	Uplight per column
2	Building: PLN		Neutral white	4m	One	uplight on PLN sign
3	Building: Museum of Asia Africa (Gedung Merdeka)		Cold white	4m	Repetitive per 4m	Diffuse multidirectional on top, diffuse multi-directional on fence, diffuse multidirectional downlight
4	Building: Hotel Preanger		Cold White	4m	Repetitive per 4m	Concentrated uplight per column
5	Building: Hotel Savoy Homann		Warm White	Above 4m	Linear	uplight, concentrated uplight on tower
6	Building: Gedung Keuangan Negara		none	None	none	none
7	Landmark: Square (Alun Alun Bandung)		Warm white	4m	Repetitive	Multidirectional on pole

(*continued*)

Table 1. Continued.

No.	Rated Elements	Image	Color	Height	Density	Direction or Distribution
8	Building: Mosque (Masjid Raya Bandung)		Warm white	Above 12m	Repetitive on 4 sides	Uplight on tower, diffused downlight on fasade from pole
9	Nodes: Gate		Cold white	5m	Repetitive per 3m	Downlight
10	Nodes: Monument titik 0 Bandung		Neutral white	2m	Linear	Diffuse multidirectional as hidden lamp
11	Nodes: Sculpture Asia Africa		Warm white	2m	Repetitive surrounding the ball	Uplight
12	Path: Road Lighting		Warm white	4m	Repetitive per 10m	Diffuse multidirectional

From the table, it was found that the identification of lighting schemes in the Asia Africa road corridor was assessed from the visual forming elements as follows: The lighting color in the Asia Africa corridor is dominated by a warm white color temperature, gaining 60 percent, 25 percent has a cold white color, and 15 percent has a neutral white color temperature. The height of the light source on the Asia Africa road corridor element has a height of above 2m, which arises from the placement of the sculpture, monument point 0, while the rest is above 2m. This means providing an illustration that in this road corridor, the space formed is judged by the height of the position of the light source in the public zone.

The density or density of the placement of the light source or the light produced is 67 percent repetition, with the distance adjusted based on the architectural formation such as the distance between the columns, or adjusted to the shape of the field to be lit. 17 percent of light density is a form of line lighting. 16 percent of lighting has no density or order because it only has one lighting or no lighting at all. In terms of lighting direction, up-lighting has 50 percent of the total elements, 40 percent has multidirectional lighting direction, and 10 percent has downlight lighting direction.

4 CONCLUSION

From the results obtained, the identity of the Asia Africa Street corridor at night is created through the warm color application, thus giving a dim and romantic impression. The height of the light source which has a height of more than 2 m is dominant, thus enhancing this area as public area without applying a low level of light source which required to create a level of intimacy in public spaces, such as the sitting room. Feel of the public area is also identified by up-lighting that dominates the lighting application at this street corridor, thus the perceived image is above the eye level of the observer. The identification of the Asia Africa street corridor at night is also created through repetitive lighting density that dominates, creating impression of order, but with the difference in lighting density at the Savoy Homann hotel which applicate linear lighting density. Another concern is that the State Finance Building as one of the buildings that have a high historical

value, and nodes in this area like sculptures, and the monument of zero point of Bandung don't have its visual image at night, because the lack of lighting strategy. Such important elements have to be seen clearly in order to create visual image to contribute to the Asia Africa street corridor. Through these results, it is hoped that the existing lighting strategy can be improved to provide a visual image to enhance Asia Africa corridor identity and to act as a promotion value.

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Spatial conflicts in small-sized houses during the pandemic

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ABSTRACT: One of the changes in people's lives during the pandemic is that people are now getting used to doing more activities at home. It certainly gives more demand to housing activities. Meanwhile, many Indonesian houses have limited spatial areas that are not designed for multiple or complex activities. Thus, this paper aims to find the spatial conflicts that occur during the adjustment. The research method is quantitative, using questionnaires to collect data from respondents whose houses are less than 50 square meters in size. It is found that spatial conflicts mostly happen in the communal areas, kitchen, and home office, with noise, arguments, and interruptions between occupants as frequent disturbances. This study contributes to designers and house experts to help find the upcoming solutions to ensure the house's and the household's resilience towards the pandemic.

Keywords: house design, interior design, pandemic, spatial conflicts

1 INTRODUCTION

The current pandemic has forced many people to stay at home and perform almost all of their activities at home, mainly known as working from home, telecommuting, teleworking, virtual work, mobile work, as well as study from home (Purwanto et al. 2020; Savić 2020). Students and workers who can do remote working have switched their methods from onsite to online. As for remote working, some companies have applied it as an option to choose by the employees, and it is predicted to become permanent in the near future (Saraf 2020; Stănciulescu 2020). Hence, houses are loaded with more activities. Before the pandemic, houses served as a place to rest and relax after work, however now houses are also the place for occupation itself. This considerable demand given to the house does not become a problem when there is sufficient area to provide space for everything. But when there is a boundary about size, spatial conflicts in small-sized houses are inevitable.

A house should be adaptive as a form to resist the spread of infectious diseases (Cahyani et al. 2019). Since the beginning of the pandemic, it is emphasized by Rogers and Power (2020) that housing researchers and experts think over the emerging housing issues in varying ways (Rogers & Power, 2020). Many have discussed the impact of the pandemic in housing from the aspects of physical health, indoor air quality, productivity, and mental health (Adediran et al. 2020; Ardan et al. 2020; Nwanaji-Enwerem et al. 2020; Rosenberg et al. 2020), but very few have mentioned the issue about space adequacy. A study found in Nigeria about housing quality and COVID-19 reported that the lack of space affected the dwelling (Adediran et al. 2020). Diandra also noted that the lack of space affected the changes in the primary function of every room (Diandra et al. 2020). Meanwhile, the Indonesian regulation about the minimum size for housing allows four occupants to live in a 36-square-meter house or 9 m^2 per person (Suryo 2017). In the United States, this size is for a tiny house or micro-housing (Evans 2020), and in Italy, the average size is 80 square meters for four occupants (D'alessandro et al. 2020).

As seen from the description above, we notice that the size of housing in Indonesia is considered small. Still, the activities are not less complex compared to the situation in other countries. However,

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houses as a residence should provide adequate space, especially for sleeping, living, dining, and the level of privacy (Ibem et al. 2015). As the number of home activities increases due to the pandemic, people adjust their interior settings. It is also reported that people tend to integrate several functions in the same space in their home (Ariyani 2020), and 90% of employees said they needed proper furniture to work from home (Fivanda & Ismanto 2021). Previous data indicate that people have attempted to rearrange the interior space.

Noting the interior adjustments done during the pandemic, it must have been done intuitively by the occupants due to difficulties that need solutions from house experts or interior designers. Since the situation is more challenging when the house area is limited, it is more urgent to look at small houses, especially where many Indonesian citizens live in 36 to 45-square-meter houses. Thus, this paper aims to find the types of obstacles related to spatial use, and we refer to it as a spatial conflict. However, in response to COVID-19, modifications through design and behavior are required in houses with limited space (Imran & As'adiyah 2020). By discovering the spatial conflicts experienced by occupants, the interior designers and house experts will be able to think about the upcoming solutions to ensure the house's and the household's resilience towards the pandemic.

2 RESEARCH METHODS

The method of this research is quantitative. The study is focused on houses with areas less than 50 meter square. We use questionnaires as the research instrument, using Google Form to distribute questions and summarize the responses received. In the given questionnaires, respondents are allowed to select more than one answer. This approach helps identify kinds of situations at home that indicate where spatial conflicts may take place.

We had 165 participants, consisting of 108 workers and 57 college students. 150 respondents live in a type-36 or type-45 house, representing the interior's floor area. From the respondents' profiles, we can classify the type of their houses. 120 persons live in clustered housing built by the developers, 30 persons live in a dense housing area, and 15 persons live in a landed house at the city center. 85% of our respondents or 135 persons have experienced a switch to remote working due to the pandemic. So our respondents are eligible to represent our study observation.

3 RESULT AND DISCUSSION

The pandemic has stretched for more than a year now. New habits at home are already formed, and people have made some modifications in their houses. The most distinctive change shown by our respondents is an interior re-layout without adding new furniture, as mentioned by 72 out of 165 responses. Other significant answers are adding plants to bring fresh air at home (63 responses), adding new furniture (52 responses), and modification for getting more natural lighting and ventilation into the house (43 responses). Regarding the obstacles in the implementation, 78 respondents mentioned that they had difficulty finding a space to modify. The main reason was the lack of area that led to such restrictions.

Other than finding a space to modify, 158 respondents who live with other people at home complained about the conflicts they experienced when two persons had to do their activities simultaneously. If parents work from home and children also do their distant-learning from homes, the house's activities will peak during the productive hours, usually daytime. This kind of conflict is reported primarily in the family room and the living room (52 and 27 responses, respectively). Type-36 and type-45 houses put these rooms together as an open communal space, usually at the center of the house. Later in the occupancy, some people prefer to create a partition to separate the private area for the family members from where guests or neighbors may visit and sit inside the house. With a partition, there are two spaces available for 'work from home' and 'school from home', but 69 respondents are still dissatisfied with the noise disturbance. Other unpleasant situations are

arguments when they have to use the same item or furniture at the same time (37 responses), a feeling of getting disturbed by the presence of another occupant (36 responses), interruptions by another occupant while working (35 responses), and arguments due to meeting intensity between occupants (18 responses).

Next to the communal area, kitchen and workroom or home offices also face spatial conflicts in significant numbers (30 and 25 responses, respectively). The mentioning of the kitchen as a place of conflict shows that the food provision holds an important role in house activities. Whether it is cooked at home or delivered from a restaurant, people still need the kitchen to prepare and serve the food. On the other hand, not every family is accustomed to having every meal at home. Those who used to go to work and school in the daytime usually ate lunch outside and had developed personal food preferences and habits that other family members never knew. When all are forced to dine at home, an occupant wants to cook a particular menu, but the other one might want to order a different meal. The kitchen then becomes busy and also overloaded with the meal packaging.
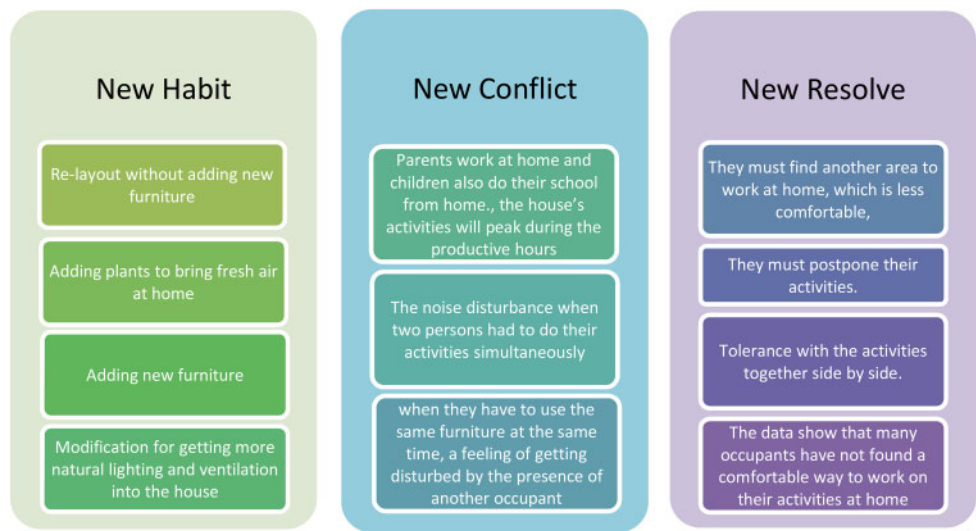
Figure 1. The spatial conflict of new behavior during work from home. Source: Authors.

Regarding the spatial conflict in the workroom or home office, it is inevitable when more than one family member needs to work with a device. It usually happens when one of them used to work at home and got the interior changed even before the pandemic. Suddenly other family members also need to work from home and demand to take turns to use the available space. In reality, this is not what happens according to the respondents. To resolve the spatial conflicts, 67 respondents said they must find another area to work at home, which is less comfortable, and 46 mentioned that they must postpone their activities. Only 15 respondents reported that they could do activities together side by side, and 8 said that the conflicts were still unresolved. The data show that many occupants have not found a comfortable way to work on their activities at home.

Since most respondents have attempted to adjust their interior space, we also asked about their overall obstacles when providing their needs for remote working and sharing the space with other occupants who also work in the same area. Both questions received the most significant responses regarding the increased frequency of tidying up the house. It is interesting to find out that neatness is seen as more important than having adequate space. This finding shows that most respondents can provide what they need inside the house during the pandemic but lack the ability to keep the house neat. It might happen due to the ineffectiveness of spatial arrangements when they bring new furniture into the house, but it is worth further study to know the causes.

4 CONCLUSION

Spatial conflicts at home occur when more than one occupants need to use the same space or furniture simultaneously. The conflicts mostly happen in the communal area, whether it is named a family room or a living room, but the kitchen and the home office also become places with spatial conflicts. Noise is reported as the most significant issue, followed by arguments when occupants have to use the same furniture, a feeling of getting disturbed by the presence of another occupant, interruptions by other occupant while working, and arguments due to meeting intensity between occupants. Many occupants choose to find a less comfortable area at home or postpone their activities to solve the conflicts. Only a few can do activities side by side with their fellow occupants.

Interesting data is found during the research and is worth further study. Occupants face difficulties in finding an area to modify when they need to rearrange the layout or bring new furniture for work due to space inadequacy. Nevertheless, the size of the space does not become the greatest obstacle when they try to adjust the interior setting to their activities. The increasing frequency of tidying up the house is seen as the biggest challenge, indicating that occupants perceive neatness as more important than space adequacy.

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Art and design: Recontextualization of nusantara and indigenous culture

Illustration as cross-cultural storytelling media: Case study on "Folktales of Indonesia and Taiwan" book

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ABSTRACT: Every culture in the world passes down stories from generation to generation. These stories shape society and serve as moral guides. Unfortunately, with the rise of modern pop culture, the younger generations are no longer familiar with their cultural heritage. The latest developments in the creative industry show a rise in trends to adapt local culture into famous creative works with economic value. In light of the trend, the Visual Communication Design Department of Universitas Ciputra Surabaya and Da Yeh University Taiwan (Taiwan, ROC) created "Folktales of Indonesia and Taiwan". This research will use the said book to determine whether illustrations are practical for cross-cultural storytelling. Qualitative data were collected from book users in both countries; the data was then compared with results from the literature study. The result shows that illustrations are effective as cross-cultural storytelling media as long as these are created based on extensive research of the source materials.

Keywords: cross-cultural, design model, illustration, local culture, popular culture.

1 INTRODUCTION

Indonesia and Taiwan are two Asian countries, which consist of various ethnic, and diverse cultures, the diversity in each country is caused by the influence of geographical locations. The word Culture originated from the Sanskrit "*buddhayah*". The word "*buddhayah*" itself is the plural form of *buddhi* (mind), therefore culture can be interpreted as things that are produced by human minds.

Even though Indonesia and Taiwan have different backgrounds and various cultural forms, both nations have seven cultural elements, as stated by Koentjaraningrat, namely (1) Belief, (2) Science, (3) Social systems and community organizations, (4) Language, (5) Arts, (6) Livelihoods, and (7) Technology. According to Sulistyorini (2011): 1), "culture is a broad and complex concept" so, even if it is universal, every community must have a local culture that holds the local wisdom of their respective regions (Unsriana 2013).

Kearifan lokal, or also known as local wisdom, local knowledge, and local genius, is a perspective of life, knowledge, and various values of life that are taught from generation to generation in the forms of folktales (Kristanto 2014). In Indonesia and Taiwan, ethics and cultural values are generally passed down from parents to their children through retelling folktales. When our ancestors pass on cultural values to the next generation, they choose folktales because these stories contain many noble values. These noble values can be used as life guidelines for the next generation.

Indonesia has several forms of oral cultures besides folktale, such as *Pupuh, Carita Pantun, Pamali, Wawacan*, and so on (Widiastuti 2015). For the Indonesian, the tradition of passing down values in the form of oral traditions is an effort from the older generation to guide the younger generation on their daily activities (Komarudin 2016). But unfortunately in this modern era, folktales have been mostly forgotten and considered unimportant by the younger generation. Furthermore, with the increasing variety of children's stories from popular culture such as Hollywood animated films, and Japanese Manga or Anime. The existence of oral stories is gradually marginalized; even though these oral stories contain many positive values that are important for social life.

As one of the pioneers of the global animation industry, Disney's animation studio has tried to adapt oral culture from various countries as animated movies. One of the most recent Disney productions is Moana (2016) inspired by Polynesian and Tongan culture. Moana was an exemplary success both critically and commercially; it manages to convey the various aspect of Polynesian culture to the big screen with visuals (Adrian Baker Swicegood III 2018). As an animated movie, Moana is created for the younger generation, which is considered capable of becoming agents of change or individuals who can make changes. From the success of Moana,it can be concluded that every local culture has the potential to be adapted as a popular culture that appeals to the younger audience.

The success of Moana is largely related to the media used to convey the story, which is animation. In communication, media are tolls used to convey messages, ideology, and values (Ridaryanthi 2018). Since animation is a series of illustrations in sequence to simulate movement. This means that illustration has the potential to be used as a medium to raise awareness towards folktales by the younger generation.

To find out whether or not Illustrations is an effective medium for cross-cultural storytelling and to encourage the creation of creative content based on local oral culture, the Department of Visual Communication Design at Universitas Ciputra Surabaya took the initiative to design folktale books. This project was done in collaboration with Da Yeh University Taiwan. After the folktale book is completed, it will be tested with users or readers from Indonesia and Taiwan to determine whether illustration can be used as cross-cultural storytelling media.

2 RESEARCH METHODS

This study uses a qualitative approach to explore illustration as cross-cultural storytelling media for Indonesian and Taiwanese folktales. There will be two stages of the research. The first is the Design phase for creating the illustrated books; data were collected from observation and literature study during this stage. For the second stage, the interview method was employed to measure the user's assessment of the book.

2.1 *Design phase*

The initial research process started with designing a folktale book that was used as a storytelling medium of Indonesian and Taiwanese folktales. Representatives from Universitas Ciputra Surabaya and the Da Yeh University of Taiwan initiated the design of folktale books. The book featured ten folktales, both from Indonesia and Taiwan. After careful study, five folktales from each country were selected. Each Folktale is given to the students for illustration. Students of Universitas Ciputra will be drawing folktales from Taiwan and vice versa.

2.2 *Methods of data collection*

After the design phase was completed and the book was finished, it was tested on users from both Indonesia and Taiwan to find out whether the illustration book was an effective cultural storytelling medium. The effectiveness of the book was measured with two elements: Visual Clarity (characters, objects, and settings) and Narrative Clarity.

3 RESULT AND DISCUSSION

Oral tradition is a part of a culture that is usually passed down from generation to generation through the process of telling stories to the next generation in each community group. Every country, including Indonesia and Taiwan, has an oral tradition that reflects the noble values of

its society such as folktales. Cultural values contained in folktale can be passed on to the next generation through tales (Kristanto 2014).

According to Sulistyorini (2011), several individual moral values are commonly found in folktales, namely: (1) obedience, (2) brave, (3) willing to sacrifice, (4) honesty, (5) fairness and wisdom, (6) respect and appreciation, (7) hard work, (8) keeping a promise, (9) gratitude, (10) good character, (11) being humble, and (12) careful action. Besides individual moral values, social moral values are also reflected in folktales. These include: (1) cooperation, (2) being helpful, (3) compassion, (4) harmony, (5) love to give advice, (6) care for others, and (7) pray for others (Unsriana 2013).

Based on the aforementioned considerations, observations were made on various Indonesian to map stories that have individual and social moral values as described by Sulistyorini. From these observations, five Indonesian folk tales were chosen, namely: Telaga Warna, Ringkitan dan Kusoi, Lutung Kasarung, Joko Kedil, and Cindelaras. The same process was used to observe and select five Taiwanese folktale titles, namely The Great Race, The Tigress Witch, Sun-Moon Lake, Sisters Lake, Qian Li Yan, and Shun Feng Er. After selecting the folktales from each country, the design process begins with understanding the folktale contents by the students. Students are given folktale script and the design process is continued with visual research to obtain references to costumes, colors, settings, and character designs that best reflect the contents of the folktale (Unsriana 2013).

Illustration as one of the manifestations of visual communication design helps describe the actions and characters that were previously only described through oral and written media (Hunt 2005). Illustrations in books help readers to understand the reading through the display of visual images of the characters in the story, settings of place, maps, and other important objects (Remedia, June 2014). Thus, it can be concluded that the role in storytelling, is to identify the following things: Important characters in the story, the setting and the cultural background of the story, objects and important artifacts that have a role in the story, mythical animals in the story, important events in the story, and the main theme of the story.

To achieve this objective, each folktales story is assigned to a group of students. Each group was then asked to make three illustrations based on the folktales they received. These works were compiled into a trilingual book entitled "Folktales of Indonesia and Taiwan" which was published in printed and digital versions via Google Playbook to determine the effectiveness of the book as a storytelling medium for conveying the oral culture of Indonesia and Taiwan as well as their moral values. Thus the book will be tested by several users or readers, from Indonesia and Taiwan. Four users from two countries were first asked to read the book and were given questions to explore the elements as follows.

3.1 *Visual clarity*

Users will be asked whether the illustration as the visual element in the folktale books helps them recognize (1) characters who have an important role in folktales, (2) the setting where the story and events in the folktales take place, (3) objects and important objects have a role in the story, (4) mystical animals that appear in the story, (5) events or important event that happen in the story, and (6) the main theme of the story.

3.2 *Narrative clarity*

Users will be asked whether the content of the folktale storybook contain universal moral values, namely individual moral and social moral. Those included as individual and social morals as described above.

4 DISCUSSION

From the research results on the elements of Visual Clarity and Narrative Clarity in the Folktales of Indonesia and Taiwan book, the following results were obtained.

4.1 *Visual clarity*

All Indonesian users agree that the illustrations in the book help them to identify the characters, settings, and objects in the story, mythical animals, and important events in folktales. Whereas users from Taiwan, although they agree that the illustration as a visual element in the folktale book helps them identify the characters, objects, mystical animals, and the theme of the story, argue that the illustrations should be made more detailed so that readers can identify the *setting* or the location where these folktales occurred, and also in order for the reader to be able to understand important events that occurred in the folktales.

With further observations, it is clear that most illustrations are not thoroughly visualizing the story. For example, these are the comparison of two illustrations from the book, each of them is the work of students from Universitas Ciputra Surabaya and Da Yeh University Taiwan. The first example is the Illustration of *Telaga Warna* by Zhuo, Xin Peng.

Figure 1.   Telaga warna by Zhuo Xin Peng and Tigress Witch by Gilbert.

The illustration depicts the character of a jewelry craftsman in the *Kutatategeuhan* Kingdom. However, from the above example, it is clear that there are no visual elements and details such as patterns, ornaments, artifacts, and utensils that indicate that this character is a goldsmith or gold craftsman who originated from West Java.

The next example is an illustration from the Taiwanese Folktale; The Tigress Witch by Gilbert. This illustration is trying to show an important event in the story when the Tigress Witch captures one of the characters. However, in the example above, there is no clear indication of when and where this event occurred. The depiction of the event is also very vague and merely symbolic.

4.2 *Narrative clarity*

From the factor of narrative clarity, all users from Indonesia and Taiwan agree that the ten stories within the folktale books contain individual moral values (1) obedience, (2) brave, (3) willing to sacrifice, (4) honesty, (5) respecting and appreciating, (6) work hard, (7) understand gratitude, (8) having good character, and (9) act carefully. For social morals, users agree that the ten stories in the folktale books contain social moral values ((1) cooperation, (2) being helpful, (3) compassionate, (4) harmony, (5) care for others.). All users agree that both Indonesia and Taiwan *folktale's* contains many moral values that need to be retold through modern media.

5   CONCLUSION

After analyzing the data gathered from interviews with book users from both countries, this research concludes that the illustrations used in the Folktales of Indonesia and Taiwan books adequately

represent folktales from both countries. The user can identify the most character, object, mythical animal, and story theme. However, the users also criticize that the illustrations in this book still lack accuracy and detail—users reporting that they are having difficulties identifying settings and important events that occurred in folktales.

Klimchuk and Krasovec state that an illustration that conveys traditional elements can educate the audience about its culture. Thus, illustrations as a visual element should help readers immerse themselves in an imaginary world. Moreover, the Folktales of Indonesia and Taiwan were a cross-cultural book written in three languages for multinational users (Klimchuk & Krasovec 2013).

As a suggestion, careful research needs to be done during the design phase to use illustration as cultural storytelling media. Especially when the designer tries to depict local elements such as costumes, accessories, artefacts, and mythical creatures, illustrations could bridge the gap between readers and the foreign culture described in a folktale with proper research and visual references.

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Co-creating sustainable heritage: Recontextualizing Indonesian cultural heritage (in the creative economy)

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ABSTRACT: This paper offers a critical voice in the discourse of Art and Design: Recontextualization of Nusantara Tradition and Indigenous Culture. While cultural heritage is dominantly perceived as a commodity for the creative economy, the context of culture is broader as it embodies every aspect of human life, in which economy is just an element of culture. By using extensive literature review to examine Indonesian policies concerning the creative economy and in reviewing key thinkers in the field of Cultural Heritage Studies, Cultural and Creative Industries, Design Studies, and Art and Design Higher Education, this paper argues that the Art & Design Higher Education should understand the original context of cultural heritage and the critics towards the creative economy to be able to take on the ideal role of educating future creative and cultural workers who understand the true significance of their work which is the co-creation of sustainable heritage for the future.

Keywords: Culture, Creative Industries, Creative Economy, Design Studies, Education, Society 5.0

1 INTRODUCTION

This paper temps to offer a critical voice in the discourse of Art and Design: Recontextualization of Nusantara Tradition and Indigenous Culture. Since this paper is trying to address a topic which arose from an academic institution that is in support of a conference theme of "Embracing Future: Creative Industries for Environment and Advanced Society 5.0 in Postpandemic Era", therefore, this paper is written based on the hypothesis that the (Indonesian) Art and Design Higher Education feels the urgency to and is trying to recontextualize Indonesian cultural heritage for the post-pandemic creative economy in a way that is in line with the advancement of Society 5.0. This will be the contextual framework in which this article is written. Consequently, several key questions need to be addressed: 1) What is the definition of "recontextualize"? 2) Why there is such an urgency to recontextualize Indonesian cultural heritage? 3) How should the Indonesian Art and Design Higher Education recontextualize Indonesian cultural heritage in the context of the creative economy and in support of the implementation of society 5.0? Within this framework, this article examines and discusses the relationship of cultural heritage with Art & Design Higher Education (HE), the creative economy, and society 5.0.

The word "recontextualization" is to take something from its original context and reposition it in a different context (Oxford Reference 2021). On the assumption that the Indonesian Art & Design HE needs to recontextualize Indonesian cultural heritage for the creative economy, it is logical to re-examine the past to understand how we arrive at this notion and to create a better and more sustainable future. Either way, the main objective of the development of the Indonesian creative economy is also deeply concerned with the issue of the development of a sustainable economy based on creativity, within which the Art and Design HE is one of its contributing shareholders (Departemen Perdagangan RI 2008).

The earliest framework for the development of the Indonesian creative economy was published by the Ministry of trade in 2008, in which it stated that the development plan for the Indonesian creative economy was formulated based on a study of various nations, such as Thailand, Malaysia, Singapore, China, Taiwan, New Zealand, and UK. Even though it acknowledged the existence of the creative cultural industry and copyright industry other than creative industry, it was mostly influenced by UK's creative industry concept and policies. That is why Indonesia defined the creative industry and adapted its sub-sectors mapping based on the UK Creative Industry task Force document (CITF C. I. T. F 2001; Departemen Perdagangan RI 2008).

Concerning Indonesian cultural heritage, the policy document stated that Indonesia as a nation rich in cultural diversity faces difficulties in promoting Indonesian culture and its local products to the domestic market due to a lack of interest from the younger generation towards traditional products. It had forewarned that this phenomenon can lead to the extinction of Indonesian cultural heritage. On the other hand, it acknowledged Indonesia's diverse cultural heritage as an infinite source of inspiration for creative practitioners, therefore, it is a common practice to present newer, more modern, and popular cultural products (Departemen Perdagangan RI 2008). This statement and sentiment have continued to influence Indonesian creative economy policies as shown in the documentation of the founding of Indonesia Creative Economy Council (Bekraf) in 2015, whereby President Joko Widodo stated that the creative economy shall be the backbone of the Indonesian economy and in a later document presented by the Republic of Indonesia Ministry of Coordinator of Economy, the government acknowledges cultural heritage as a resource for the creative economy (Bekeraf 2019; Hamdan 2016).

These documents have shown that there is an underlining notion to recontextualize Indonesian cultural heritage for the creative economy based on the perception of cultural heritage as a commodity. This paper argues that this is an uncritical understanding of cultural heritage that happened because Indonesia adopted the UK's creative industry definition and its sub-sectors mapping without fully understanding the phenomenon concerning the shift of terminology from Cultural Industry to Creative Industry that happened in the UK before the adoption of the concept of Creative Industries in 1998. Consequently, the whole discourse concerning the fundamental role of cultural heritage in the modern age of industrialization-from the very beginning of the first Industrial Revolution to the current development of Industry 4.0 and in the light of Society 5.0-and the critics towards the commodification of culture and the alienation of cultural workers has been overlooked (Kurniawan 2017, 2019).

Hence, this paper aims to address how should Indonesian Art and Design Higher Education approach the issue of the recontextualization of Indonesian cultural heritage within the framework of the creative economy and in support of the implementation of society 5.0.

2   RESEARCH METHODS

This paper reviews the literature which focuses on examining Indonesian policies concerning creative economy, supported by extensive literature reviews by key thinkers in the field of Cultural Heritage Studies, Cultural and Creative Industries, Design Studies, and Art and Design Higher Education that has been reviewed by the author in the previous publications.

3   FINDINGS

Upon reviewing the document published by the Republic of Indonesia Ministry of Coordinator of Economy, it showed an inconsistency in its policy implementation which indicates that the Indonesian government is unclear on how to manage and contextualize cultural heritage for the creative economy. The document stated that Bekraf was in direct coordination with State Institutions, Ministries, Non-Ministerial Government Institutions, Regional Governments, and other related parties, except with The Ministry of Education and Culture which manages: 1.) Pre, Primary, and

Secondary Education and 2.) Museums, art galleries, libraries, and other non-formal cultural institutions (Hamdan 2016). It is apparent that the Indonesian government acknowledges its cultural diversity as a key resource for the creative economy, but it has not fully comprehended the fundamental role of culture and its institutions, such as the museum. Kurniawan (2017; 2019) asserted in his findings that historically, the museum and Design HE in the UK had a very close relationship in which the museum functioned as the Design HE's design laboratory during the first Industrial Revolution. However, on the other hand, it was also in this historical background that Theodore Adorno and Max Horkheimer in 1979 coined the term Cultural Industry to criticize how the capitalist industries dominate the social life through Mass Culture within which the commodification of culture and the alienation of cultural workers took place (Adorno et al. 1979; Hesmondhalgh & Pratt 2005; Kurniawan 2017, 2019).

Re-examining the issue of the commodification of culture and the alienation of cultural workers which occurred during the first Industrial Revolution is critical and very much relevant to the topic of this paper because even as the world embraces the current Industry 4.0, the issue of the commodification of culture and the alienation of creative (and cultural) workers is still at the heart of it. With the advancement of technology in Industry 4.0, the fear of how technology will replace human producers is still a scenario to be reckoned with. Being aware of this issue as part of the social problems that need to be addressed, the Japanese government promoted the concept of Society 5.0 which aims to achieve a human-centered society: a society that can both promote economic development and find solutions to social problems by utilizing advancement in technology (Society 5.0 2021). In 2007, Prof. Victor Margolin has reminded the Design HE that creative (and cultural) workers, such as artists and designers in general terms are essential to the building of a more humane world and that they are responsible for their creation that make up the social world as we know it (Margolin 2007).

Returning to the issue of the recontextualization of cultural heritage, Prof. Margolin stated that designers are always informed by the past and the present even though their work is oriented towards the future (Margolin 2007). The past is indeed a cultural resource, in which the ideas and values of the past can be the inspiration for new creation (Hewison 1987), but this is exactly why Indonesia needs to focus more on the management and development of culture not just for the creative economy, but for the development of Indonesia as a society that upholds pluralism, has a strong cultural identity, is religious and upholds ethical values (Bekeraf 2019). Indonesia needs to understand that cultural heritage is co-created in the present based on past values for the future by stakeholders who are included in the triple Helix of Education-Enterprise-Expertise as mentioned in the Master Plan Book for the Creative Economy Development (Departemen Perdagangan RI 2008; Harrison 2013).

Indonesia is not alone in the issue of recontextualizing its cultural heritage because even though Indonesia mimics the United Kingdom Creative Industries policies, the UK itself in the past decade has also been exploring the role of culture and its cultural institutions, such as museums and galleries for its creative industries. On this effort, in many ways, countries such as Australia, New Zealand, and Canada have developed more systematic approaches, based not only on acknowledging the economic value of cultural related industries but also on the importance of the development and protection of national cultural heritage from the invading danger of popular culture from foreign countries through global free market. Ideally, these approaches respect aboriginal rights, high culture and encourage the creation of new cultural forms to create a space for local (and more sustainable) cultural production and consumption (Hesmondhalgh & Pratt 2005).

Indonesian Art & Design HE as a critical, creative, and cultural institution needs to understand the original context of the culture in a broader sense. Culture encompasses every aspect of human life, culture is ubiquitous, and the economy is only an aspect of it (Harrison 2013). Maybe the way to recontextualize cultural heritage is to return it to its original context, to rethink the fundamental role of culture critically and creatively in the Art & Design HE, the society, and the economy, including the role of the creative and cultural workers as those who not only have the power but are also responsible in creating a more humane world; a sustainable future that will be their legacy. In a sense, we are all part of the effort to co-create sustainable heritage.

"Heritage is an active process of creative engagement with the past in the present in the production of our future. It is more than just preservation, but an active and informed process of assembling a series of objects, places, and practices that can be used as a mirror to the present, associated with a specific set of values that we wish to take with us into the future" (Harrison 2013).

4 CONCLUSION

A critical perspective on how the Art & Design HE should contextualize and re-contextualize cultural heritage is needed because cultural heritage is dominantly perceived only as a commodity for the creative economy, while the context of culture is broader as it embodies every aspect of human life, in which economy is just an element of culture. By understanding the original context of culture/ cultural heritage, the Art & Design HE could then approach the issue of recontextualizing Indonesian cultural heritage within the framework of the creative economy and in the spirit of Society 5.0 which is to create a more humane world through technology. The statement of Prof. Victor Margolin in which designers (and artists) play an essential role in building such a world (Margolin 2007) is in line with Dr. Nigel Spivey's from University of Cambridge thoughts; that is the drive to create art has made the world as we know it and it will continue to shape the future (How Art Made the World 2005). That is why the Art & Design HE indeed plays an important role in the creative economy which is to educate future creative and cultural workers who understand the true significance of their work which is the co-creation of sustainable heritage for the future.

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Utilizing virtual idol "Luo Tianyi" to promote traditional culture to the Generation Z

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ABSTRACT: Hatsune Miku is a phenomenon in which this first Virtual Idol character is highly accepted and has a significant influence, especially among Generation Z. Luo Tianyi, a virtual idol from China. Luo Tianyi is not merely an idol figure but can also present traditional culture to generation Z. The purpose of this research is to examine how Luo Tianyi entered the generation Z and its role in introducing traditional culture. The data collected was obtained from observations of related social media supported by literature studies. Based on this research, Luo Tianyi was well accepted by utilizing the social power of generation Z. These social powers include economic capital, information, and legitimacy. The creators demonstrated Luo Tianyi's role in introducing traditional culture through classical songs concerts, regional-style clothing worn, and collaborations with other traditional musicians.

Keywords: generation Z, promotion, traditional culture, virtual idol

1   INTRODUCTION

The virtual idol is a phenomenon, a product of postmodern culture. Hatsune Miku is the first virtual idol who gained high international popularity. Virtual idol Hatsune Miku's popularity as well as Hatsune Miku's industrialization are growing. The increased demand shows this regard for Hatsune Miku merchandise; even this virtual idol has held several concerts in the in various places of the world and was attended by thousands of people at each concert.

This virtual idol phenomenon has gone global; apart from Hatsune Miku, who came from Japan, other countries have also started introducing their virtual idols, one of which is Luo Tianyi, who is part of VSINGER, the Vocaloid software from China. Luo Tianyi's "career" is also very bright in China. Luo Tianyi has been used as the official brand ambassador of several companies, namely KFC, Nestle, and Pizza Hut.

Reviewing from the visualization, this virtual idol character from China Luo Tianyi, integrates elements of Chinese culture in this character design. The integration can be seen from the character's hair model design, which is similar to the traditional Chinese painting with a goddess theme.

Figure 1.   Luo Tianyi and the Chinese traditional painting of Chang E, a moon goddess from the Tang dynasty.

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The traditional cultural elements included in the character's design became a bridge for virtual idol Luo Tianyi to introduce the local culture to his fans. One of the main targets is generation Z.

Generation Z is the generation born between 1995 and 2010 (Zemke et al. 2000). Generation Z is often called the "net generation" because they were born when digital technology has dramatically evolved. The digital environment is essential in their lives. Generation Z uses social networks intensely (Sudrajat in Nurjanah, 2012), and they can even die without a gadget (Sari 2019). Since they are accustomed to the digital world and the high global connectivity, Generation Z is very familiar with global pop culture. Globalization affected by the advancement in technology and information has a significant impact on all aspects of life, including how people enjoy work, standard changes in evaluating results, and the incoming of global influences in creating the work.

The importance of this research about the virtual idol phenomenon is based on the fact that now the virtual world has become an essential part of social life in society. In the future, the virtual and cyber worlds will be connected with the social life of people in the world. The purpose of this research is to examine how virtual idol Luo Tianyi can enter the world of Generation Z to become an idol figure who reintroduces their traditional culture. The kind of strategies used by virtual idol Luo Tianyi do to be accepted by Generation Z will be described in this study.

2 RESEARCH METHODS

The data in this study consisted of qualitative data obtained through observation and supported by literature studies. The data collection method is described as follows.

2.1 *Qualitative data collection*

Qualitative data were collected through observation. Observations were made on related social media, including Luo Tianyi's Weibo account and other VSINGER; as well as several videos of Luo Tianyi's concert which were accessed via YouTube.

2.2 *Literature study*

The literature study was conducted by searching for references from books and journals related to this research.

3 RESULT AND DISCUSSION

Based on qualitative data obtained, Luo Tianyi occupies the position of the virtual idol with the most followers on Weibo social media. The Weibo account with the domain name "luotianyi0712" has 5,069,745 followers based on monitoring dated July 19, 2021, at 10:18 p.m. This number is well above the average VSINGER account followers on Weibo social media which are 1,187,493. This figure is obtained from the average followers of VSINGER accounts on Weibo social media accounting 5 accounts, among others belonging to Luo Tianyi (luotianyi0712), YANHE (luotianyi0712), Yuezheng Ling (vsingerofficial), Ling Caiyin (luotianyi0712), and Mo Qingxian (moqingxian0712).

To increase public awareness and acceptance of Luo Tianyi in Generation Z, there are social forces aspects that need to be considered. The social forces mentioned are the economic capital of a group, information capital, and legitimacy (Calhoun in Calhoun: 1993). These three capitals determine whether Luo Tianyi can be accepted or not by Generation Z society.

Economic capital refers to the material strength of a group. In this case, most of the Generation Z, both from them able to the underprivileged to the less able have the same material power that is smartphones (Hastini 2020). Generation Z can accept all that they can access through smartphones. Luo Tianyi can harness this power. Luo Tianyi's concert conducted online was easily accessed by

the Generation Z increasing the awareness of the virtual idol Luo Tianyi. This also affects the acceptance of Luo Tianyi as a part of Chinese Generation Z life.

In addition to the economic capital in the form of materials, information capital is also needed so the existence of Luo Tianyi to be accepted. Still connected to smartphone ownership, the main source of information generation Z has been in their palms. From smartphones, a lot of information is received, especially through social media such as Weibo and as much as 66.2% of the total users come from the age group of 18-30 years (Wang 2018). With more than five million followers, Luo Tianyi made it into the world of the Generation Z.

Another social force capable of incurring acceptance is capital legitimacy. Legitimacy here is taken from the word legitimate which according to Oxford Dictionaries means reasonable, acceptable, and legitimate or not unlawful. When something new is introduced, people judge it if it is as per their way of thinking, acceptable, and not against any principle. This also applies to the Generation Z's view of Luo Tianyi. The fact that the Generation Z is aware of pop culture and has several idol figures is utilized by Luo Tianyi to enter as a new figure of modern idols. When Luo Tianyi is judged to have conformed to the nature of generation Z thinking, moreover, being able to walk according to other social forces, Luo Tianyi can be accepted as their idol figure.

Luo Tianyi who was able to enter into generation Z began to introduce traditional Chinese culture. Luo Tianyi often performed classic Chinese songs in concerts and albums. Luo Tianyi also collaborates very often with local Chinese artists both modern and traditional art artists. One of Luo Tianyi's performances is with Chinese traditional lute instrument Master Fang Jinlong at the Bilibili 2019 New Year's Eve Party event which can be accessed through https://www.youtube.com/watch?v=ngqfloJqfg0 YouTube link. In the concert that utilizes modern technology, traditional culture is displayed so that it is not presented as an event of traditional culture that seems ancient. Luo Tianyi performed the classic song "Jasmine"; wearing traditional patterned clothing; along with traditional master musicians and performed magnificently using advanced hologram technology. In addition to the concert, Luo Tianyi also performed a concert with a song titled "Sun Quan the Emperor" which can be accessed through the YouTube link https://www.youtube.com/watch?v=_CZoFhFrMKE. The song tells the history of the Three Kingdoms and Luo Tianyi wearing war clothes that have certainly been modified to look more attractive.

The concert received an excellent response from the Chinese market as a whole and especially its fans who are mostly from Generation Z. The concert made the audience of most of the Generation Z more familiar with traditional Chinese art and also promoted traditional Chinese art to the international world. In addition, in several live shows as well as "interview" sessions and introductions, Luo Tianyi is shown as a young girl who loves traditional Chinese culture. When viewed in terms of communication science, this statement also invites fans of Luo Tianyi who are mostly Generation Z to join in loving traditional Chinese culture and arts.

Figure 2. *Live concert* Luo Tianyi with Fang Jinlong.

4 CONCLUSION

Luo Tianyi is a virtual idol who managed to become an idol figure for the generation Z in China. The generation Z accepted the cause of Luo Tianyi because of social forces possessed by this

generation. These social forces mentioned are economic capital (almost all generation Z have a smartphone), information (easy internet access), and legitimacy (easily accepted by generation Z). By understanding these three capitals and utilizing them, Luo Tianyi has become a part of generation Z life in China.

Not only became an idol, but Luo Tianyi also introduced traditional culture to the generation Z. Her visual display showed her cultural identity; the outfits that she wore when performing concerts; traditional songs performed, and collaborations with traditional musicians. Luo Tianyi became an idol figure who supported the preservation of traditional culture.

This research expectation is to add a perspective on how virtual idols introduce traditional culture to generation Z. Further research is also expected to explore the utilization of this virtual idol phenomenon, to create another model that can introduce traditional culture to the generation Z in other countries and employ technological developments to preserve traditional culture.

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The philosophical values of Minangkabau Marawa flag and its symbolic potential as a social movement attribute

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ABSTRACT: In the industrial world, brand is not just to differentiate a product identity, but also symbolizes particular image in the public's perspective. On the other hand, there are a lot of forgotten traditional cultures that actually possess potential for industrial images, such as The Flag of Marawa, a cultural artifact of Minangkabau. This qualitative-interpretative research will discuss philosophical values of Marawa Flag, and reinterpret it for implementation purpose on a brand design (trademark, logo, role, and product), which also serves as symbolical attribute of social movement. Hopefully, this will inspire other designers to design something with deep philosophical meaning inspired by traditional culture.

Keywords: Brand, Culture, Marawa, Minangkabau, Social movement

1 INTRODUCTION

In the developing digital age, image is very important. The importance of image is also the concern of many brands to touch their consumers. By building an image that is per with its consumer segment, a brand becomes more meaningful in the minds of its consumers, thus, the importance of image is the main thrust of the industry. Not infrequently brands ride social issues to strengthen their image. With the right image, the brand can reach consumers that are related to these social issues. According to the data from SproutSocial (2020), 36% of consumers demand a brand to join the struggle of social movements if the brand has values that align with the movement.

This research will focus on extracting the values contained in the cultural artifacts of the Marawa flag. The Marawa flag itself is a cultural artifact originating from West Sumatra and is the symbolic flag of the Minangkabau tradition. With the values contained in the Marawa cultural artifacts, the author will look for the potential for the development of associated values in the industry. This development will be realized in a brand design that becomes a symbol of social movement and sells products in the form of merchandise. With the continuous increase in the merchandise industry in recent years, the designed brand will compete in the merchandise industry with the philosophical values of the Marawa flag in it.

1.1 *Marawa*

The Marawa flag is a cultural artifact of the Pagaruyung kingdom (1347-1833) from Minangkabau culture, West Sumatra, and served as its official flag. According to Diradjo as cited in Salamintargo (2019), the Marawa flag as a part of Minangkabau's traditional identity consists of three colors which symbolize the three strengths of the Minangkabau community. Each color in Marawa has a meaning: 1) Black, symbolizes strength, mercy, and obeying mind and wisdom; 2) Yellow, symbolizes majesty and rule; 3) Red, symbolizes courage and mutual respect. Each color in Marawa Basa Alam symbolizes an area (luhak) which is the core of Minangkabau culture.

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Quoted from Sikumbang (2019), the meaning of luhak in Marawa Basa Alam is the area of origin of Minangkabau culture. The three luhaks are the center of Minangkabau culture itself. luhak Tanah Datar is yellow, the luhak of Agam is red and the luhak of Limapuluh Koto is black.

Figure 1.   The Marawa flag.

2   RESEARCH METHODS

This section will explain the research and design methods that will be used. Starting from determining the subject, collecting data, analyzing, interpreting, looking for potential, to designing.

Figure 2.   Research to designing a scheme.

2.1   *Research method*

This is qualitative research, a study that pays attention to the suitability between the techniques used and the general flow of thought and theoretical ideas (Raco 2010). Data collection is done through a literature study related to the cultural types of Minangkabau and the interpretation of the cultural values. Analysis and data processing is done using the descriptive-interpretative-comparative method. The purpose of the descriptive method is to systematically describe certain facts or fields factually and carefully (Wirasari 2016). In the process, the author describes the cultural artifacts of the Marawa flag and interprets its meaning, followed by a comparative analysis of the Marawa flag with other forms of Minangkabau culture to obtain certain results. These results will be used as the basis for designing.

2.2   *Design method*

The design is done by processing and interpreting the values obtained from the analysis results. These values are developed using the mind-map method. From the development's results, the attributes such as brand, role, product, and marketing are needed for this potential realization.

3   RESULT AND DISCUSSION

Here, the author will analyze the values and meanings contained in the cultural artifacts of the Marawa flag. The author will explore the meaning and interpret the values contained in it. Then the author will develop that value through a design that will add value to the industry of the future.

3.1 Analysis

In analyzing the values contained in the Marawa flag, the author will try to see other forms of Minangkabau culture, namely ABS-SBK, Merantau, and Matrilineality. Adaik Basandi Syarek, Syarek Basandi Kitabullah (ABS-SBK) is the basis of the cultural philosophy of Minangkabau culture which means "culture comes from sharia, sharia comes from Al-Quran". Quoted in the journal by Asrinaldi & Yoserizal (2020), "ABS-SBK is a value system that guides the interaction between individuals and their environment based on Islamic and customary values". Merantau is a cultural activity where Minangkabau people leave their homeland to seek glory. In the book *Moving Places: Relations, Return and Belonging* by Nataša Gregorič Bon (2016) quoted "Merantau: 'Leaving one's cultural area voluntarily either for a short or long time, to earn a living or seek further knowledge or experience, usually to return home' (Naim 1976: 150)" The Minangkabau are the largest matrilineal indigenous group in the world (Metje 1995 as cited in Stark, 2013). Matrilineal culture is the lineage of mothers which has become a characteristic of Minangkabau customs. According to Ariani (2015), "Matrilineal comes from the word "matri" (mother) and "lineal" (line), so it means mother's line. The meaning is a term to describe the kinship system that refers to the mother's lineage.

The results of the analysis found a pattern from Minangkabau culture, namely the pattern of "origin". In the Marawa flag, each color symbolizes the "origin" area of the Minangkabau people. In the basic philosophy of ABS-SBK, culture originated from the Shari'a, and Shari'a originated from the Quran. In Matrilineal culture, lineage is determined by the female side, which is the "origin" of life (birth). In the Merantau culture, Minang people are required to leave home and are expected to return with glory to develop West Sumatra. In this case, this culture respects the "area of origin" as the only home and expects the development of the area of origin. It can be concluded that there are values of orderly life and respect for the origin of things in Minangkabau cultural forms, especially the Marawa flag.

3.2 Symbol and social movements

The phenomenon of celebration or movement that has sprung up globally generally has a symbol as its main identity. Some of them are the "Pink Ribbon" as a symbol of breast cancer awareness, and the "Rainbow Flag" as a symbol of the LGBTQ+ social movement. These symbols in addition to interpreting the values of the movement also support the movement in terms of distribution, especially with the presence of digital media. According to data from sproutsocial.com, 36% of consumers demand a brand to join the struggle of a social movement if the brand has values that align with the movement. A clear example can be seen in the merchandise sold by the LGBTQ+ community on the www.rainbowdepot.com page. According to data from statista.com (2020), the increase in the value of the merchandise industry from 2014 to 2020 was 20 billion US dollars. This data certainly illustrates the potential of the merchandise industry today.

The Marawa flag concerning matrilineal culture can be associated with motherhood theme celebration. International Mother's Day which falls every 2nd week in May does not have a symbol to support its movement. This can be a great potential for the design of this social symbol. Strengthening the international identity of Mother's Day as a form of respect for women will certainly help the struggle of mothers in social life. Symbols derived from Marawa values can be used as an identity of a celebration/movement as well as a merchandise brand that will have value in the industry as a social symbol.

3.3 Brand design

In designing a brand to become a symbol in the social movement of women's struggle, a brand name is needed that is under the values of women's struggle. The name "Motherstood" was chosen from a combination of the words "motherhood" and "understood". The word "understood" was chosen as the essence of the social struggle of women who want their value in social life to be understood.

In making its symbol, the Motherstood brand will combine two symbols, namely the carnation flower as an embodiment of a mother's love, and the yellow and black colors in the Marawa flag as a symbol of wisdom and majesty.

Figure 3.   Logo creation through simplification of the shape of carnation flower.

3.4   *Role of the brand*

Quoting Han Ji-Ae and Oh Seung-Hwan (2007), there are roles of tradition: as a group identity, as a process of lifestyle creation, and as a bridge between past values and present life. By applying for this traditional role as a brand role, Motherstood is expected to play the same role as tradition. In its role as a group identity, the Motherstood symbol will become the brand's identity and the identity of the social movement for women's struggles in general. In the role of the lifestyle creation process, the Motherstood brand will sell merchandise that plays a direct role in the lifestyle of the people who buy it. In the role as a bridge between past values and the present situation, the Motherstood brand will sell merchandise that has the philosophical values of the Marawa flag. This merchandise will be a representation of past values that will be used in the present.

3.5   *Product*

In determining what merchandise will be produced and sold by Motherstood, the mind-map method will be chosen as a model in describing the values that can be transformed into the form of a product. The values of tidiness, accuracy, balance, guidance, birth, love, respect, defense, and identity were found in the cultural artifacts of the Marawa flag. After that, we can describe what products can be sold as merchandise under the Motherstood brand.
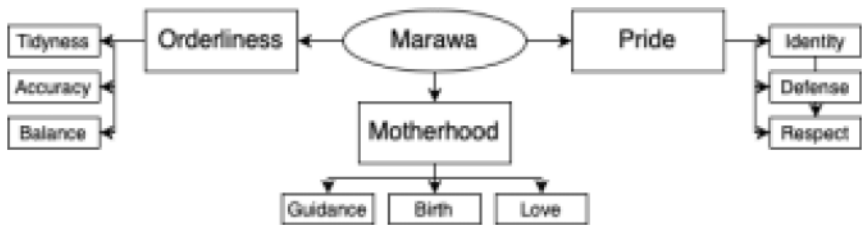
Figure 4.   Products mind-map scheme.

   These values can be associated with several types of activities which will later become a source of inspiration for these products. The value of "identity" is represented by clothing, member cards, and flags. "Respect" is represented by pins and badges. "Defense" is represented by hero-related products. "Love" is represented by toys and family-related products. "Birth" is represented by baby/pregnancy-related products. "Guidance" is represented by educational products. "Accuracy" is represented by an alarm clock, to-do list, and time-related products. "Balance" is represented by aromatherapy candles and exercise equipment. "Tidiness" is represented by post-it notes and products related to styling.

3.6 *Marketing*

Following the concept of "think globally, act locally" which is generally adapted, especially in Asian countries (Koesoemadinata 2013), Motherstood will start from the local market but with a global vision. It is hoped that implementing things at a local scale will also produce a global impact. Motherstood will participate in donating some of the profits to the social movements for women's struggles in the world. This is done so that the impact of this brand will not only become a morale boost for women's social conditions but also become financial support for their struggles.

4 CONCLUSIONS

Cultural forms contain philosophical values that can be developed and have potential in today's industry. The Marawa flag with its philosophical value of "origin", can potentially fight for women's social movements by participating in the merchandise industry, such as the Motherstood brand. By taking part in social struggles, it is hoped that the Motherstood brand itself can play a role of tradition, through shaping the identity of a group, shaping lifestyle, and a bridge between past values and current activities. Many other potentials can be explored from the philosophical values found in the cultural artifacts of the Marawa flag. The value of pride, motherhood, and orderliness can be further investigated for its potential in addition to being a merchandise product. The development of this potential can be in the form of activities such as events or a system that are inspired by these values.

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The adaptation of Javanese Weton on new media for matchmaking applications

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ABSTRACT: Javanese Weton is a particular calculation used for mate selection based on numerical values in Javanese customs or traditions. As local wisdom, Javanese Weton needs to be preserved because it reflects the Javanese way of life regarding the relationship between humans and natural phenomena with all their regularities. However, the rapid development of technology is unavoidable and causes changes in social behavior. Hence, this study aims at Javanese Weton in the possibility of developing a matchmaking application, not only easy to use by anyone but also creates a new medium that is invasive, likable, and helps create understanding and interest in Javanese culture of global audiences. This study uses a qualitative descriptive methodology with an emphasis on interviews and social phenomena. This research is expected to maintain Javanese Weton following the laws governing, maintaining, and promoting traditional culture in Indonesia.

Keywords: adaptation, applications, Javanese culture, new media, Javanese Weton

1 INTRODUCTION

In Indonesia, culture has become a close part of social procedures, social life, etiquettes, or applicable rules. Welianto (2020), referring to the population census conducted by the Central Statistics Agency in 2010. Of the 1340 ethnic groups in Indonesia, the Javanese are the largest group in Indonesia, with 41% of the total population. One of the local wisdoms from Javanese culture that still survives is Javanese Weton. This culture is one of the Javanese traditions used in selecting a mate based on certain calculations. At the same time, when modern society cannot avoid technological developments, it causes the exclusion of local wisdom and the dominance of the entry of foreign cultures into Indonesia.

Law No. 5 of 2017 Article 33 discusses the use of objects to promote culture and adjustments to these cultural objects' changes. And this study aims to adapt Javanese Weton in the design of matchmaking application development to create a new, invasive, easy-to-use, user-friendly media that develops more understanding and interest in Javanese culture throughout the world. This media should be aligned with the law regarding the use of objects for the advancement of culture.

1.1 *Javanese Weton*

As one of the largest ethnic groups in Indonesia, Java has many cultures born based on natural phenomena, perspectives, social life, and various other aspects. According to Ronald (2005), the Javanese people's view of life can be broadly broken into four pieces; beliefs, knowledge, social ethics, and aesthetic sense. One of the Javanese cultures that still survives today is Weton. According to Ranoewidjojo (2009), Weton is a combination of days (Monday, Tuesday, etc.) and *Pasaran* when the baby is born. *Pasaran* consists of five days: *Kliwon, Legi, Paing, Pon,* and *Wage*. In Javanese tradition, Weton is often associated with a person's characteristics. Based on the calculation of the Javanese calendar, every day and *Pasaran* has a *Neptu*. *Neptu* is the basis for its adherents in determining various activities, one of which is the determination of a mate and the search for auspicious days. In calculating Weton's good days, the Javanese use *Primbon* as a guide.

1.2 *Javanese calendar*

Based on Fuadah (2017) interview with Kihandaru Mansur, the Javanese calendar was first created by Mpu Hubayun in 911 BC. At that time, the people of Nusantara Archipelago had already made a calendar. During the reign of Sultan Agung Hanyokrokusumo of the Mataram kingdom, there were three dominant calendars used, namely Hijri (lunar system), Javanese (solar system), and Hindu (solar system). At that time, Sultan Agung aimed to maintain his power in the Mataram area against foreign nations by unifying the calendar used. The amalgamation of the Javanese and Hijri calendars sets aside one day when two calculations will appear, namely Aboge and Asapon years. This calendar merger coincides with; Muharram 1st 1043 H, Besar 29th 1554 Saka, and July 8th, 1633 AD, so the merger was determined to be Suro 1st in 1554 Saka.

1.3 *Symbolism, Neptu, and Pasaran*

Table 1. *Saptawara* and *Pancawara*.

Saptawara			Pancawara		
Day	Neptu	Symbol	Day	Neptu	Symbol
Sunday	5	Sun	Kliwon	8	Monkey
Monday	4	Moon	Legi	5	Cat
Tuesday	3	Fire	Pahing	9	Tiger
Wednesday	7	Earth	Pon	7	Goat
Thursday	8	Wind	Wage	4	Cow
Friday	6	Stars			
Saturday	9	Water			

Neptu and Pasar can be found *in the Javanese calendar*. The value of each *Neptu* and the symbol for each day (Doyodipuro 2000). There are two days based on the Javanese calendar, namely *Saptawara* and *Pancawara*, every day, and *Pasaran* has its *Neptu* value and symbol for each day. *Neptu* makes the basics of people who believe in Weton in various types of calculations. Belief in *Neptu* as the basis for various calculations is also used in matchmaking. Weton Matchmaking is relatively easy, as it adds up the results of the *Neptu* of lovers.

1.4 *Weton partner*

Table 2. Weton partner.

Weton Partner		
Name	Number of Neptu	Meaning
Pegat	1, 9, 10, 18, 19 27, 28, 36	Problems are often encountered by the "Pegat" couple that can lead to divorce.
Ratu	2, 11, 20, 29	They are appreciated and respected by the environment.
Jodoh	3, 12, 21,30	They can accept each other's strengths and weaknesses.
Tinari	5, 14, 23, 32	The "Tinari" couple will find happiness. They are given the ease of finding sustenance.
Topo	4, 13, 22, 31	In building a household, the "Topo" couple will often experience difficulties at the beginning of the season.
Padu	6, 15, 24, 33	In marriage, the "Padu" couple will often have fights. Although they often quarreled, the two did not get divorced.
Sujanan	7, 16, 25, 34	In marriage, the "Sujanan" couple will often experience quarrels and infidelity problems.
Peshti	8, 17, 26, 35	The household will run harmoniously, peacefully, and prosperously until old age.

Weton Partner is obtained by looking at the calculation of the *Neptu* of couples' birth dates. There are eight kinds of Weton Partner according to *Neptu's* calculations. The results of the summation of the number of *Neptu* will describe a couple's life when in a relationship.

1.5 *Cultural product design*

An industrial potential in a culture certainly requires media to "translate" the culture in the community to be used and accessible. In addition to improving the community's economy, it is expected that the use of cultural product designs can maintain the promoted culture. Cultural product design is a process of rethinking and reviewing cultural features, which are redefined to design new products suitable for society and satisfy consumers and aesthetics (Lin et al. 2007).

1.6 *Framework theory*
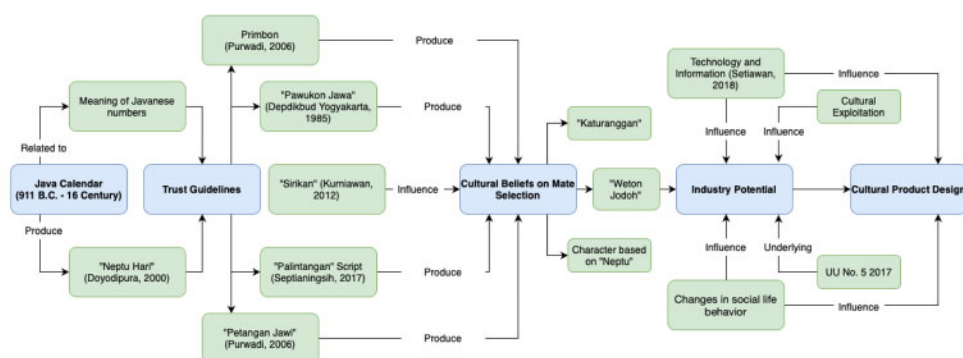
Chart 1.   Framework theory chart.

Cultural values in Javanese society have regularity in almost all aspects of life with the density of meaning and philosophy in these rules, starting from the creation of the Javanese calendar until the birth of Neptu, giving rise to guidelines for the beliefs of the people of one's character, stories of ancestors, horoscopes, and so on. These also produce beliefs regarding selecting a mate based on previous beliefs, including *Katuranggan*, matchmaking Weton, and judgment through one's Neptu. Cultural values can be felt from all aspects of this culture, including having particular rules and philosophies in each element. They can be used as an industrial potential, for selecting a mate in Javanese culture with the utilization of aspects and rules, especially in matchmaking Weton. Therefore, based on public trust regarding the selection of a mate, a potential industry can be developed based on the influence of technology and information, the influence of social life behavior in the modern era, and the influence of cultural exploitation. In addition, to underlying industrial potential, there is Law No. 5 2017 concerning the maintenance and development of culture in Indonesia.

2   RESEARCH METHODS

This research uses a qualitative descriptive methodology that focuses on social events, phenomena, and interviews, which can later be developed into a new concept for designing a matchmaking application based on Javanese Weton. The data in this study were obtained in various ways, including literature studies from the internet and various discussion forums to seminars and interviews. According to Wirartha (2006), the qualitative descriptive analysis describes and summarizes the conditions and situations from various interview data or direct observations.
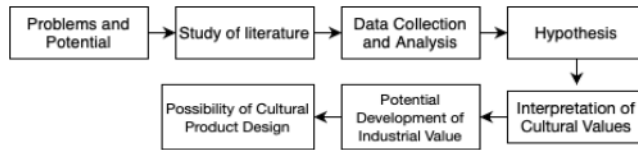
Chart 2.   Research method chart.

3   RESULTS AND DISCUSSION

Based on the phenomenon of finding a mate using one of the cultural values of Javanese Weton during this digital era, Javanese Weton has the potential to be developed into a cultural product design to preserve the original culture of Indonesia. It has opportunities to be introduced to all corners of the world. Interviews with Adi Nugroho and Sony Jati Sahdany explained that many rules exist in Javanese culture in everyday life. These rules aim to create an orderly life and follow the human nature that God has bestowed. Based on this phenomenon, one of the rules in Javanese culture is the selection of a mate, namely Javanese Weton. Javanese Weton has its uniqueness and has the potential to be developed into a matchmaking application to bridge anyone who believes in this culture or become a medium that can maintain and introduce Indonesian local wisdom to all corners of the world in rapid technological developments.

Figure 1.   UI/UX App suggestions.

Here the design potential can be raised by making a matchmaking application design based on Javanese Weton calculations. This application is named *Nyawiji*, which means "unifying, committed, aligned," and so on in Javanese. This application aims to find a partner who can automatically display only potential partners matched in calculations using *Neptu*. If the user finds a match that fits their criteria, they can swipe right, and if the user is not interested, they can swipe left. If both users swipe right, they are both compatible and can start a conversation, which is expected to unite users to carry out a more serious relationship. Figure 1 depicts the design suggestions that can be used for application development.

4   CONCLUSION

Javanese culture makes a lot of rules related to various aspects of human life. It is related to the value of regularity and density of meaning in the culture. The development of technology causes changes in social life, changes in one's way of thinking in the modern era, and the invasion of foreign cultures challenges the local wisdom and Indonesian culture. However, with these technological developments, Javanese Weton as Indonesian local wisdom in finding a mate can be developed into

a digital application product that is easy to use and preferable to maintain and introduce Indonesian native culture to all people in the world. Suggestions for developing this research are to make this research a reference in developing digital application products. In addition to maintaining local wisdom and Indonesian culture in the digital era, it is also hoped that indigenous Indonesian culture can become a culture that invades and becomes a medium that invites knowledge and interest in all corners of the world.

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Implementation of natural fibre materials in home living textile products for community with the "Back to Nature" lifestyle trend

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ABSTRACT: Referring to previous research, the use of natural fiber materials can increase consumer interest while answering the need of people who apply the "Back to Nature" lifestyle especially in home living. Then in this follow-up research will implement natural fiber materials to home living textile products targeting the community as a target market that adopt the "Back to Nature" lifestyle. The movement to implement materials made from natural fibers, which can be called sustainable fashion, is increasingly echoed in Indonesian society, its practice is expected to fulfill several points in The Sustainable Development Goals by United Nations especially responsible consumption and production. At that moment, it was seen that there was an opportunity for this home living product to be useful for various things in everyday life. So the use of materials that are in accordance with the character of the target market is very necessary. This study uses a qualitative method with a business opportunity planning approach, which is considered to be one of the innovations that have the opportunity to be developed in the business realm and increase the creative industry in Indonesia.

Keywords: Textile craft products, Home living textile, Natural fiber, Lifestyle

1 INTRODUCTION

The emergence of phenomena such as caring for the environment is now starting to make the development of fashion product concepts by offering various product development solutions that can overcome or reduce the issues of natural damage. The community is the actor and the driving force in the process of tackling this problem. Most people have their patterns in terms of interacting with their environment and make it a lifestyle that is lived in daily activities. The lifestyle with the theme "Back to Nature" is a movement to improve the quality of life based on that everything that comes from nature is good and useful and ensures a balance. So that people who live the "Back to Nature" lifestyle will always pay attention to all aspects of their daily lives to maintain their health and the environment by minimizing the use of chemicals and waste of resources. Consumers who have a high awareness of the environment will choose environmentally friendly products even though the price is relatively more expensive. In addition to food, the form of clothing or clothing made from natural materials is now popular with Indonesian people who are accustomed to consuming and adopting healthy lifestyle patterns. The environmentally friendly concept that is being promoted is now developing into the concept of sustainable design and sustainable fashion. Many local brand designers have responded to this lifestyle by creating clothing made from natural fibers that can be used for daily activities.

However, it is felt that this has not been widely applied to other fashion sub-sectors such as home living products. Products that use natural fiber materials are not only needed for clothing, but also for other ready-to-use products that can be used in daily life activities.

When examined further in its development, the current residence does not only function as a place to live but can also be a means to realize all the wishes of the owner, develop work and creativity and show social status. In this study, the author tries to implement the application of natural fiber

materials in home living products, especially blankets, with knitting textile processing techniques. The goal is to create new environmentally friendly products that have their characteristics to meet the needs of people who adapt the "Back to Nature" lifestyle in their daily lives.

2 RESEARCH METHODS

This study uses a qualitative method with a business opportunity planning approach because the development of the combination of home living textile and sustainable fashion has continued to develop until now so that it is considered to be one of the innovations that have the opportunity to be developed in the business realm and increase the creative industry in Indonesia.

2.1 *Methods of data collecting*

The research method is carried out using the qualitative method, with data collection methods as follows:

1. Literature or review that is used: scientific journals, books, internet media, and others that discuss the merger of the fashion industry, sustainable fashion, fashion with textile craft design, mood board concepts in fashion, and business opportunities.
2. Observations relating to the work that was inspired were carried out by indirect observation on local brands that have similar product categories.
3. Experimental method is carried out by exploring using natural fibre materials, using surface textile design techniques to give different characteristics and values to the product.

2.2 *Design analysis method*

In the process of data analysis, the author uses the SCAMPER method. SCAMPER stands for Substitute, Combine, Adapt, Modify, Put to another use, Eliminate and Rearrange. SCAMPER analysis is also used in the production of this home living textile product to create added value. The technique applied to the exploration design is by hand embroidery stitches textile processing on the textile surface.

3 RESULT AND DISCUSSION

Referring to previous research (Febriani et al. 2021) regarding the existence of business opportunities in natural fiber materials that can be developed in the realm of the creative industry, especially in home living products for people who adopt the "Back To Nature" lifestyle, lifestyle depicts the whole self of someone interacting with his environment. According to Plummer (1974), market researchers who embrace lifestyle approaches tend to classify consumers based on AIO concepts: activity, interests, and opinions. In the context of activities, it can refer to areas or places where consumers do, what they buy, and how they spend their time. The community that implements the "Back to Nature" lifestyle is seen as having a fairly unique consumption behavior. Besides being identified as a group with high consumption numbers, this community also can access technology and information that is quite careful. It supports the pattern of activity with no time linkage that can be done even at home though. If further examined in its development, the residence not only serves as a place of residence but also can be a means to realize the wishes of its owners, develop works and creativity and show social status.

The application of lifestyle is not only needed in fashion but can be aligned with all products consumed daily-the day is either food or ready-made goods. To support the activities inside the house, the product must have an environmentally friendly concept according to the pattern of consumer lifestyle. Home Living products are often found not much that focuses on textile materials by utilizing environmentally friendly materials, for example, Blanket.

Table 1. Comparison brand analysis.

No	Brand	Materials	Technique	Price Range
1	Bermock	Acrylic	Pattern Making on Woven	IDR 400.000 – 600.000
2	Naratisa	Canvas & Blacu	Pattern Making and Digital Printing	IDR 60.000 – 200.000
3	Kirapassa	Acrylic & Polyester	Pattern Making on Woven	IDR 300.000 – 500.000

From the local brands above, which has the main product is blanket, it can be seen that the material used has not been utilizing natural fiber fabrics with environmentally friendly processing techniques. The form of comparison analysis with the products mentioned above can be summarized in the table below:

Table 2. SWOT analysis (Rangkuti 2006).

Strength	Weakness	Opportunity	Threat
The characteristics of natural cotton fibers (soft, lightweight, absorbent & sustainable) are very suitable for use in daily live.	Home living textile products that utilize natural fiber fabrics with product ethical values have limited considerations of the production process until the final stage and a long series of processes can also make production cost too pricey.	Home living textile products which utilize 100% natural fiber fabrics are still limited, most of brands not focused on target market who adopt environmentally friendly lifestyles.	The high cost of raw materials will affect the selling price and target market.

In practice to fulfill several points in sustainable development goals - The Sustainable Development Goals by United Nations, especially in responsible consumption and production, efforts to change product materials that can be used in daily activities with materials that are more environmentally friendly can be an attempt at change (United Nations). This study aims to make a knitted blanket product using natural fiber fabrics (100% cotton) with the addition of textile surface design techniques as an added value.

Cotton is a natural fiber that is renewable and biodegradable. Mankind has been using cotton for the last few years on daily basis for different purposes. It has become a part of one's living, which is why it is also called "fabric of our lives". If the consumers are aware and demand more natural fibre textiles, it will force the company to use more organic materials. In addition, it will help farmers to create healthy soil and also supporting the planet in as sustainable way.

The value offered from this product is a local brand with home living textile products with simple and natural design lines to meet the needs of people who apply the "Back to Nature" lifestyle and add character to the product by processing hand embroidery stitches textile techniques on the textile surface to give the product a distinctive feature (Bumpkin 2014). By paying attention to the ethics of fashion production by considering the working period, culture, and philosophy of the place where the fabric is the main ingredient in determining the price it is produced. In addition, the products produced apply structural textile techniques where similar products focus more on processing color motifs.

Customer segment for this product as follows:

A. Geographical

Domiciled or working in domiciled in a multicultural and metropolitan city. Residing in a cluster-type residential, townhouse, or apartment, with a high-middle social status environment.

B. Demographic

Women/men aged 23–37 years (millennials), education level S1 or its level, working in the formal or informal sector (Freelancer, Entertainer, Entrepreneur, and Creative Industries) with a monthly income equal to management level or socio-economic status, upper-middle and upper.

C. Psychographic

Undergoing a healthy lifestyle or concern about environmentally friendly issues, assess a product based on the value of life in the lifestyle. Keep up with the times and be open-minded. Tends not to be overly exploratory in style because of the lifestyle factors that are lived, very active in the use of technology-based media.

Figure 1.   Technical drawing.

Figure 2.   Detail exploration on surface textile with hand embroidery stitches technique.

Taking the example one of the SCAMPER analysis methods, namely "Modify", the most visible thing that distinguishes it from similar products contained in the comparison brand is that this product has an additional exploration of textile techniques (hand embroidery stitches techniques) which is still in line with the environmentally friendly concept and uses the same fiber fabrics material.

Figure 3.   Final product knitted blanket with 100% cotton. measurement 120 cm × 180 cm.

The main function of the product is as a blanket, but with consideration of the material and style, the product can also be used as a throw blanket or wall decoration.

4   CONCLUSION

The "Back to Nature" lifestyle trend was chosen because it has potential in terms of consumer needs to support environmentally friendly lifestyle trends that have not been fully touched by most home living fashion producers. The use of natural fiber materials can increase consumer interest as well as answer the needs of people who adapt the "Back to Nature" lifestyle in their daily lives. The use of exploratory techniques on textile surfaces can be an added value and improve the characteristics of the product when compared to other local brands.

For further research, the use of 100% organic materials will make the product have better ethical values and textile exploratory processing techniques can be done by trying several other surface textile techniques to get a product with more-better quality and characteristics.

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Architecture and metaphor: Cultural identity into metaphorical expression in international airport passengers terminal

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ABSTRACT: The identity of West Java can be implemented in the concept of architectural design by elevating a certain cultural identity applied in architecture design. The passenger terminal of Kertajati International Airport shows the characteristics of West Java Province by implementation of the Peacock Dance. The research is expected to help determine the application of metaphorical architecture applied in the passenger terminal of Kertajati International Airport to reflect cultural identity of West Java as the new Gate of West Java province. The research uses qualitative descriptive method by analyzing architectural expression, especially from the Peacock-shaped passenger terminal of Kertajati International Airport. The metaphorical architecture is applied to the expression of terminal buildings shapes, functional elements, and decorative elements by applying combined metaphor and tangible metaphor as of West Java cultural identity. It is expected that this research will inspire architects and designers to enhance the cultural identity in future Airport concept designs.

Keywords: cultural identity, airport terminal, metaphor architecture

1 INTRODUCTION

Kertajati Airport is an international airport located in Kertajati, Majalengka. Built as the new international gateway for West Java, Kertajati Airport has a vision and mission of providing not only flight services but also promoting the Province of West Java (Bijb Company Profile 2018). As a public transportation building that serves as a connection between domestic regions and other countries, the Kertajati International Airport was built as the identity of West Java.

A conceptual architecture used for building the image of a public building is known as the Metaphor Architecture design method, which makes it possible to view an architectural work from another point of view. In addition, it can influence the emergence of various interpretations of observers and can produce more expressive architecture (Harmanta et al. 2019). Metaphoric Architecture, according to Charles Jenks (1977) in "The Language of Postmodern Architecture", is as metaphor seen as an image that is viewed by the observer based on other adjoining objects. In short, the architecture bears resemblance to some other aspects, such as an identity of a region or culture.

Metaphor architecture is divided into three—tangible, intangible, and combined metaphor. Each of these is a design method that generates ideas in designing architecture. In this case study, the Peacock Dance signifies the identity of West Java (Harmanta et al. 2019), which is implemented in the design of Kertajati International Airport. The implementation of the visual form of the Peacock Dance is applied through architecture elements in the design. A peacock is considered a symbol of self-expression, love, and pride (Peacock Symbolism & Meaning 2021).

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2 RESEARCH METHODS

This study uses a qualitative method by analyzing collections from the object of the study at Kertajati International Airport. The analysis departs from the theory of implementation of the Metaphor Architecture—intangible, tangible, and combined metaphor (Kurnianto 2020) The data obtained in this study were divided into two—primary data and secondary data. Primary data included literature data related to West Java cultural identity and metaphoric architectural theory, as well as field surveys to take photos of the airport interior exterior area. While secondary data were obtained from brief interviews with Kertajati Airport operational staff.

The data obtained are then used as the basis for research analysis; three approaches to the concept of metaphoric architecture in airport buildings, especially Kertajati International Airport, in their implementation in interior architectural elements.

3 RESULT AND DISCUSSION

As a design concept, peacock became the main idea of the design of the Kertajati International Airport passenger terminal design. The Peacock Dance was first started by R. Tjetje Soemantri as a welcome gesture for the guests of the first African Conference in 1955 in Bandung City as the main show at the Asian-African Conference. The Peacock Dance was also performed for welcoming President Virsilop from Russia on 10 May 1957, which took place at the Pakuan Building (Irawati, People's Thoughts, 5 May 2005, also in Irawati 2008:66).

Ching (2014) mentions that ornaments in buildings are accessories, additional elements, or details that add more value and meaning to the beauty of the architecture. The Peacock Dance is translated into several forms from the architectural and interior design of the passenger terminal. The following are the attached survey data regarding architectural and interior elements that are assumed to implement the peacock as the basic form of design ideas, both architectural and interior designs.

3.1 *Intangible*

The airport design concept listed in the BIJB company profile in 208, the intangible metaphor design of the Kertajati International Airport signifies the culture of West Java. It provides the identity of the region of West Java through visual elements. The metaphor taken is the Peacock Dance typical of West Java (Mulyani 2020), which is a welcome dance resembling male peacock showing the beauty of its feathers to a female peacock. It is assumed that this dance makes it seem as if the terminal building welcomes passengers from their arrival to West Java, as the first impression shows the beauty of West Java. The peacock as a philosophical identity was considered as the basis for the architectural design of Kertajati Airport terminal building. (Setiawan 2020).
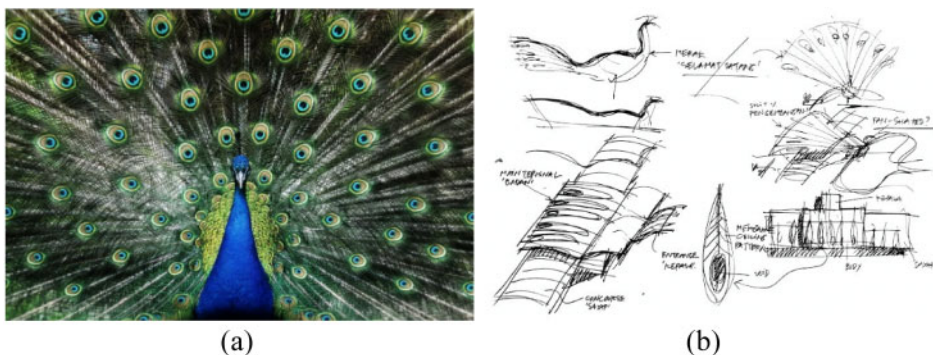
Figure 1.   (a) Peacock. (b) BIJB concept design.

3.2 *Tangible*

Tangible metaphor is the inclusion of concepts in the form of elements in the architecture as well as interior design. The dynamic architecture of the building resembles a peacock.

Figure 2.   Passenger terminal bird eye view.

Interior design physical component is the application of design with regard to space, color, material, shape, light, and furniture (Raja 2020). There are 10 skylights on the airport roof that span 200 meters in length and 170 meters in width that resemble a peacock eye motif (BIJB 2018). Skylights that function as roof elements provide a space for sunlight to enter the building and serve as decorative elements that are in line with the intangible approach.
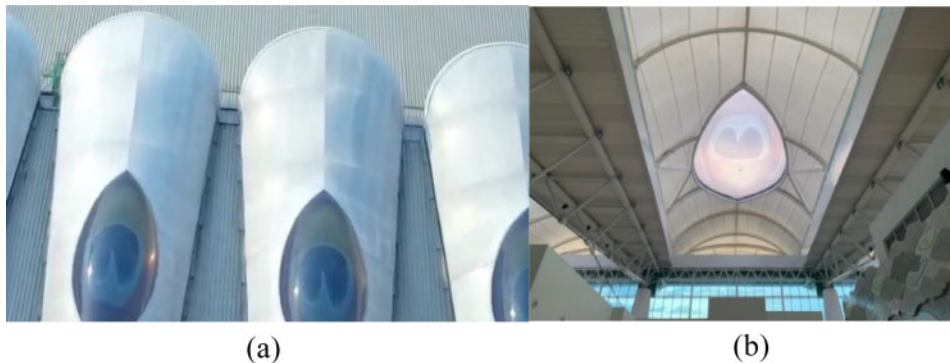
Figure 3.   (a) Passenger terminal bird eye view; (b) Skylight view from top.

In addition to skylights, peacock elements are also found on the first floor of the passenger arrivals section. The use of a ceiling design adapted from the shape of peacock feathers is also used at some points as a lamp armature. Although unlike skylights, which are visually identical to peacock feathers, the motif on this ceiling is an attractive figure and catches the eyes of passengers in the arrival hall. In addition, in the airport yard, several peacock stables are placed to strengthen the identity of the peacock icon.

Figure 4.   Peacock feather shape element in decorative ceiling in first floor.

3.3   *Combined*

In addition to having a building with style and historical value, the elements are also a perception-forming factor for users, especially visual elements that make up space (D.K. Ching). The perception that is built in the building is first formed from the first visual seen by the observer. In this case, tangible is a design that is implemented in a functional and decorative space. The designer's point of view starts with brainstorming ideas, functions, users, culture, and then implementing them in a form of space-forming elements.

Table 1.   Peacock element at the airport passenger terminal design.

Design Concept	Design Application	Decorative/Functional
Architecture	Building Massing Roof Shape Front Elevation	Functional
Interior	Skylight on Third Floor Buffle Ceiling on First Floor	Functional & Decorative Decorative

4   CONCLUSION
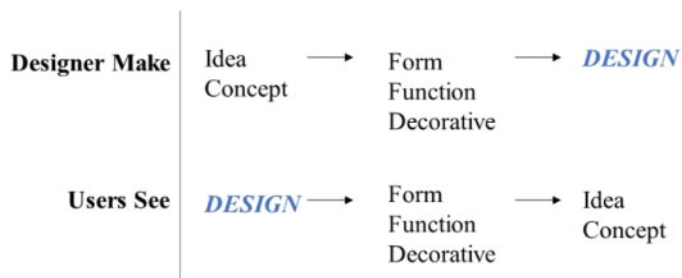
Figure 5.   Point of view.

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The metaphoric architecture in this study is a design approach that displays the meaning of the visual symbols, especially elements of the peacock. As the Economic Gateway of West Java, the Peacock Dance, which is one of the West Java Promotional media, became the central idea of the design of this terminal. The symbol and meaning of the peacock element is implemented in the design, tangible in certain parts of the terminal, both functional and decorative.

The application of metaphorical architecture in Kertajati Airport Passenger Terminal Building applies the combined metaphor concept; combining cultural values, especially of West Java, with the implementation of functional and decorative elements in buildings made of peacock feathers. Although tangible elements look very strong, the concept of intangible, cultural values is also the basis of the airport design. Cultural identity in a public building, especially a public transportation building, can be implemented in the design process, strengthened through local identities, and visualized through space-forming elements.

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Designing verbal message and visual media of a social anxiety campaign through reducing negative thoughts

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ABSTRACT: Social anxiety is a mental health disorder that makes sufferers feel threatened by their social environment, including embarrassment and humiliation in an irrational way. The main factor causing anxiety disorders is negative thoughts that often arise and are not realized by adolescents. Early awareness is necessary to reduce the negative thoughts that can prevent adolescents from being exposed to social anxiety through this phenomenon. This research aims to design the verbal message and visual media to awaken the target audience. The method used in this research is descriptive qualitative. While the verbal message is created by implementing the theory of semantics (diction and word meaning), the theory of creative strategy helps design the visual media. It is hoped that the appropriate verbal message and visual media in a campaign can help adolescents solve social problems.

Keywords: Adolescent, Campaign, Creative strategy, Semantics, Social anxiety, Verbal message, Visual media

1 INTRODUCTION

According to the Basic Health Research (Riskesdas) in 2018, the prevalence of depression in people aged more than 15 in Indonesia is 6.1% of the total population, and West Java holds the 9th position out of 34 provinces, with only less than 9% of people suffering from depression doing/undergoing medical treatment (Riskesdas Ministry of Health 2018). In 2019, there were cases of suicide in teenagers; one of them was the case of a student of *SMP 147* in Cianjur named SN. She was said to be facing challenges in making friends at school and indicated having social anxiety disorder for fear of being judged as "weird" by her friends. The social anxiety experienced by SN triggered negative thoughts that made her stressed and then depressed. Social anxiety is a mental health disorder that can lead to depression and suicide in sufferers. Social anxiety increases majorly because of social media. Negative thoughts are dark thoughts fed continuously until eventually they grow into anxiety or depression (Rowe 2000).

Based on the phenomenon, there is need to design a campaign through visual media effectively according to the target audience. This could help decrease social anxiety in adolescents through reducing negative thoughts. According to Rogers and Story, a campaign is a series of planned communication actions to build a particular influence on a large audience and is carried out continuously for a certain period (Venus 2004). In designing a campaign, the creative strategy is needed. What to say to better reflect on the campaign message and how to say to better reflect on the visual and media are elements that can be considered in designing a campaign. To make a campaign effective, both of these elements should be designed keeping in mind the target audience.

The appropriate diction is one of the keys whether the message is delivered effectively or not. Keraf (2010) argues that diction is the ability to accurately distinguish the nuances of meaning from the idea to be conveyed and the ability to find a form that is in accordance with the situation and values of the listener community. The words (text) or verbal message should consider the verbal acts of participants (targets audience) and the effect of the verbal acts. Therefore, the study of meaning

is required to confirm the meaning of every word used in verbal message to gain the proper verbal message in accordance with the target audience. In conveying the campaign message, the creative strategy used is the Facet Model of Effect (Wells et al. 2007). There are six stages to deliver an effective campaign message: Perception, Cognitive, Association, Persuasion, Transformation, and Behavior.

Visual message is designed based on the theory of design with consideration of target audience. Designing the appropriate visual and verbal message based on the Facet Model of Effect could motivate the target audiences. In this case, the problem of social anxiety in adolescent could be decreased.

2 RESEARCH METHODS

The method used in this paper is a qualitative research method. It includes collecting data from adolescent behavior and their interests, conducting interviews with psychologists related to social anxiety, and recording observations from people who experience social anxiety. The method of data collection is by questionnaires, interviews, observations, and literature study.

From the data collected, the result of questionnaire shows that 85 of respondents use Instagram. The data of questionnaire "afraid and anxious of things that may not happen" is 63%. The data from the interview mention that to overcome the social anxiety in adolescent, psychotherapy with cognitive method can be used. Meanwhile the observation is conducted by observing the behavior of the student of Junior High School in Bandung as the Target Audience.

3 RESULT AND DISCUSSION

3.1 *Concept of verbal message*

The main message in the advertisement is often referred to as *what to say* is the main purpose of an advertisement or campaign (Nurbani & Nanda 2019). In conveying the message, it must be effective and on point, so that the meaning conveyed is not misinterpreted by recipients (Belch & Belch 2009). Effective advertising can be made by from combining product advantages or USP and insight of the target audience (Ilhamsyah 2021). In this research the main message obtained is "By replacing one negative thought with one positive thought a day can help teenagers reduce their negative thoughts and prevent them experiencing social anxiety".

The main message of this campaign reflected in the verbal message is in the form of a tagline, wherein this tagline is the essence of the main message of this campaign. The tagline is *Yuk Kikis Si Negatif*, semantically choosing or searching for words of this diction aims to invite or ask the target audience to do something. It is marked by the linguistic marker of the verb "*Yuk*", while according to the nonlinguistic context the use of the word "*Yuk*" is in accordance with the target audience wherein the target audience for this campaign is young people, so that the verbal actions are adjusted according to the participants. Thus, the message conveyed can be directly received by the target audience. Another thing from the social context that underlies the choice of the word or the diction is that the effect of the verbal action can affect the mind of the target audience. Meanwhile, the diction of the word "*kikis*" according to cognitive semantics is to eliminate little by little, which is the purpose of this message. The verbal action is relevant to the participant that everyone involved uses language that is appropriate to the participant's social situation and condition. Likewise, the effect of verbal action is hoped that the target audience will be able to eliminate little by little the negative traits that are listed in the next diction as the referent "*si negatif*". The word "*si negatif*" itself is the object of the predicate "*kikis*". The purpose of the tagline as a whole is to remind the audience that negative thoughts must be removed little by little. The purpose of the verbal action reflected in the words can have an effect on the target audience.

3.2 *Concept of visual message*

The visual style is modern with photography and illustration based on the insight of target audience, and the layout is made both symmetrical and asymmetrical. In typography, the fonts used are Bold and Crayon kids to make target audience excited to see the visual. Meanwhile in color, yellow and green are used to give the target audience a feel of confidence and calmness, which could help decrease some stress.

The media will be divided into five parts based on the Facet Model of Effect stages. First, Perception: Building awareness by attracting audience attention, through print and digital posters, and creating advertorials and Twitter threads.
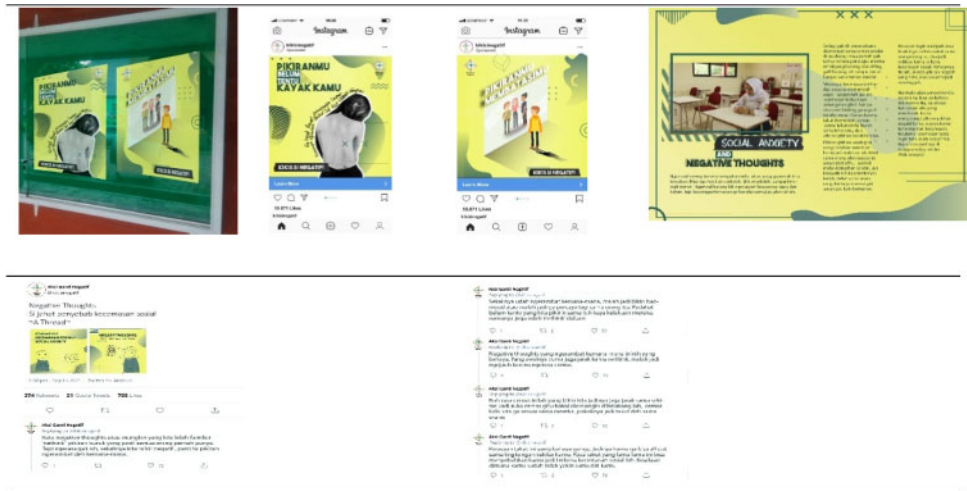
Figure 1. Visual media for perception.

Second, Cognition and Emotion: Generating understanding/information through Instagram and distributed brochures. In addition, through an emotional approach, a video dealing with social anxiety will be shown.

Figure 2. Visual media for perception.

Third, Persuasion: Inviting the audience to participate in a writing contest on Instagram by using Twibbon with merchandise prizes and inviting the audience to attend the main event through posters.

Fourth, Association: The symbolic connection provided is in the form of merchandise and will be digitally filtered on Instagram.

Fifth, Behavior: The last stage, the audience is invited to take part in the main event, namely an interactive art installation called "The Three Rooms".

Room 1 "Your Social Anxiety": Made narrow with a path and there will be a picture with many eyes. This is a representation of anxiety itself and aims to make the audience try to feel when they are experiencing social anxiety. Room 2 "Your Negative Thoughts": Made in a dark atmosphere,
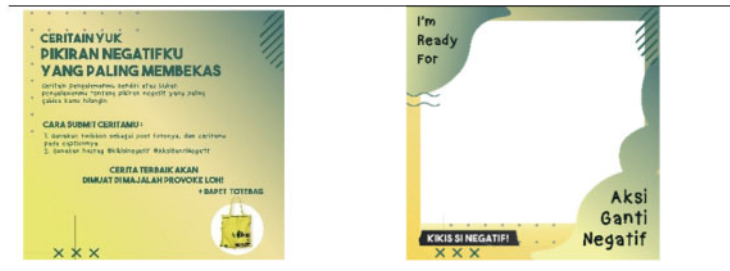
Figure 3. Visual medias for association persuasion.

Figure 4. Visual medias for association.

with lots of black papers with writings about negative thoughts. These black papers can later be taken or removed by the audience. Room 3 "The Positive": Made with a bright ambient atmosphere, with positive thoughts written on white papers that the audience writes themselves. This is as a visualization of their thoughts, namely "replacing a negative thought with a positive thought". After participating in the event, the audience will be given a check box as a continuation medium that helps audience write their thoughts.
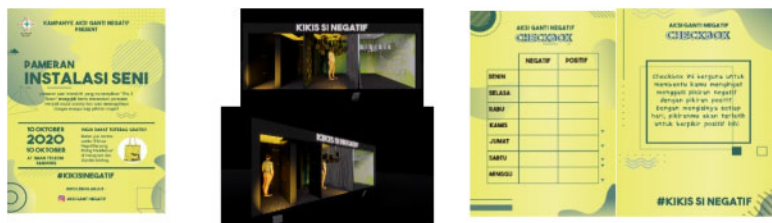
Figure 5. Visual medias for behavior.

4 CONCLUSION

Mental illness is one of the problems reported among the adolescents. One of the main factors is negative thoughts. As per the experts, mental illnesses can be treated by psychotherapy with cognitive method. Based on this phenomenon, a campaign design on social anxiety to reduce negative thoughts was made. By designing this campaign through appropriate verbal and visual message with the Facet Model of Effect as the communication strategy, it is hoped that target audiences can solve their negative thoughts and avoid their social anxiety. Limitation of this research

is the target audience restricted only in Bandung area. I do believe that the case of social anxiety disorder is not just in Bandung but in many regions. Hence, for further research of reducing social anxiety disorder in adolescents, campaigns can be conducted with different target audience from other regions.

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Nusa Five Vol. 1: An attempt to reimage Indonesian culture

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ABSTRACT: The aim of this research is to see how Nusa Five: Vol. 1 attempts to reimage Indonesian culture. This research is a qualitative research; we select, categorize, and interpret data after limiting what we analyze based on characters, names, settings, and properties. To validate the data, we conducted interviews with Sweta Kartika and referred to previous research and various literatures. To see how Indonesian cultural discourse is, we use Foucault's power and knowledge theory. This theory is used because discourse is formed by the relationship of power and knowledge. The result is that Indonesian culture is subtle, such that it is almost insignificant. However, this is precisely what makes this comic relevant to Indonesian culture a kind of an effort to reimage Indonesian culture because this comic was formed through negotiations between power and knowledge, which tries to break away from the dominant power and knowledge of Indonesian culture.

Keywords: Comic, Nusa Five, Indonesian culture, power and knowledge

1   INTRODUCTION

In the 1970s, comics in Indonesia had to undergo strict censorship from the authorities. According to Anton Kurnia (2017), this censorship occurred because comics were once used as a tool of political propaganda in the 1960s by the left and anti-left groups who fought in the national political turmoil until it reached its peak in the 1965 tragedy. The censorship of the comics was a way to eliminate the ideologies that were contrary to the ideologies of the Orde Baru regime (New Order). This kind of censorship is problematic because it eventually forms a single knowledge that constructs a single truth—which can be false. Thus, Marcel Bonneff (1998) called comics in Indonesia as 'du fruit defendu' or the 'forbidden fruit'. As a form of art, comics have a symbolic dimension in which there is 'another' discourse that easily escapes the censorship—this is why Bonneff calls it the 'forbidden fruit'. The other discourse becomes important because comics can be an alternative to see another reality—another knowledge, another truth in a regime of censorship. Comics as an alternative have been discussed by Seno Gumira Ajidarma in Panji Tengkorak: Culture in Conversation (2011). In his book, he asserts that the Indonesian comics can be an alternative to reading other realities because they contain that 'other' discourses in the regime of censorship and one of the discourses is about the Indonesian culture.

In this study, we try to examine the discourse about the 'other' Indonesian culture in the Nusa Five: Vol. 1 (2018) comic by Sweta Kartika. The discourse about Indonesian culture is interesting because based on our observations the discourse of Indonesian culture in the Nusa Five: Vol. 1 comic is very subtle, as if it does not expose any Indonesian culture. This matter has been investigated by our co-author, Patra Aditia, who concluded that this happened as a strategy to be accepted by the wider public so that the visualization was not too associated with local values (Indonesia), but in a universal direction (Aditia & Prabawa 2019).

Foucault (2012) said a discourse contains two values: 'the old', and 'the new'; traditional and original; relates to the average type or other types than usual. A discourse also has what he calls as 'episteme' that actively formulates a variety of things to be sorted, selected, interpreted, and

acted upon later discursively. At this point, episteme needs some kind of media, so that it can materially come into contact with something concrete, in this case the media is a discourse about Indonesian culture itself. If we refer to Foucault's view about discourse, the culture of Indonesian discourse in the Nusa Five: Vol. 1 comic is actually not as subtle as it seems, because the comics we observe are constructed by multicolored Indonesian cultural fragments in such a complex way intertwined in the story, symbolism, and visualizations of the character, names, places, and so on. By not exposing Indonesian culture in a vulgar way, Nusa Five: Vol. 1 shows another Indonesian culture as discourse. And so, his research is an important research because we will be able to see the Indonesian culture through a different perspective and to see how a comic book attempts to reimage the Indonesian culture in a more contemporary notion.

2 RESEARCH METHODS

This research is a qualitative research. In qualitative research, text is a representation of phenomena, and according to Ricoeur (1981) text is a standardized discourse through language. Thus, 'Discourse is a socially constructed knowledge of some aspects of reality' (Leeuwen's 2004). Comics are discourses that are formed from texts that have two main elements, namely visual language and written language (Cohn 2012). Comic Nusa Five: Vol. 1 has 7 chapters, namely: Chapter 1: Jiwa Suci, Chapter 2: Ksatria Berjubah Merah, Chapter 3: Titisan Kelima, Chapter 4: Misi Penjemputan, Chapter 5: Perangkap, Chapter 6: Api Kegelapan, and Chapter 7: Kebangkitan.

In this research, we limit the texts that we analyze to the description of characters, names, settings, and properties contained in the two comic elements in the 7 chapters mentioned above. After that we will select, categorize, and interpret them. To validate the data, we conducted an interview with Sweta Kartika and referred to previous research from our co-author as well as various literatures on Indonesian comics. Then to see the Indonesian culture discourse, we use Foucault's theory of power and knowledge. This theory is used because Foucault considers that discourse is formed from the relation of power and knowledge, including the Indonesian cultural discourse in the Nusa Five: Vol. 1 comic.

3 RESULT AND DISCUSSION

Nusa Five: Vol. 1 is a Super Sentai comic. Super Sentai is a term to describe the long running Japanese 'superhero team' genre of shows produced by Toei and Bandai and aired by TV Asahi (https://powerrangers.fandom.com, 2021). Nusa Five: Vol. 1 tells the story of the everlasting war between Pandita (good) and Kelana (evil)—this is the main premise of the Super Sentai genre.

Super Sentai always has a protagonist who belongs to a group of five—in some fewer, or more. Besides having a distinctive costume and color, in this comic they are named Ksatria Nusantara (The Knight of Nusantara), a team of five people (see table above). They have magical or technological powers, such as Nusa Blaster, Flame Eagle Spear, Trimatra Triangle, and Kana Nusantara (super bracelet). They use advanced weaponry and robots (mecha): Baran (a mecha tiger) and Paksi (a mecha eagle). In addition, they are assisted by Wara (Celestial animal similar to a deer) who is in liaison with Pandita. Their enemies are powerful beings in the form of monsters from other dimensions and human collaborators who are threatening to destroy or take over the earth (see table).

For Foucault, power is the will to know and through discourse this will is formulated as knowledge, 'Power produces Knowledge. power and knowledge are intertwined' (Foucault 1975). The linkage is called episteme, which is a 'hidden system' that works as a 'secret agent' in shaping a discourse. The discourse contains two values: 'the old', and 'the new'; traditional and original; relates to the average type or other types than usual (Foucault 2012). In the Nusa Five: Vol. 1 comic, this episteme forms the premise of Nusa Five: Vol. 1, this can be seen from the main premise of this comic which makes use of the general premise of Super Sentai.

Table 1. Characters in Nusa Five: Vol. 1.

	Name	Costume/Form	Color Scheme
Protagonis	Rangga Wira Prakoso	His costume represents eagle like features from his helmet and his spear with a robe	The costume is mostly red, representing the volcanic fire element in Java
	Kanaya Meuthia	Costume represents Sumatra tiger form and Ulos and Songket cloth	Red and Black with gold
	Rimba Kala Manthana	Adapt the aesthetical accent of Dayak Kenyah tattoo	Green dominated color that represents Kalimantan forest
	Renata Mokoginta	The ghost form respresents the form of Anoa and buffalo, which is an endemic animal of Sulawesi and also Toraja carving	Her costume dominated is by a black color scheme
	George Saa	His costume represents Sawfish of Sentani, Papua	Blue warna biru danau Sentani
	Pandita	Celestial being knight-like form	Light White
	Wara	Little deer-like form	Brown
Antagonist	Kelana	Celestial being demon-like form	Black
	Garaka	Long black coat, like a demonic priest	Black
	Asura	Monster form	Black
	Gentiri	Scientist look with a long black coat	Black
	Celuluk	Monster-like form	Black
	Saura	Monster-like form	Black
	Basu	Scientist look with a casual suit	Black

However, the premise of Super Sentai in Nusa Five: Vol. 1 is based on ancient mythology about the eternal battle of light and darkness, good and evil. But with names of the Hindu-Buddhist era that have been assimilated with local culture in Indonesia, such as: Kalvatar (Kalpataru, divine tree in Hindu believe), Marcapada (Sundanese word for earth), Nusantara (Pre-Indonesia name), Jawadwipa (Java Island), Barunadwipa (Kalimantan), Swarnadwipa (Sumatera Island), and Ksatria Nusantara (Knight of Nusantara). The depiction of the characters in this comic is formed from old and new values, for example the Ksatria Nusantara costume is based on a general Super Sentai costume but with an aesthetic accent on the Nusantara culture (see table above). Cultural Indonesian names from Hindu-Buddha era or before are used (see table). The antagonist characters do not have a distinctive costume, but an evil impression, especially Kelana whose face in Chapter 7 is based on the statue of Dwarapala (a monster-like gatekeeper in a temple across Java) and Garaka who looks like a generic evil priest.

Sweta Kartika intentionally made these characters have an archetypal aesthetic accent because her main goal was to introduce Indonesian culture through modern works, so that the Rangers (readers of Nusa Five) can pursue the inspiration of the Nusantara culture behind this work (Interview 2021). Third, in the setting, from Chapters 1–7, we do not see any particular region or city in Indonesia being described—the setting can be anywhere. Chapter 1 opens with the background of the factory area and so on at the Ksatria Nusantara headquarters, Kelana headquarters, and the convention center, which becomes the battle arena.

We did not fully analyze the dialogue in this research, but from what we read, the dialogues are in Indonesian language, which tends to be formal, very formal, and very rigid, especially in Chapters 1–3. There are no local languages or local idioms, such as Javanese or Sundanese. But in Chapter 4 and so on the dialogues begin to get less formal.

Figure 1. (From left to right), Pandita and the Ksatria Nusantara. Kelana and his army of darkness (Source: Nusa Five: Vol. 1, 2018).

From the discussion above, the comic Nusa Five: Vol. 1 seems to just paste the Indonesian culture and does not show a solid Indonesian cultural value both in symbolical or philosophical context. However, in Foucault's view, this comic can be seen as a symbol of the anti-thesis of a 'normal' Indonesian culture because the subtleties of Indonesian culture are solid forms of episteme. In other words, this comic is actually trying to reimage Indonesian culture that is free from overly dominant Indonesian culture (Javanese) by presenting Indonesian symbols in a more subtle and more equal way—Rangga, who is a symbol of Javanese culture, is depicted as a careless and reckless boy.

Interestingly, Sweta Kartika made Pandita (the celestial being) as a symbol of the leader who unites the Ksatria Nusantara under his command. Sweta really wants to strengthen Indonesian cultural diversity ideals through this work, as stated that Indonesia for her is, 'Celebration of Diversity'. In the comics, she celebrates the same. The Nusa Five: Vol. 1 comic can be seen as an effort to reimage Indonesian culture and at the same time question our Indonesianness. What and how is Indonesian culture, is it still stuck in the romance of the past or moving forward with that romance? Or both? Of course this requires further research in more detail.

The comic Nusa Five: Vol. 1 is a discourse produced by a very complex relationship of power and knowledge, the symbols of Indonesian culture which we see as an episteme drive the relation of power and knowledge in this comic. These epistemes are substantially formed by other epistemes that then form the discourse in all respects we see here. For this reason, this comic was not only a response to dichotomous cultural history or phenomena but continues to move in a complex relation because of the intertext nature of the symbol we see. So we cannot point out rashly that this symbol, that name, this place is Indonesia, which we know in its socio-historical context because Indonesian culture itself, as stated by Elizabeth Pisani (2015), is 'a nation whose multicolored fragments seem to settle into different patterns with every shake of history and circumstances'.

4 CONCLUSION

Will Eisner (1985) says that comics are a way of telling stories, both as a function of entertainment and instruction. Further, Pradnyanita, Kesuma, and Lestari (2019) stated that comics can be formed into a medium of propaganda, persuasion, and can influence culture. Likewise comics in Indonesia, have indeed become a field of discourse about the Indonesian culture itself, for example, superhero comics. Comics of this genre have existed since the 1970s and are often an interesting field of Indonesian culture discourse to see. Because Indonesian comic superhero characters like Gundala, Godam, and Aquanus are a ripped-off versions of American superheroes. However, these characters are not just rip-offs, but from them a discourse of Indonesian culture is formed. Seno

Gumira Ajidarma stated that, 'Globalization has actually become an inspiration to cultivate cultural discourse. Like when hamburgers are faced with rending, in Indonesian they called McRendang (Ajidarma 2021). In line with that, according to Goenawan Mohamad, 'the local superhero was humbly grounded by the composers' (Mohamad 1977).

From our research, the Nusa Five: Vol. 1 comic also does something almost similar to the cases mentioned above but with a very significant Super Sentai formula. The discourse of Indonesian culture is formed through the relation of power and knowledge in the 7 chapters of the comic. It is important to underline that the episteme that forms Indonesian culture discourse can be seen from the depiction of characters, names, settings, and properties, although it looks very subtle in presenting Indonesian culture in the form of aesthetics and values of the past and the new, but this is the characteristic of the episteme and its shape. It is very subtle, not singular, and spreads sporadically. Therefore, this comic is an attempt to reimage Indonesian culture in a way that we saw it as a whole different discourse. But as we can see the Indonesian culture on it was a negotiation of how the cultural dynamic takes place in our daily life.

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Https://Powerrangers.Fandom.Com/Wiki/Super_Sentai#Manga
Interview With Sweta Kartika, 2021.

Study of filigree: Traditional metal working techniques as a potential craft product

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ABSTRACT: The filigree technique is one of the indigenous cultures of the metalworking handicraft from Yogyakarta. It has character value for each motif and becomes the community's philosophy of life. The research method used in literature studies, interviews, and direct observation of metal craftsmen in the Kotagede area. In the filigree motive, some values that are in line with the formulation of national character values, include (1) tolerance; (2) discipline; (3) hard work; (4) independence; (5) communication; (6) care for the environment. The traditional filigree technique has a local cultural image. It contains a high philosophical value on motives that can be interpreted as natural wealth and virtue, developing character and cultural pillars. This potential is expected to attract allure when adopted for a craft in the contemporary style jewelry industry, and help people of Kotagede by opening a craft home industry used as economic support.

Keywords: culture, filigree, jewelry, traditional

1 INTRODUCTION

The relationship between humans and their culture is inseparable because without humans, culture means nothing, and without humans, culture does not exist. Culture produces systems in social life. Culture is also a system of ideas that works, all of which are from human activities for society and are then used as human property (Koentjaraningrat 1990; Nurdien Harry Kistanto 2017). The relationship between the two is none other than realizing life, in the sense that culture is a tool for humans to fulfill their physical and spiritual needs (N. H. Kistanto 2017). These two needs are basic human needs and are interconnected to achieve the perfection of life.

Culture is called a symbol that interprets the feelings and values built by human civilization. Culture is also a symbol that is inherited, and symbols are human expressions to communicate, preserve, and develop knowledge about behavior towards life (N. H. Kistanto 2017). The theory aligns with education goals in Indonesia, which aims to preserve, improve, maintain cultural education to continue developing. Ki Hajar Dewantara sparked a concept that education is a character by internalizing cultural values to aim that students and the nation's successors are accustomed to doing good deeds.

Moving on from the existing theory, one of the cultural products we can use to meet society's needs is filigree. This culture is in the form of traditional techniques found in the people of Kotagede (Yogyakarta Special Region) who live in the city of Yogyakarta. The filigree technique is a term for a type of craft that is processed from metal threads with various motifs (Sagita 2008). According to Atamjani (2018), it interpreted that the filigree technique is a motif found in the crafts of the Kotagede community. The shape of the motif in the filigree technique can be classified as pure hand processing utilizing woven or twisted and then put together. The motif is directly done on plain paper, without first being described with decorations or patterns (Turner 2006). Making filigree crafts can be done by using tweezers or tiny claws to twist metal threads. The existing shapes are put together in a particular pattern, and the technique used is the soldering technique, namely

metal powder placed on the pattern and then burnt on the top (Silver 2010). At this time, filigree handicrafts are still made by hand so that the motifs made are different from one another and look more excellent because they are made with high precision.

The filigree technique motif is more widely used in traditional palace ceremonial objects and household appliances. Therefore, it is not surprising that the filigree technique itself is synonymous with traditional techniques or metal processing techniques for the greatness of the Kotagede community. However, the actual filigree technique motif is also found in other cultural objects. The motifs are also found in traditional houses, most of which are taken from the nature around them, and influenced from their daily life patterns (Sagita 2008). The filigree technique motif has a philosophical meaning that has a function that is adapted to the life of the local community (Atamjani 2018). Every motive they make is closely related to self-rule, relationships with humans, relationships between humans and their environment. The filigree technique has a function as a cultural tool used on certain occasions that are considered sacred. In addition to crafts and traditional houses, filigree technique motifs are also found on other cultural objects such as pottery, spittoons, bowls, and plates in the form of woven metal. The problem in this research is how the emergence of traditional filigree techniques that contain values and are recognized as a national identity.

2 RESEARCH METHODS

2.1 *Study literature*

Study literature was done by finding sources from books and journals. The literature was about Yogyakarta and its culture, filigree as its artifact, and basic elements of art and design.

2.2 *Observation*

Direct observation deductively in a descriptive way means that it has not brought problems and explores and describes anything that can be heard, seen, and felt. The author examines the process of making metal processing with traditional filigree techniques. Then, complete and analyze the meaning of the motifs and patterns in artifacts in the Kotagede area (Yogyakarta).

2.3 *Interview*

The interview was conducted by discussing the meaning of the shape of the motif with the craftsmen in the filigree craft workshop owned by Borobudur Silver, Mungkid.

3 RESULTS AND DISCUSSION

The distribution of filigree in Indonesia is marked by the historical background of the ancestors of the Indonesian people, who are now a national group, initially migrating and coming in waves and spreading in various parts of Indonesia. Each group of migrants usually does not go directly to the final destination but makes several transits at certain places until they reach their final destination. Each group of migrants during the journey changes independently. Ecological conditions have made groups experience changes as a form of adaptation. Therefore, each community group has differences from one another (Sagita 2008).

The filigree technique culture is noble culture because it is one of the cultural products with high aesthetic value, in its visual form, cultural values that serve as the identity of a virtuous society. All of this correlates with the educational values applied in Indonesia. Currently, the filigree technique is increasingly in demand because the motif has a beautiful artistic style. The enthusiasts are from Kotagede themselves and have been in great demand by the Indonesian people and the international

community. The people of Kotagede are currently opening a filigree craft home industry, which is used as economic support in the jewelry sector.

The following are the results of observations of artifacts in Kotagede (Yogyakarta). Then analyzed using basic visual theory, also conducted brief interviews with craftsmen (Fatmawati, 28 years old) about the meaning of the motifs contained in the filigree motif and it is analyzed according to the basic art elements and principles (Borobudur Silver, Mungkid).

Table 1. Filigree motif and meanings.

Visual	Mean	Analysis
Figure 1. Spinning rope motif	The spinning rope motif symbolizes having to support and support each other towards work	The rope motif, besides being made mutually sustainable and intertwined, has a meaning to respect and care about tolerance for the social environment
Figure 2. Shoot/arrow motif	The shoot/arrow motif symbolizes motivation to the younger generation	The shoot/ arrow motif, besides being made slightly angled at the top, is a requirement for the value of discipline, and then the circle shape is interpreted as an educated culture and likes to read (appreciating achievements).
Figure 3. Curved motif	Regular motifs symbolize that every decision must be considered wisely	The regular and curved motifs made in an unbroken arrangement are likened to a requirement for responsibility in social life based on honesty between humans and hard work.
Figure 4. Mustika motif	The mustika motif symbolizes the awareness of the divine	The mustika motif is like pearls, one by one, arranged repeatedly at the bottom, symbolizing an independent attitude in dressing, then made at an angle at the top with a pearl pendulum symbolizing religious values and the oneness of God. (Only God is the place to surrender)
Figure 5. Berangkat Emun motif	The "berangkat emun" motif mean wherever it goes, it must be in line, wherever it is, it remains in one unit	The motives motif is in an oval shape that is arranged in reverse and repeated, with a related chain of meanings that can be drawn, namely harmony in social life that is communicative, passionate, and friendly (hospitable).

(*continued*)

Table 1.   Continued.

Visual	Mean	Analysis
Figure 6. Floral motif	Floral motifs symbolize a unified unity in society and a place to define oneself	The three-flower motif is the symbol of the Indonesian state flower, namely the sacred white jasmine, interpreted by the spirit of nationalism, care for the environment, and love of peace.

The value of the filigree motif refers to something that society views as the most valuable. The motive that is taken or chosen is a motif based on observations of the environment. This attitude is developed through various experiences that mark the history of the life of the people in which they live. Values are also used as a basis, reason, or motivation for behaving in life. At the same time, a character is an attribute or characteristic that forms and distinguishes a person, group, or nation's features, ethical aspects, and mental complexity. Thus, we can conclude that values and character are essential in social life because they are considered valuable for living.

The filigree technique, one of the results of local culture, is a form of representation of cultural values a character. In the filigree motif above, we can conclude that the values that are in line with the formulation of the nation's character values include: (1) the spinning rope motif symbolizes tolerance; (2) the shoot motif symbolizes discipline; (3) Regular motifs symbolizes hard work; (4) The Mustika motif symbolizes independence; (5) The motif symbolizes communicativeness; (6) Floral motifs symbolize love for the homeland and care for the environment. Referring to these six values, the filigree motif itself was formed on the awareness of the people of Kotagede since ancient times to be used as the rules and foundation of life. Both for individual and community life. Overall, filigree motifs have local character values that are in line with national character values.

4   CONCLUSIONS

We can conclude that each filigree motif's value reflects the community's local wisdom, which is full of the meaning of life implicitly and interpreted as humans take care of the relationship with God, the relationship between humans, and the environment. All of that is inseparable from the results of our ancestor's skills in seeing the future with all problems and end compiling a mosaic of values symbolized by a filigree motif. Each motif reflects the existence of an Indonesian identity that is intelligent, virtuous, and wise. The traditional filigree technique has a local cultural image. It contains a high philosophical value on motives that can be interpreted as natural wealth and virtue, developing character and cultural pillars. This potential is expected to attract allure when adopted for a craft in the contemporary style jewelry industry. Therefore, it is necessary to conduct an in-depth study to develop the design as a craft product for the jewelry industry in further research to get a contemporary product design that contains the value of national character.

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Gender equality campaign: #ambilpilihanmu on @zoyalover

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ABSTRACT: The development of Muslim fashion branding on Instagram makes competition
between brands intensive. Big brands are starting to create themes that are unique and attractive
to female consumers. This study was conducted to determine the new culture in social media,
Instagram: women empowerment. Muslim Fashion Brand Zoya contributed to the gender equality
campaign by releasing their new collection using #Ambilpilihanmu in their IG account. The research
purpose is to discover new realities of cultural artifacts on social media. Using virtual ethnography,
the researcher uncovers the tangible and intangible artifacts. The value of culture forms includes
interchangeable values, which means social or historical construction that is passed through certain
patterns in various forms, such as symbols, usage, or rules. The results showed: First, how Zoya
built a new fashion brand under the gender empowerment theme. Second, how the tangible and
intangible artifacts motivate and attract their followers to become loyal to their brand.

Keywords: #AmbilPilihanmu, gender equality Muslim fashion, Zoya, virtual ethnography

1 INTRODUCTION

The changes in the world change the way people live lives. In this challenging era, the development
of Muslim fashion branding on Instagram makes competition between brands more intense. Big
brands are starting to create some unique themes to attract female consumers. This Fearless Selec-
tion collection was launched by Zoya in conjunction with the #AmbilPilihanmu campaign. The
launch of the #AmbilPilihanmu campaign was the only campaign that raised concerns about equal
rights between women and men. Zoya's strategic move is a pioneer in the field of Muslim fashion.
#AmbilPilihanmu campaign is carried out in the IG content. Zoya chooses to deliver the message
in the form of photos and short videos. By uploading those messages Zoya grabs the attention of
her followers on Instagram. There are 39 posts related to this campaign. Each post managed to
attract hundreds of likes, so does the short video. The video has been viewed up to 10,000 times
on Instagram. The campaign was first uploaded by Zoya on November 20, 2019, and ended on
March 9, 2020. This popular upload from Zoya's post has 2,262 likes and 123 comments. The post
features images targeting an female audience aged 28–35 and is divided into several slides.

The main reason the researchers chose this theme is because most Muslim people think gender
empowerment and other feminism agenda as inappropriate. The urgency of this research is to prove
that feminism agenda is not a taboo and forbidden way of thinking for Muslim women. As we
can compare with the previous research by Verasatiwi and Wulan (2018), Achmad et al. (2020),
this research showed us another perspective about the power of media users. Media users had the
power to direct the media content. The kind of message they like and the lifestyle they choose. All
collaboration in one flow becomes a trend. This research trying to apply new methods to take a fresh
look at existing ideas of gender empowerment. According to Activity Theory (Juneman 2011), the
main source of explaining the relationship between tangible and intangible artifacts is related to
societal views, myths, and stigma. The emergence of the relationship between subject and object is
mediated through cultural and material artifacts. The relation between artifacts is always situated
in a social context of human practice. The subject relates to a collective community; this relation is

Figure 1.   Post #AmbilPilihanmu Zoya (*Source: IG Zoya, 2021*).

mediated as well as the relationship between subject and object. Activity theory is the main source of explaining the relationship between tangible and intangible artifacts related to societal views, myths, and stigma. The emergence of the relationship between subject and object is mediated through cultural and material artifacts, in this case, devices and instruments. However, this relation is also always situated in a social context of human practice. The subject relates to a collective community; this relation is mediated through the relationship between subject and object.

2   RESEARCH METHODS

Gender can be defined as the formation of behavioral participation in society instilled through a socialization process also related to the gender of women and men. Gender equality refers to a situation where women and men have equal circumstances in the fulfillment of rights as well as obligations. Feminist point-of-view theory makes three main claims: (1) Knowledge arises because there is a social bond, (2) socially marginalized groups seek not to be marginalized by engaging in questions, (3) research, particularly focusing on power relations, should begin with marginalized lives, e.g., the narrative of gender equality.

Virtual ethnography is defined as the study used to find out about phenomena, where the focus is on virtual communities that communicate using the internet as their medium. Hine (Nasrullah 2017: 9) states that virtual ethnography is used with the aim of investigating the internet as well as exploring the user while using the internet. In other words, virtual ethnography is used to open up new realities, which are neither visible to self nor visible to communities incorporated in computer communication media along with other members of the virtual community.

2.1   *Methods of data collecting*

The data collection method used by the researchers is internet-based information retrieval. The primary data were collected by observations on the Instagram post and the most suitable post with the research aim was chosen. The secondary data were obtained from articles, references, and previous research. Primary data were first compiled and sorted. After selecting several posts, we analyzed the data and separated posts based on tangible and intangible areas. Semiotic perspective was used to understand the meaning of the context between posts. 39 posts were chosen and selected as the sample of the research.

3   RESULT AND DISCUSSION

Codes, signs, and visual styles displayed by Zoya's creations #Tambil Choices show that they are modern, simple, and strong. The choice of black, red, and white colors shows a mixture of courage,

Figure 2.   The post from @zoyalover #AmbilPilihanmu (Source: IG Zoya 2021).

masculinity, and simplicity. The hijab dressing used by Muslim women remains the highlight of the Fearless Selection design. Tangible points are also represented through the choice of fonts and post-image designs that are fluid and popular. The edgy and attractive angle of the photo creates a popular and modern effect.

However, the interaction between the subject and the community is mediated not only through cultural artifacts but also through rules and division of labor. Division of labor is the distribution of tasks, powers, and responsibilities that are negotiated on an ongoing basis between participants in the activity system. According to Juneman (2011), activity theory research transformed the processes of interaction between activities creatively by considering socio-historical aspects of other activity systems, both inside and outside the organization. The table below shows how the researchers performed the analysis with regard to tangible and intangible areas on the most suitable post:

From the table we can analyse that the followers assume that the verbal message of the campaign can give encouragement and increase confidence to the women who followed Zoya. In addition, the campaign's message #AmbilPilihanmu also gives women strength; strength in making the choices they make for their lives. They feel the existence of Zoya through the campaign messages they uploaded can support them to live their lives.

In addition to being expressed verbally, the exchange of texts in the comments column of the campaign #AmbilPilihanmu is also expressed through verbal communication represented by symbols or emoticons. After observation on 39 campaign posts #AmbilPilihanmu, there are several emoticons that are often used by followers of @zoyalovers Instagram account.

After analyzing the artifacts the researchers gained several findings:

1. There is interaction between followers @zoyalovers in the comments field of campaign posts #AmbilPilihanmu.
2. There is an interaction function and information transmission function in text exchange activity in the comments field @zoyalovers.
3. There is a rep function and an accentuation function on non-verbal communication performed by followers of Instagram accounts @zoyalovers.
4. There are similarities in meaning that arise between followers who participate in text exchanges in the comments field of the Instagram account @zoyalovers.
5. Campaign message #AmbilPilihanmu raises the issue of stereotypes or labeling in women.

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Table 1. Analysis of tangible and intangible artifacts on @zoyalover campaign #AmbilPilihanmu (Source: analysis of research results, 2021).

Campaign Tagline	Meaning	Appealing Myth
Masak apa Nikah kemudian	These two themes are a form of satire on the demands of society on women. Women must learn to cook and get married.	The myth to be conveyed is that cooking is not a division of labor that is women's territory. All genders must be able to cook food to survive.
Single usia 40	Society has stigma that women over the age of 30 who are not married are considered unsold, have bad behavior, or have a high self-esteem so that it is difficult to find a mate.	The challenge for women in modern life is choosing the right mate. The education gives women better perspective in choosing partner. Zoya want to convey the message about single life, it is how living independently and alone being normal because finding a suitable partner is more important agenda than living in a vicious circle of marriage.
Perut ga selalu rata Tiga anak Cesar semua	The two concepts presented sequentially are related to changes in the shape of the female body. There is a lot of bad stigmas about changes in body shape after giving birth, and this stigma haunts women. For women who gave birth by cesarean, the scar makes them inferior.	Women's self-confidence is not due to having an ideal body shape but the achievements that have been successfully proven by women. This myth seeks to provide the fact that having a healthy body is better than an ideal body like a princess. God gives us different way of life so it will be many differences between women around the world.
Jerawat hilang satu tumbuh seribu	For women, facial and acne problems are also things that often cause low self-esteem.	Modern women can solve the problem. With the ability to make money independently, women can dress themselves better.
Sebenarnya Wanita tercipta untuk apa? Perubahan besar dimulai dari kita	This rhetorical question is answered by the next post. There is a lot of stigmas in Indonesian society that women in the world are only kitchens and mattresses or that their duties are domestic tasks under the control of men.	The myth that wants to be built is that modern women are women who have a vision in their lives, are independent and can live their lives as they wish. Women are not depending on the ancient society's view anymore, when women are controlled by their family and traditional environment. Women become full human with capacity to decide their way of life.

4 CONCLUSION

The #AmbilPilihanmu campaign from Zoya Muslim wears shows that there is a social change effort from women with veils due to the demand in society for women self-empowerment. The veil is not considered a hindrance in the pursuit of modernity and self-actualization. From the appearance of tangible and intangible artifacts, it can be seen that Zoya is targeting the market for young, modern, intelligent, independent women who are able to determine the direction of their lives according to their hopes and goals in life. Women who are not shackled by ancient myths about the relationship between women and men. Religion will be the main guide of life, but modern life will go with religion, too. There will be no more conflict between religion and style of dress for Muslim women.

This research collaborates a new perspective of Activity Theory with virtual ethnography methods. Our recommendation for further research is the creativity to broaden the perspective for ethnography virtual as we live in a new era of digital life.

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Brand identity design development as revitalization effort of Buton woven fabrics

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ABSTRACT: Buton woven fabrics is one of the cultural heritages with various symbolic meanings because of cultural collaboration in the realm of art, which is a reflection of the aesthetic identity of the Buton people, for example the product currently being developed in *Wa Ina* Buton, which does not yet have a strong identity. The purpose of this research is to develop a brand identity design for the local brand *Wa Ina* Buton as an effort to introduce the nature-based learning values (environment), moral values, aesthetic values, and the rules of use that exist in Buton woven fabric. The method used in this research is qualitative, namely descriptive analysis. Data collection method is done through observation, literature study, and documentation. Therefore, this research will determine the development of brand identity of *Wa Ina* Buton, including brand names, brand marks, and taglines.

Keywords: aesthetics, brand identity, Buton woven fabrics, environment, value.

1 INTRODUCTION

Baubau is a city located on Buton Island, Southeast Sulawesi Province. Baubau City has a strategic location. Located in the central region of Indonesia, Baubau City is a connecting area between the west region and east region of Indonesia. Baubau City as a shipping transit route has been in function since the 16th century since the reign of the Sultanate of Buton until now. It has a cultural heritage that is still sustainable. The Wolio Fortress, which is the widest fortress in the world, was built in 1591–1596. The Mosque Palace, *Kasulana Tombi*, as well as the tradition of weaving typical Buton woven fabrics also came into existence during the same time.

Buton woven fabrics (*bia wolio*) is one of the crafts that is thought to have grown and developed in Buton since the era of the kingdom and the sultanate until today (Kudus & Slamet 2020). The history of weaving in the Buton community is estimated to have existed since the 14th century, which can be seen in *kampua*, the type of weaving that became the currency at that time (Slamet 2017).

Buton weaving is made using traditional tools called *gedogan* and ATBM (non-machine looms). The duration for making a piece of Buton woven measuring 60 x 800 cm ranges from 5 days to 1 month depending on the type. Buton woven fabric makes use of natural and chemical dyes. The pattern or motif of the typical Buton woven fabric comes from natural elements found in the surrounding environment.

Buton woven fabric is one of the cultural heritages with various symbolic meanings. Buton people's ability to study nature has a very big influence on sociocultural life. This can be seen from various aspects of the life of the Buton people, which is reflected through activities, nature, and behavior of the people themselves. Weaving is considered capable of being the glue for the

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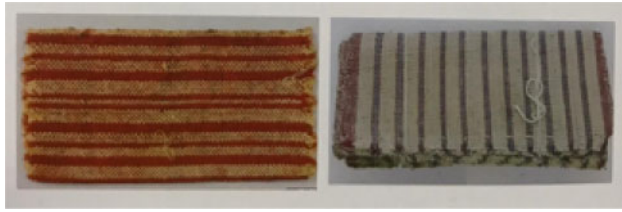
Figure 1.   *Kampua* (Kudus, Imran and Slamet, Agus. 2020).

Figure 2.   Buton weaving with *Ntolu Hole* pattern inspired by fried eggs (left) and *Lumuna Uwe* motif inspired by moss in the water (right) (Author Data, 2021).

Butonese community, because the typical Buton woven fabric is the embodiment of the Butonese in understanding their environment. Learning from nature is a source of inspiration to realize local wisdom. Weaving has been known to the Butonese community for generations. The woven fabric is done with great skill, perseverance, and patience. Generally, activities are carried out by women to meet the clothing needs of the family. Buton's woven fabric does not only function as an aesthetic element but also to show self-identity and social stratification (Arif 2021).

Traditional fabrics, especially Buton woven fabrics are the result of cultural collaboration in the realm of art, which is an aesthetic reflection of the identity of the Butonese community. Art as a cultural system has bound and unified the various differences that exist in Butonese society so as to form a design that is acceptable and has value. In the cultural context, design is used to create a culturally meaningful code or sign by first developing concepts and outlining the details of the culture.

Design is the result of collaboration between humans, nature, and the social environment that was born with the support of various factors, such as science and technology, values, culture, aesthetic principles, economic conditions, politics, and projections of developments that may occur in the future. Design is a tangible manifestation of culture and is a product of values for a certain period of time (Widagdo 2005). Design works not only solve human problems but also contain values that build civilization (Sachari 2006). In connection with the preservation and development of the typical Buton woven fabric, several brands have now developed designs from Buton woven fabrics into several products. One of the brands that developed Buton woven fabrics is *Wa Ina* Buton.

Wa Ina Buton is a local brand that focuses on producing Butons souvenirs, and currently is developing products with the raw material of Buton woven fabric. However, *Wa Ina* Buton does not yet have a strong brand identity to describe its brand. Its logo has a shape similarity to existing logos in general. Therefore, this study aims to develop a brand identity design for the local brand *Wa*

Ina Buton as an effort to introduce the nature-based learning values (environment), moral values, aesthetic values, and the rules of use that exist in Buton woven fabrics widely.

2   RESEARCH METHODS

The method used in this study is qualitative descriptive analysis for developing brand identity of *Wa Ina* Buton as an effort to introduce the nature-based learning values (environment), moral values, aesthetic values, and the rules of use that exist in Buton woven fabric. The theories used in this research are about brand identity and brand equity. The theories were chosen because it could produce a better understanding and interpretation to obtain in-depth final results. Data collection is done in the network (online) through observation, literature study, documentation, and interviews. The process carried out in online observation is to collect visual data and profiles of *Wa Ina* Buton through the Brand's social media. In addition, online observations were also carried out to observe the procedures for using Buton fabric through several brands that produce products using the typical Buton woven fabric, as well as observing the latest statistics regarding the use of Buton fabric. The data obtained are analyzed descriptively after going through the following stages: sorting, classifying, and establishing the relationship between one data category and another.

3   RESULT AND DISCUSSION

In its use, Buton woven fabric is very close with the daily life of the Butonese people. From infancy to death, Buton woven fabric is a must use commodity. There are very detailed rules regarding the use of it.

3.1   *Wa Ina Buton*

Wa Ina Buton has the initial name *Kaos Wa Ina* Buton that refers to t-shirt production. It was changed because the available products were no longer just t-shirts. It is an individually owned business located in Baubau City, Southeast Sulawesi. The production system adopted is make-to-stock and make-to-order, while the offline sales system uses consignment with the *Endapo Shop*, which sells Buton Souvenir in Baubau City. The online sales system used e-commerce, such as Shopee. The full marketing system is done online through Instagram, Facebook, and WhatsApp.

Wa Ina Buton is a local brand from Baubau City that was established in 2012. The products produced focus on various souvenirs from the Baubau area, Buton Island. This small business was founded by three brothers. The name *Wa Ina* Buton has the meanings of *Wa* (an affix for women's names), *Ina* (meaning mother), and Buton as the origin place of the product. *Wa Ina* Buton produces various souvenirs that display the characteristics of Buton Island, ranging from adult and children's t-shirts, hats, tote bags, string bags, waist bags, foldable bags, etc.

The target market of *Wa Ina* Buton is tourists who are interested in souvenirs typical of Buton and the Butonese community throughout Indonesia. In addition to focusing on offline sales aimed at local residents and tourists who come to Baubau City, Southeast Sulawesi, marketing the products of *Wa Ina* Buton also seeks to reach larger market via online marketing, so it would extend to larger market, including the Butonese community who are outside Baubau City.

3.2   *Brand identity design of Wa Ina Buton*

The brand element, also called brand identity, is a set of tradable brands that can identify and differentiate brands (Swasty 2016). According to Wirania Swasty in her book entitled *Branding Memahami dan Merancang Strategi Merek*, several criteria must be considered when determining brand elements, such as name, logo, tagline, and others. The elements that must be considered are that the brand must be memorable, meaningful, likable, transferable, adaptable, and protectable.

In addition to the logo, another brand element is the tagline. A slogan or tagline is a short sentence or phrase that describes the product/service of a brand. A tagline is a short phrase that captures a company's core, personality, and positioning, which sets it apart from its competitors (Swasty 2016).

There are several aspects that need to be considered in creating a brand identity, including the brand's vision and goals, brand differentiators, things that need to be fulfilled from a brand, the nature of the brand, the values contained in a brand, areas of competence, and marks that makes the brand recognizable. In this research, *Wa Ina* Buton as one of the pioneers of typical Buton souvenirs will implement a differentiation strategy with a wider variety of products and ways to acquire goods when compared to other brands.

In developing *Wa Ina* Buton's brand identity, there are five stages of the process of building a brand identity, according to Wheller, Alina 2019 in the book Wirania Swasty entitled *Branding Memahami dan Merancang Strategi Merek*, namely conducting research, clarifying brand strategy, designing identity, creating touch points, and managing assets.

The brand name will still use *Wa Ina* Buton, because *Wa Ina* Buton has been capable of reaching certain target markets, ranging from teenagers to adults, especially the Butonese community, both those who live in Southeast Sulawesi Province and those who are studying or working outside the region. The brand mark or logo design will be developed from the old design whose shape is still very generic, adapted to design principles, including simplification of lines so that the resulting logo will seem modern and easy to apply to the product later. Create a tagline to introduce the values that are embraced. The tagline that will be used is "*Buton, Culture, Products*". With this tagline, it describes the values held by *Wa Ina* Buton. *Wa Ina* Buton logo's before and after design for brand identity can be seen in Figure 1.
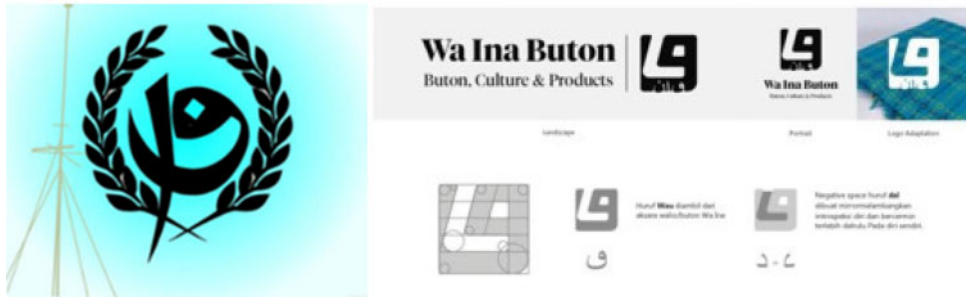
Figure 3.   Old *Wa Ina* Buton logo (left) and new *Wa Ina* Buton logo (right) (Author Data, 2021).

To be easily remembered by consumers, *Wa Ina* Buton needs to continue to be creative to produce innovative products, as well as services that are more comfortable when compared to similar manufacturers. One of the things that can be done is making it available on many platforms, thus supporting the ease of obtaining products. On average, souvenir products in the Baubau City are still sold directly through offline stores. The typical Buton product variants produced by *Wa Ina* Buton are more diverse than similar brands. If similar brands only produce t-shirts and tote bags, *Wa Ina* Buton offers more diverse variants, not only t-shirts, but also more diverse types of bags such as waist bags, foldable bags, leather tote bags, canvas tote bags, and hats.

3.3   *Building Brand Equity of Wa Ina Buton*

In building brand equity, *Wa Ina* must assure that every product must always be in line with its vision and mission, that is the product of Buton culture. This value must continue to be communicated to consumers through offline and online marketing media in more attractive way so that consumers feel engage to them, for example making daily content that contains fun fact about Buton woven fabrics with certain hashtags in all over *Wa Ina* Buton social media.

Not only in the form of an introduction to marketing, the consistency of the quality of the product must also be considered so that it is embedded in the minds of consumers. Changing the product name from *Kaos Wa Ina* Buton to *Wa Ina* Buton is one of the right steps to make the brand easier to remember and pronounce by consumers. The simpler logo design also aims to form a more recognizable identity.

4 CONCLUSION

The development of brand identity design carried out at *Wa Ina* Buton uses the principles of forming a good brand, from defining brand identity to building its brand equity. Development process is carried out by not eliminating existing values, but complementing them. With this development, *Wa Ina* Buton will have a stronger identity. In addition, the new brand identity of *Wa Ina* Buton is expected to be more effective in increasing public knowledge by using all the platforms to explain the Buton culture, such as telling fun facts about the motifs on Buton woven fabrics, the values contained, and the rules of use as revitalization effort of Buton woven fabrics.

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Reviewing mobile apps for Sundanese folktale

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ABSTRACT: The growing use of smartphones today can revitalize Sundanese culture by digitizing Sundanese folktale into mobile apps. This study provides an overview of mobile educational apps for children with Sundanese folktale content in Indonesia. This research was conducted by observing various educational mobile apps for children with Sundanese folktale content on smartphones using the Android operating system. Evaluation is carried out using content analysis to provide an overview of ratings, types of multimedia, and the implementation of multimedia learning principles on the mobile apps. Out of the 254 mobile apps for children's education with Nusantara culture, 74 mobile apps are integrated with Sundanese folktale. A total of 83 mobile apps use the interactive multimedia type and 171 mobile apps use the static multimedia type. A total of 27 mobile apps have applied to multimedia learning principles. Kisah Kasarung Lutung mobile app created by Educa Studio has the highest rating with a score of 4.4 and has been downloaded as many as 10,000 times. The result shows a correlation between ratings and the implementation of multimedia learning principles on mobile apps.

Keywords: mobile apps, folktale, Sundanese

1   INTRODUCTION

The development of information technology is in line with the increasing public need for smartphone applications. Technology, quickly and massively, provides significant changes to the current human lifestyle, one of which is mobile applications (mobile apps) in portable devices, such as smartphones and tablets, especially those based on Android operating system. Users usually use applications based on their needs to support activities with the help of information technology (Eden & Gretzel 2012). Mobile apps are divided into various categories of users' basic needs, such as entertainment, productivity, news, and education. In Indonesia, education-based mobile apps still have limited interactivity, especially those that contain local culture. This limitation is evidenced by, unfortunately, considering the lack of information technology in presenting information as well as making it accessible (Nazruddin 2012). Mobile or smartphone applications feature touch screen interactions between users and devices that can motivate them to learn (Amirulloh & Susilo 2018).

Based on interactivity, multimedia is divided into two—non-interactive multimedia and interactive multimedia. Non-interactive multimedia has had limitations on user control in the flow of information. Information is presented sequentially without allowing users to choose the options they want; non-interactive multimedia can be given as films, animations, and TV commercials. Another form is interactive multimedia, which allows users to have complete control of the flow of information. Interactive multimedia is divided into four based on the level of user involvement in it: The first one is, basic interactivity, that only involves the user input and response, such as selecting menu interactions and pressing buttons on the screen. The second one, is, hypermedia; a more advanced form of interactive media. The media already has a better structure in presenting information and can be adapted to user psychological relationships connected by hyperlinks between the media in it, such as images and text, animation, or video. The third, is adaptive interactivity, a more advanced form of activity that is organized based on user needs or interests. Adaptive interactivity

involves Artificial Intelligence (AI) in the information structure of the media. Usually, this media can be used in applications that involve the user in making decisions and choosing what is most important to them. The fourth is immersive interactivity, where users are more involved in a virtual world created to make users feel more engaged in the information they receive; usually, immersive interactivity is applied to video games and virtual reality-based applications.

The development of multimedia and interactivity continues to grow in line with the development of information technology. Interactive multimedia is more likely to be of interest to users because it has the attractiveness and completeness of its constituent elements. Therefore, it is very effectively used as a learning multimedia (Savage & Vogel 2009).

Multimedia learning can be defined as a form of instruction with computer aids that simultaneously uses two modalities, such as visuals (images, videos, text) and audio (music, narration). Visual elements such as images are much more effective for learning than text alone, so the best way to maximize learning, understanding is designed in the form of multimedia learning principles (Schnotz 2008). In its implementation, learning through multimedia methods increases the effectiveness of the absorption of knowledge (Ainsworth 2008).

The content of local culture in educational applications can be an effort to revitalize and preserve the culture itself. Sundanese culture is often appointed as educational application content, but it still has limitations in its interactivity. Interactivity is considered important because the application and the user will have a relationship with each other since the user starts using the application. In the case of educational applications, it can be called multimedia learning (Munir 2012).

This study aims to provide an overview of mobile educational apps for children with Sundanese folktale content currently available in Indonesia and analyze the digitization of Sundanese folktale through mobile apps today.

2 RESEARCH METHODS

The research method used is descriptive qualitative method. Qualitative data were obtained by direct observation of 254 educational applications that have cultural content, especially Sundanese culture, and collecting library data relevant to the object of research (Creswell 2016). The data is then analyzed with Meyer's 12 principles of multimedia learning, namely: Coherence Principle, Signaling Principle, Redundancy Principle, Spatial Proximity Principle, Temporal Proximity Principle, Segmentation Principle, Pre-training Principle, Modality Principle, Multimedia Principle, Personalization Principle, Sound Principle, Principle Picture (Mayer 2020). After data collection, content analysis is carried out; the principles of multimedia learning should be viewed as instructional methods whose primary goal is to foster meaningful understanding. An instructional method is a way of presenting a lesson (Sorden 2005).

3 RESULT AND DISCUSSION

From a total of 254 mobile apps for children's education with Indonesia folktale, there are 74 mobile apps with Sundanese folktale. A total of 83 mobile apps use the interactive multimedia type and 171 mobile apps use the static multimedia type. A total of 27 mobile apps have applied multimedia learning principles. Kisah Kasarung Lutung mobile app created by Educa Studio has the highest rating with a score of 4.4 and has been downloaded as many as 10,000 times. This result shows a correlation between ratings and the implementation of multimedia learning principles on mobile apps.

The following is an analysis of the implementation of Meyer's 12 multimedia principles on Lutung Kasarung educational mobile apps that apply interactive multimedia. The analytical data are presented based on a series of inner views of the mobile apps, which contain the content visually. The presentation of audio content will be described through a description based on observations from each display of the Educa Lutung Kasarung mobile apps in Figure 2.
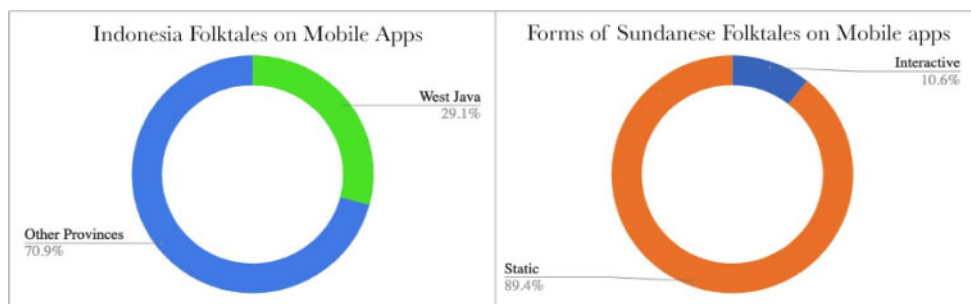
Figure 1.   Sundanese folktales on mobile apps.
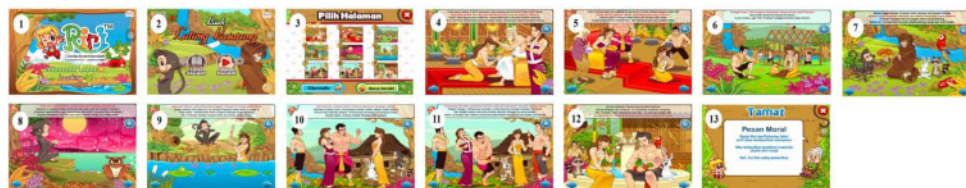
Figure 2.   Lutung Kasarung's mobile apps display.

The results of the observations were analyzed based on the implementation of Meyer's 12 principles of multimedia learning as follows:

Table 1.   Implementation of 12 principles multimedia mayers.

No	Principle	Implementation
1	Coherence Principle.	Multimedia elements include visual (images, text) and audio (music, narration) that are interconnected
2	Signaling Principle	Information, hints are applied to visualize through icons, text, and interactions
3	Redundancy Principle	Providing narration and reading options, narration features the narrator's voice telling the story along with pictures and reading options is presented with text and images
4	Spatial Contiguity Principle	Multimedia elements and text containing information are displayed in close proximity to keep them relevant
5	Temporal Contiguity Principle	Relevant narration, visual and audio sequences are displayed at the same time
6	Segmenting Principle	Content is optionally served via page share and can be controlled by the user
7	Pre-training Principle	Has instructions for learning stages based on user wishes
8	Modality Principle	More information is presented with visual and audio presentations than with text. Text is only used as a description that describes a particular object
9	Multimedia Principle	Each display on mobile apps has multimedia content that is interconnected between visuals, sounds, and interactions
10	Personalization Principle	Content is presented with simple visuals and audio, but still representative
11	Voice Principle	The narration is delivered with the original human voice created through the sound recording process
12	Image Principle	The mobile app does not present a visual narrator in human form. It's just a supporting visual

4 CONCLUSION

Of the 254 educational mobile apps that apply Indonesian folktale content, most of them still use the static concept; this is very unfortunate because it does not maximize the potential of multimedia learning to provide educational information. A small number of mobile apps that have applied the principles of mobile learning can be a good sample in packaging educational content into the digital realm. The Lutung Kasarung mobile app created by Educa Studio is an application that presents interactive content of Sundanese folktale with 12 principles of multimedia learning. The result shows that applying the principle of multimedia learning in an educational mobile app can provide information that is well received by users so that the educational mobile apps that have been created have use value.

More in-depth research is needed to analyze the implications of using mobile apps in conveying the moral values contained in Sundanese folktale.

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Visual concept analysis of educational games to introduce *Jamu* to children aged 6–12 years old

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ABSTRACT: *Jamu* is one of most important cultural heritages in Indonesia. The idea of using *jamu* is to keep a healthy body, have good stamina, or be used as an alternative medication. The cultural heritage interpretation of *jamu* shows a great potency to be developed and revitalized as a product with industrial design value. In this research, the theory about visual perception will be used. This research aims to analyze comparison from visual concept design of existing educational mobile game for children aged 6–12 years old. This research uses qualitative method with interpretative visuals that discuss the aesthetics of a product. The data collection is done through observation, literature study, documentation, and in-depth interviews. The final result of this research is criteria of visual concept design based on design principal as primary aspects to develop an educational mobile game to introduce *jamu* to children aged 6–12 years old in further research.

Keywords: culture, educational game, heritage, *jamu*, visual perception

1 INTRODUCTION

Indonesia is a country rich in various cultures, beliefs, customs, and traditions. There are so many cultural heritages of the archipelago, both tangible and intangible. One of the cultural heritages of the archipelago is *jamu*. The word *jamu* is believed to come from the words *jampi* and *oesodo/usada*, which have the meaning of healing and health. In the context of developing and revitalizing Indonesian culture, *jamu* has the potential to be developed into a design that has industrial value. This is of course done considering various aspects. The development and utilization of *jamu* needs to be analyzed continuously by experts in related fields because, even though it has minimal side effects, *jamu* must still be used in moderation and according to its designation.

The development of digital media is currently more advanced and used by many people to carry out various activities. The use of smartphones today does not only reach adults, but children also use them with certain screen time limits that the American Academic of Pediatrics has recommended for every age level. Of course, the use of smartphones in children must be along with parental assistance to introduce certain concepts or improve certain of children's abilities. One of the media that can be used to facilitate children's needs is through educational games. Educational games are often utilized in the learning process. Educational games are an idea that makes use of entertainment in the learning process (Prensky in Saputro 2017).

Therefore, concerning the potential in *jamu* and paying attention to the current phenomenon of smartphone use, this study analyzes the visual concept of educational games to introduce *jamu* to children aged 6–12 years by comparing the visual elements of similar games that already exist, at the moment. This is intended to analyze user needs so that criteria can be obtained that can be implemented in the design of educational games to introduce *jamu* for children aged 6–12 years, where introducing *jamu* from an early age starting from elementary school age children is one of the efforts to revitalize traditions that can be done. The introduction of media designed in the

form of mobile games, of course, must be closely related to children's daily lives, especially in the current pandemic era.

2 RESEARCH METHOD

This study uses a qualitative method with interpretative visuals that discuss the visual aesthetics of a product. This research analyzes visual concepts experienced by the research subjects, such as perceptions, motivations, actions, which are carried out by the research subjects holistically. Data were collected through observation, literature study, documentation, and in-depth interviews. Observations were carried out by not participating directly, considering the COVID-19 pandemic, but were made via the internet. Literature data is obtained from scientific journals, trusted websites, books, and so on. In this study, the authors sort out data related to the analysis of visual concepts of educational games to introduce *jamu* to children aged 6–12 years.

3 RESULT AND DISCUSSION

This research begins by analyzing user needs for visual concepts in educational games that aimed to introduce *jamu* through interviews with parents who have children aged 6–12 years old. After that, it was continued with data and material collection and then we analyzed and produced visual concepts that could be used as the basis or design characteristics in the educational game design process in further research.

3.1 *Visual perception*

In perceptual psychology, visual perception is the ability to translate what has been seen by the eye, namely the entry of light into the eye's retina (Iskandar 2011). Perception is a psychological process proven through human perception to obtain information about the characteristics of the world around it. This activity is related to patterns of objects around it that involve light, eyes, place, and motion (Eymeren 2014). In this research, the formation of visual perception is essential to understanding the target user's characteristics, support effective visual communication in educational games, and facilitate visual decision-making process.

3.2 *Comparative design analysis on similar products*

A comparative analysis of similar educational games that discussed the theme of Indonesian culture was conducted in this research. The analysis is carried out by referring to general design principles integrated into the principles that must exist in an educational game. Several principles must be considered so that the resulting educational games can be used optimally. The principles are the principle of form, the principle of color, the principle of benefit, and necessity (Purnama et al. 2019). The implementation of these principles will shape the visual perception of the target user.

In this research, three types of educational games are analyzed for visual concepts. The first is "Pakaian dan Rumah Adat Nusantara", which introduces traditional clothing and traditional houses in all provinces in Indonesia. The second is "Budaya Nusantara", which is designed to learn and introduce Indonesian culture for children. In this game, children can learn about the culture of the archipelago, such as regional dances, traditional musical instruments, regional clothes, traditional houses, regional foods. The third is "Next Door Land". This game not only aims to introduce the culture of the archipelago, but also to learn about foreign cultures, especially Australia. And it is hoped that in the future many Indonesians will visit Australia, and vice versa. Good relations between the two countries can also be strengthened by the presence of games with content like this. Illustration of the initial appearance of each game can be seen in Figure 1.

Figure 1. Initial appearance of "Pakaian & Rumah Adat Nusantara" (left), "Budaya Nusantara (center), and "Next Door Land" (right).

Table 1. Comparative design analysis on similar products.

Design Principal	Game #1 "Pakaian & Rumah Adat Nusantara"	Game #2 "Marbel Budaya Nusantara"	Game #3 "Next Door Land"
Balance	The position of the characters is on the right side and slightly to the back with a rather small size, so it is somehow unrecognizable.	Placement of the character at the center and large enough to be noticed at the first sight.	Placement of various characters in the game side by side.
Emphasis	The composition in this game does not show what should be highlighted.	This game has likely good composition, the main character is made in a fairly large size.	The composition of the size and shape of each character is consistent.
Unity	The color of titles in this game is so contrast and seems as a stand-alone and appears less united with other illustrations.	The combination of background color selection, writing, and the main character is quite comfortable to see.	The various colors in this game blend quite well.
Illustration Quality	Kualitas ilustrasi cukup baik, namun desain judul kurang dapat dikenali artinya.	The tidiness and quality of the illustrations is good.	The tidiness and quality of the illustrations is good.
Content	The content is in accordance with the purpose of the game, namely the introduction of traditional clothes and houses of the archipelago.	Content created in accordance with the objectives to be achieved, namely introducing the various cultures of the archipelago.	The content is quite interesting, because not only discuss about the culture of the archipelago but also talks about foreign cultures.
Operational	The sign system should be contrasted.	There are parts that need to be sharpened.	Sign system and color is good enough.

Based on the results of a comparative analysis of several design aspects of similar educational games aimed at children in the age range of 6–12 years, it can be seen that the majority of the functions of the three educational games are to introduce Indonesian culture in a very interesting and fun way. From the comparative above, we can identify the strengths and weaknesses of each product that can be seen in Table 2.

Based on the strengths and weaknesses of three similar products, it can be seen that each education game has its own characteristics, the most important of which is an attractive illustration style that is adapted to the target user and current trends. The composition of the design can be said to be balanced if the objects on the left and right seem equal in weight. One approach to creating balance

Table 2. Strengths and weaknesses of similar products.

	Game #1 "Pakaian & Rumah Adat Nusantara"	Game #2 "Marbel Budaya Nusantara"	Game #3 "Next Door Land"
Strength	This game is unique, because it is intended to introduce the home and traditional clothing of the archipelago.	Interesting colors have animal supporting characters that have their own charm, aims to introduce regional dances, regional foods.	This game has interesting colors, uses English, and not only introduces the culture of the archipelago, but also exchanges with foreign cultures. This game aims to strengthen diplomatic relations between Indonesia and Australia.
Weakness	The colors used are quite contrasting, and there is no outline in the title, making it difficult to read.	Character expression is too monotonous.	It is not using Indonesian.

is to divide the left-right or top-down symmetrically or equally, which is commonly known as formal balance (Supriyono 2010: 87).

The information that is considered the most important to convey must be highlighted prominently through strong visual elements. Emphasizing or highlighting objects can be done in several ways, such as by using striking colors, making the size of the photo/illustration the largest, large size, placing it in a position that is easily visible and made different or contrasting with other elements. Information that is considered the most important must first grab the attention of readers or product users (Supriyono 2010: 89). In visual communication design, this is called a focal point. In addition, one of the important things to pay attention to is color selection. The use of inappropriate colors can damage the image and readability value (Supriyono 2010).

The design is said to be unified if the overall design looks harmonious, there is unity between typography, illustrations, colors, and other design elements. Unity can be done in the following ways (Supriyono 2010: 97):

1. Repeats the same color, plane, line, grid, or element on each component.
2. Uniform fonts for titles, body copy, and components.
3. Using visual elements that have the same color, theme, or shape.
4. Use one or two fonts with variations in size and style (bold, italic, and so on).

4 FINDINGS

Indonesian culture can be preserved by using it properly and correctly. Today's society must be adaptive and make adjustments in various aspects of life by avoiding direct contact with other people and diverting various activities digitally. The condition of the COVID-19 pandemic is far from ideal for human relations in a humanistic manner because it can minimize direct interactions between individuals. However, this condition can increase the occurrence of human interactions with objects in everyday life. On the other hand, the transition to digital media offers various conveniences for its users. To support various activities, smartphones are currently used for many activities, including school-age children for learning.

Conditions like these can be used to introduce various Indonesian cultures, including herbal medicine, which is one of the cultural heritages with several benefits; however, this still needs to be

accompanied by education on how to use it and the right amount. In addition, the introduction of herbal medicine as Indonesian cultural heritage can be started since school-age children, because at that age children have begun to understand and are willing to obey the rules of the game.

5 CONCLUSIONS

Based on the results of the analysis, it can be seen that several aspects of the visual concept that can be used as criteria in the process of designing educational games to introduce herbal medicine to children aged 6–12 years include those that have an attractive illustration style that is adapted to the target user and current trends, the composition balanced. In addition, the information that is considered the most important to convey must be highlighted through strong visual elements and create unity between each element by paying attention to the use of color, font selection, shape, etc.

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Optimization of *Lurik* woven fabric for semi formal suit with zero-waste fashion design method

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ABSTRACT: Semi-formal suit clothing is a type of fashion that aims to support the appearance of someone with a more functional value that can be worn at formal and informal events. Semiformal suit clothing has more varied designs, motifs, and colors. In Indonesia, more traditional woven fabrics such as *Lurik* are used to make ready-to-wear clothes including semi-formal suits. In the past, *Lurik* fabric was used to make traditional suits, or *beskap*, and kebaya for *abdi dalem* of Kraton Yogyakarya. Some *Lurik* craftsmen are still using traditional methods in weaving, resulting in fixed dimensions for each fabric. However, there is a significant amount of *Lurik* fabric wastage from the cutting process that can be avoided to optimize the use of fabric. Based on these conditions, it is necessary to create a semi-formal suit with *Lurik* woven materials that can minimize the fabric waste by combining basic patterns with zero-waste fashion methods.

Keywords: Fashion, *Lurik*, Suit, Zero-Waste

1 INTRODUCTION

Semi-formal suits currently have more varied and attractive designs, motifs, fabrics, and colors. Based on the results of exploration, the waste generated from the manufacturing of suits using the basic pattern method of suits and motifs is greater than that of plain cloth in general. All because of the laying of patterns that must match the motif lines to connect the motifs, so that a lot of waste is left. In contrast to formal suits, which generally use plain cloth, the author uses striated woven fabric as the main material for the use of suits. The soft texture and lyrical line motifs that show authority provide comfort and firmness to the wearer but do not give the impression of being stiff.

Based on the results of interviews with craftsmen of *Lurik*, Prasaja, Central Java, it was explained that, in 2012, the State Palace had determined the use of *Lurik* cloth as work clothes. Meanwhile, in Central Java, it is stipulated that the use of woven *Lurik* cloth as a work dress material must be worn by all Central Java government employees from 1983 to 2019. This creates an opportunity to use *Lurik* woven fabrics as work clothes for semi-formal suits and of course with techniques that have a positive impact on the environment by not leaving a lot of waste.

The fashion industry currently has a higher percentage of waste compared to other industries. The high production rate in the fashion sector has left a lot of waste that harms the environment. To reduce the accumulation of waste, a method can be applied in the fashion production process, namely the zero-waste method. Zero-waste is an effective waste management method that employs the maximum possible use of materials or fabrics from the start of production to the end.

Based on the phenomena and explanations above, it is necessary to create a semi-formal suit fashion with innovative designs and motifs of woven striated fabrics to minimize fabric waste produced by the combination method of the basic suit pattern with the zero-waste fashion method to maximize the utilization of the fabric field in the production process. So that it can have a positive impact on the environment and also introduce the existence of *Lurik* woven fabrics as a local culture for career-oriented women in offices. The limitation of the problem studied here is how to maximize the use of the fabric in the manufacture of women's suits made from striated

woven fabrics and natural twill fabrics by applying a combination techniques of zero-waste fashion methods with the basic pattern of women's suits (Nikmah 2020).

1.1 Women's suit

Judging from people's lives, clothing is used to provide an overview of the socio-economic level, as well as to show dress culture in each environment/country. With changing times, clothing apart from being a body covering material also has wider use, namely as support in dressing to make one look more attractive and exhibit the activities that are being carried out by the wearer. One of them is the type of suit dress, which is used as a support in dressing for activities in the world of work or other official events. In the early 2000s, the term suit took on a much broader meaning. Suits are not only related to formal styles. In this day and age, suits can be worn for formal events or more casual activities. Nowadays many women wear suits, not only as work uniforms but also in the form of a casual appearance.

1.2 Zero-waste in fashion

The zero-waste technique is used to minimize the accumulation of waste in the fashion industry, by utilizing production materials from the beginning of the fashion-making process with a maximum remaining waste of 15% of production materials (McQuillan & Rissanen 2020). Fabric waste in the fashion industry is an economic problem. The emergence of zero-waste in fashion after 2008 made many people think that zero-waste fashion design is a new phenomenon.
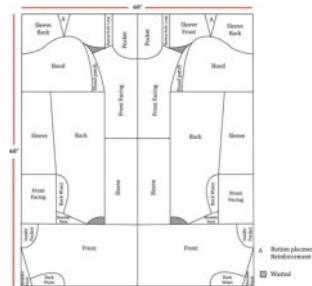
Figure 1.   Puzzle method by Zandra Rhodes.

The first clothes worn were animal skins which were used as body coverings and were commonly worn by Indians in North America. Over time, woven fabrics became known with the development of materials. Himation, chiton, and peplos from ancient Greece are long, uncut cloth garments that cover the body.

One of the zero-waste approaches in pattern-making is the puzzle technique. The zero-waste puzzle technique is a pattern technique that uses a flat pattern-making placement system on the fabric to maximize the use of the materials used and utilize the remaining space as an additional/developmental pattern. One of them is the Zandra Rodhes pattern (1979) which is made by composing the basic pattern of utilizing the empty parts of the fabric for complementary parts.

1.3 Lurik cloth

People's attention to clothes/clothing has existed for a long time, even parallel to culture in abstract material elements such as tools, agricultural tools, transport, organizational systems, and economic systems. Since then, the ancients have been doing weaving work, which means that the technology of making textiles has been carried out since four thousand years ago. Gradually, the technology of making textiles or clothing fabrics began to develop. Textile technology that is already quite

developed produces a variety of clothing material products that vary in type and size the nature of the fabric, color, pattern, or fabric motif. One of them is the type of woven fabric traditionally striated.

According to Asti Musman (2015) in his book: "*Lurik*, Enchantment, Variety, and Philosophy (2015:11), explained that *Lurik* is a woven fabric with a line motif. Say *Lurik* comes from the ancient Javanese language, namely *"lorek"* which means a line, line, or striped, and can also be interpreted as a pattern. *Lurik* is a sheet of cloth woven with a non-machine loom (ATBM) or a simpler loom, namely the *gedhog* weaving. From this definition, it can be concluded that *Lurik* woven fabric is a fabric obtained through the weaving process with Non-Weaving Tools Machine (ATBM) starting from a thread (*lawe*) which is processed in such a way into a piece of cotton cloth based on the motifs that have been prepared.

2 RESEARCH METHODS

2.1 *Methods of data collecting*

The research method used is the collection of secondary and primary data. Primary data were obtained by observing and interviewing two *Lurik* woven fabric craftsmen, namely Kurnia Lurik Yogyakarta and Prasaja Lurik Klaten, Central Java, to find out the meaning, types, manufacturing processes, and technical innovations in making *Lurik* woven fabrics. In addition, observations and interviews regarding the manufacture of women's suits are conducted at one of the places for the Mutiara Fashion Class Bandung design and sewing course. Secondary data collection was carried out by extracting the data from books, journals, and thesis reports that discuss the meaning and history of *Lurik*, its types, making basic patterns of suit clothing with various methods, understanding and classification of zero-waste fashion, and also other data related to the research conducted.

2.2 *Exploration of patterns and analysis*

Zero-waste fashion is an approach and strategy to reduce textile waste. The fashion industry accounts for a higher percentage, as compared to other industries. The high production rate in the fashion sector leaves a lot of waste that harms the environment. Zero-waste is effective waste management which involves the maximum possible use of materials from the beginning of production to the end and the waste generated is less than 15% of the total production materials. There are four stages of the experiment with a basic pattern making method for women's suit and a pattern manipulation to optimize the use of *Lurik* cloth. The pattern manipulation is done with a zero-waste method, resulting fabric wastage lower than 15%. Below are the exploration stages:

1. Zero-waste Basic Exploration
   In the initial exploration stage, the author makes some basic explorations of several types of zero-waste methods so that the author zero-waste is aware of zero-waste fashion.
2. Basic Exploration of Suit Patterns
   Exploration of the basic pattern of suits from four systems is used with the aim that the author knows what type of pattern system is good and comfortable for wearing if manufactured with zero-waste pattern techniques
3. Advanced Exploration
   This advanced exploration is used to maximize the use of fabrics in the production process.
4. Selected Exploration
   Based on some of the exploration results above, several selected explorations will be developed to produce a product that is more attractive and has higher aesthetic value.

3   RESULT AND DISCUSSION

Based on the results of the initial experiment, there is a selected technique used in the manufacture of the final product, namely a combination of the basic pattern technique of suit clothing with a zero-waste puzzle method.

Figure 2.   Zero-waste puzzle exploration.

In the pattern-making exploration of the final design, the waste generated is seven percent of the total materials used, which is below the maximum waste requirement for a zero-waste garment of fifteen percent.

Figure 3.   Caption of a typical figure. Flat drawing.

The application of combination techniques and the addition of this craft technique has provided innovations in semi-formal suits, with the following results:

1. The combination technique of the basic suit pattern and the zero-waste puzzle in the manufacture of a suit with this motif produces waste of less than 15%.
2. The webbing technique on this suit provides a little space for the wearer, with a special inner woven technique made without lining.
3. This suit can be worn in formal and non-formal events, based on the parts of the suit that are still applied as the main character of the suit.
4. Making *Lurik* woven fabric is an innovation as fabric motifs are used based on their application in designing work clothes.

Figure 4.   Suit prototype.

4   CONCLUSION

Based on research that has been done using literature study, observation, interviews, and exploration methods, the conclusions are:

1. Efforts to minimize fabric waste in the manufacture of suits in this study used the method of making the basic pattern of suit clothes with the zero-waste puzzle method, which has produced a final product that leaves 7% and 8.7% of the total production material. Thus, the total waste generated is much less as compared to the manufacture of suits with the basic pattern in general.
2. In making this suit, the author uses a type of woven *lurik udan liris* with a width of 110 cm with a combination of Tencel mid-weight twill (natural fabric) with a length of 40 cm as additional material for exploring the elements of woven crafts. Based on the purpose of the application of the woven technique in suit clothing, this technique provides space for the wearer. Such that the final suit made is similar to a semi-formal suit, which gives the impression of being relaxed and comfortable, based on the innovation of the fabric motifs and the craft techniques used.

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Multicultural character design for *Tjap Go Meh* animation in introducing cultural diversity

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ABSTRACT: Cultural diversity in Indonesia is inseparable from the process of acculturation and assimilation of foreigners who have entered the archipelago for centuries. The acculturation of Indonesian culture with Chinese culture has produced many cultural artifacts, including stage arts, music, batik, architecture, and culinary delights. However, the traces of this cultural fusion are not widely known today, both from the local natives and the Chinese descents community in Indonesia itself. This is due to the strong influence of the New Order regime and the development of identity politics in recent geopolitical developments. This research aims to provide education to the younger generation for both, Local Natives and Chinese descents communities through short animations. By using qualitative methods supported by design theory, adaptation, and ethno identity, a short animation is created. This short animation depicts how in a bowl of *Lontong Tjap Go Meh* dish; the younger generation can find the meaning of unity in diversity. It is hoped that by designing characters that are close to our daily lives, the target audience of this short animation will understand the identity of the meaning to be an Indonesian as a nation that has a wealth of cultures and beliefs.

Keywords: animation, character designs, cultural identity, *tjap go meh*

1 INTRODUCTION

As revealed in previous research, the Cap Go Meh celebration in Indonesia has a multicultural understanding between the natives and the *Chinese Peranakan* (The terms for Chinese Descents). The acculturation produces a new form of culture, both from artifacts and understanding values in the culture itself. In previous research, the researchers and creative teams wanted to make a feature animation that delivered the educational message about tolerance and mutual respect values in *the Chinese Peranakan* famous dish, Lontong Cap Go Meh. Cap Go Meh itself refers to celebrating the 15th day after Lunar New Year in Chinese Traditions. Initially, the Chinese people (according to Han's custom) held a family gathering and ate the sticky rice balls with pork soup. But after Ming's expedition to Java, the Chinese served it with Chicken Curry called *Opor Ayam* to respect the Muslims in Java (Bromokusumo 2013).

The main idea is to narrate that we live in unity in diversity just like Lontong Cap Go Meh which has many components to make a tasteful dish, but the values and the philosophy are more complicated because it is also shared with the philosophy of Ketupat Lebaran which is introduced by Sunan Kalijaga, one of nine apostles / Wali Songo; who was believed to be a Chinese descent (Qurtuby 2003; Setiono 2003).

The problem is that this featured animation will air on an online platform with 15–20 minutes' duration and it would be challenging to bring the narrations to the context. Therefore, the research and the creative team uses the characters to deliver the messages through their appearance.

2 RESEARCH METHODS

Because the research is still related to the previous one, it uses qualitative research. It focuses on visual methodology research, which studies everything visually seen and made by human beings, such as artworks and constructions. Those things were created by human beings with messages that could be interpreted (Soewardikoen 2019). The data analysis that will be used is by using cultural studies analysis, namely by examining a problem from a cultural point of view and relating it to animation design. Qualitative methodology accompanied by the deepening of cultural adaptation and anthropology is also the primary method in this research. The depiction of this cultural adaptation process will be depicted in the characters created.

2.1 *Methods of data collection*

Data collection for this research will use three models such as Observation, Interviews, and Literacy Studies (Suharsimi Arikunto 2013). 1.) Observation, the research will observe some objects as visual references related to Tjap Go Meh festivals in Java, especially in Semarang; 2.) Interviews, the research will interview some expertise and some Chinese descendants to get primary data on their origin and knowledge about the history of the Tjap Go Meh in Indonesia. But during the pandemic, these steps are still pending until today, and 3.) Literature Studies, Literature studies are important, for gaining visual references, both to get references about everything related to the origin and also documentation about Tjap Go Meh in Java. Visual references in this study are not only in the form of photographic recording data but also the work of several character designs and settings from several comics and animations as mood boards and references.

The process of the using this method is depicted in Figure 1
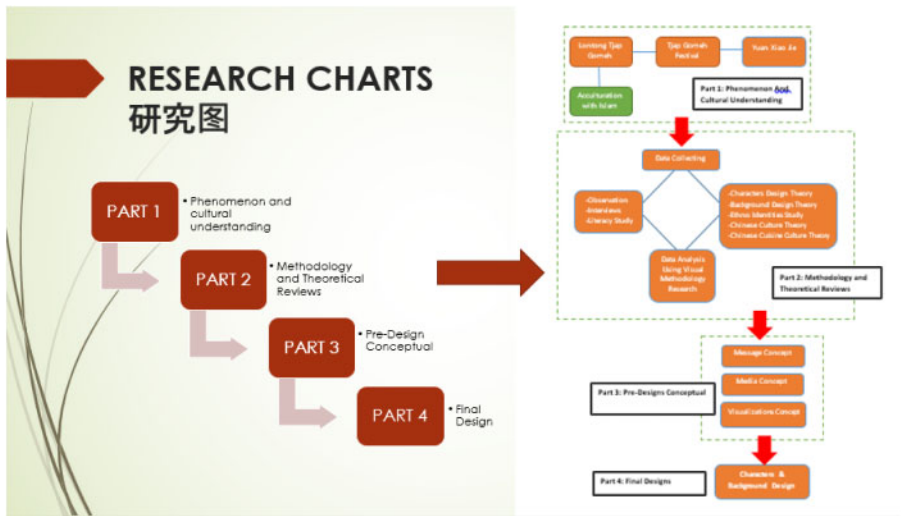
Figure 1. The research methodology flowchart.

3 RESULT AND DISCUSSION

In previous studies, understanding philosophy was related to the meaning contained in the culinary presentation. In this study, the research and creative teams present the philosophy implied in the character designs created for this short animation project. The cultural values and tolerance values that become the narrative in this short animation project are depicted in the character designs. The character designs in this project adapt the shapes and forms of everyday people, especially those from Chinese half-blood families on the island of Java.

One of the reasons why acculturation in Java is the focus of this research is because it is closely related to the entry of Islam in Java. Admiral Cheng Ho's (Zhang He) shipping expedition during the Ming Dynasty brought many new cultures to the coast of Java. Relics from this expedition with a peace mission can still be found around Semarang. The historical heritage is not only in the form of the Sam Poo Kong temple, but several mosques are also standing around it. Admiral Cheng Ho was born in a Muslim family with the name Ma He [the word Ma is taken from the word Muhammad, the great Muslim prophet (Low 2005).

However, the traces of Chinese acculturation with Islam in Java are not only from Admiral Cheng Ho's legacy. The Chinese had entered the archipelago during the Kaling Kingdom in 430 BC and also the Tarumanegara Kingdom in 528 AD. During the Tang Dynasty (618–906 AD), there were recorded diplomatic relations between the Tang Empire and the kingdoms in Java. By the time the Sriwaja Empire was established, it was told that many Chinese immigrants settled in Sriwijaya and some of them are Muslims from Hui's tribe. While Yuan's Dynasty had an issue with Majapahit, after being betrayed by Majapahit King, Raden Wijaya, some of Yuan's deserted army stay in Majapahahit and married local women. Later it was revealed that Yuan Dynasty under Mongolian had recruited soldiers from Chinese Muslim ethnicity (Tan Ta Sen & Kadir 2010).

Based on the historical facts mentioned above, the research and creative team intends to convey the message that the Chinese *Peranakan* culture is part of the Nusantara culture, which was built based on tolerance and mutual respect for a very long time to the younger generation. In previous research, this part of historical facts was not depicted in a short animation project (Agari et al. 2019; Ghifari 2019; Nopianty 2019), then the research team added cultural aspects and accurate historical facts about intercultural tolerance beyond just presenting the story of Lontong Tjap Go Meh. In the context of character and background design, adaptation theory uses a theory from Matthew T. Jones which divides visual narrative adaptation into two parts, namely structural adaptation and thematic adaptation. This design uses a thematic adaptation approach in this case using visual elements of Indonesian Islamic culture (Nusantara) as an integrated part of contemporary Indonesian society. Adaptation operation in this case is modification, which can be developed into several parts, namely reorganization, condensation, extrapolation, and unification, all of which are ultimately needed for distribution or publication needs of the adapted media. This process (thematic adaptation) requires elements as a translation effort in the form of event elements or thematic elements which eventually became big themes or ideas that can be developed in character designs or background designs that are the outputs of this research.

When referring to the basic visual elements of Tjap Go Meh culture and Islamic culture as one of the cultural elements of contemporary Indonesian society which is the target of distribution or publication of this animated media.

3.1 *The characters' design concept*

The final concept of the new short animation is to get to understand Chinese *Peranakan* family in Indonesia. The narration in the short animation tells of a *Chinese Peranakan* family visiting their parents' house. There they met other family members who came from different tribes by marriage. It was in this family gathering moment that the grandmother talked about the origins of their extended family which was built from acculturation and mutual respect.

This animated story itself will be divided into 4 Segments. Each segment will narrate: 1) Introduction to the Tanujaya Family; 2) Family gathering and introduction to the extended family; 3)

Explanation of the Cap Go Meh celebration in Tanu's extended family; and 4) Closing. The character designs in segments 1, 2, and 4 use character designs by taking the physical and appearance of the peranakan Chinese family which is commonly encountered in Indonesia in everyday life. Meanwhile for segment 3, the character design uses a wayang kulit model to describe a brief story of Cheng Ho's expedition and acculturation in Indonesia. For Chinese characters, they are depicted using Chinese shadow puppets, while to depict Javanese people, Javanese shadow puppets are used.
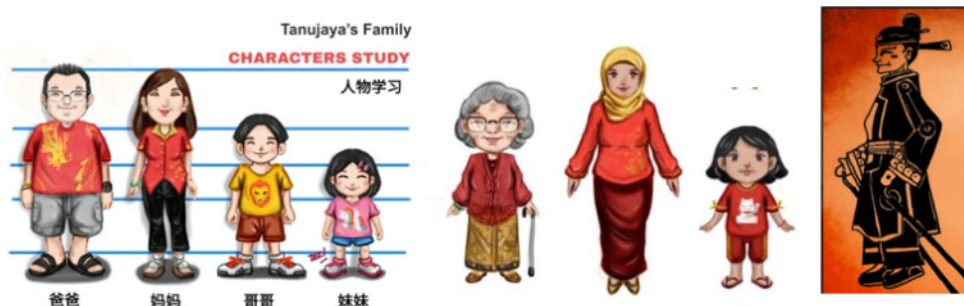
Figure 2.   The character designs used in feature animation.

As mentioned above, the characters' design for segments 1, 2, and 4, will use Cartoon style. These characters are represented: 1) Three Generations of Chinese Peranakan family members that consist: a) Ema' (Grandmother); the elder who experienced all the acculturation process in her life, knowing much about the values behind the Cap Go Meh Celebration in Indonesia. b) Tanu and his Wife, represented the common Chinese Peranakan in these modern days, who only know few about their ancestors' culture and customs, like common *Chinese Peranakan* in their community nowadays. Their designs are based mostly from Chinese Peranakan born after inter-marriage and didn't speak in their father's language anymore, live in Java and they often consider themselves as Javanese people, but on the other side, the patrilineal family make them feel as Chinese (Gondomono 2002). c) Tanu's children represented the *Chinese Peranakan* nowadays, who lack the knowledge from their origins and cultures, modern, and closer with popular cultures and technologies. The positioning of these characters was based on Wang Gungwu's statement that "Many young (Chinese descents) people today are so absorbed by Western culture or even other Asian cultures that they no longer recognize the importance of their cultural identity (Christian 2017)." Ayu and her mother Arum, Arum came from native Javanese Muslims. Their bond with the Tanu's big family was created by marriage. They wear red and gold ornaments in this occasion to show their mutual respect to Ema's family and her grandchildren, and also to show their tolerance in celebrating Cap Go Meh
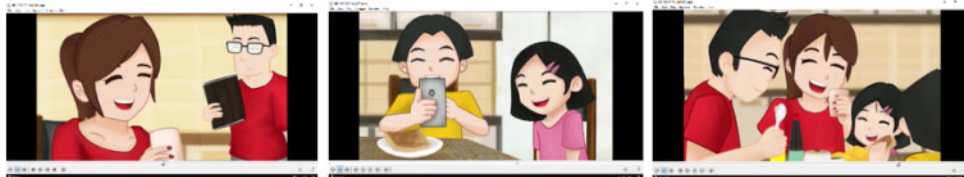
Figure 3.   The application of the characters' design in animation.

In Segment 3, the feature animation will depict the characters with shadow puppets style to narrate the past and to talk about the origins of the relationship between Chinese overseas and Javanese Muslims, especially related to Cheng Ho's expedition and the acculturations in Java.

4 CONCLUSION

Although the messages that the research and creative teams bring to this feature animation are complex and complicated, the character's designs can simplify the messages and narrations. Each character represented many messages and narrations based on their roles. It takes months to develop the characters for this short-featured animation that can convey the messages. Through this project, the research and creative teams learn that the long and complicated messages such as cultural value, tolerance, and mutual respect can be delivered practically by using the characters' design within.

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Rethinking family through family portrait in digital Indonesia: A preliminary study

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ABSTRACT: Publishing family photos during Eid-al-Fitr seems to have become a common trend in the past few decades in Indonesia. At this point, family Eid photos for the digital society are no longer presented only in domestic spaces. The question is how does society narrate and imagine families in the portraits they upload in virtual public spaces? This condition will be contrasted with several concepts related to the family in Indonesia. Thus, how does society imagine the construction of a family in a virtual space of friendship networks. This paper then tries to explain historically how the family is represented and imagined in a family portrait in Indonesia. Data collection was carried out using the reflexive photography method to elaborate the visual interpretation between the researcher and the participant.

Keywords: Family Portrait, Virtual Space, Family, Reflexive Photography, Visual Interpretation

1 INTRODUCTION

Publishing family photos during Eid-al-Fitr seems to have become a common thing in the past few decades in Indonesia. Starting from the spread of short messages in the presence of short message services (SMS) containing aphorisms, to this day, when it is possible to send pictures, they replace or combine text with pictures as a way of sending Eid greetings. At this point, family Eid photos for the digital era community are no longer presented only in domestic spaces. Even when the photo is present in a wider public space, there is a common pattern, which, whether we realize it or not, assumes that the public knows all the figures in the photo like the family of public figures. The topic in this article narrows further to an attempt to read, how is family defined through family photos when it is in public circulation? The interest in linking the theme of family photos with the concept of family in Indonesia stems from the diversity of the meaning of the family itself. In some anthropological literature, the topic of family is redefined through each researcher's reading of the conditions in the research field they face.

In this section, we will then talk about how the family is perceived by a specific cultural group. In Indonesia, the term family becomes more and more diverse when it is brought into the pursuit of political definition. For example, during the New Order era in Indonesia, the family was described in many ideal types. For society in general, the ideal family is contained in the *Keluarga Berencana* (Family Planning) program which consists of a pair of mothers and fathers with two children. In addition, we were also introduced to the term "*Bapak Bangsa*" (or Father of a Nation), how in this context, the state is analogous to a family with a father figure in it. In the concept of

the state as a family, the father figure often refers to citizens as children. This portrait of family relations during the New Order era is described in the writings of Shiraishi (2001). In contrast to the concept of family in Indonesia such as breeds (Geertz 1989; Koentjaraningrat 1957; Sairin 1980) in "Javanese *Trah*: A Preliminary Description of a Type of Javanese Social Organization", defines *trah* as a large group whose members are based on similarities lineage that refers to a common ancestor. He then divided the concept of *trah* into several groups (*Ndara Trah, Priayi Trah, Santri Trah, and Wong Cilik Trah*) based on the value system in the Javanese tradition. The diversity of ideas related to this family ultimately raises the assumption that the visual representations that come later have diversity in practice when photos are presented in the form of family portraits.

At first glance, through the phenomena that have been described, the question is how does society narrate and imagine families in the portraits they upload in virtual public spaces? This condition will be contrasted with several concepts related to the family in Indonesia. Hence, how does society imagine the construction of a family in a virtual space of friendship networks, such as chat groups and Instagram? This paper then tries to explain historically how the family is represented in photographic images in Indonesia.

2 RESEARCH METHODS

2.1 *Methods of data collecting and analysis*

As a preliminary study to understand family construction through Eid photos circulating in a virtual public space, we conducted a visual search through various platforms available on the internet. The platforms that serve as a vehicle for searching focus on applications that provide facilities for displaying the medium of digital photography, such as Instagram, and Whatsapp Group. In addition, the two were chosen because of the tendency for Eid greetings through the medium of photography to be common from year to year, since the adoption of this technology on mobile phones. Likewise with the ease of the two applications in uploading and editing images captured by cell-phone cameras into virtual public spaces. After selecting the platform, we focused the data search on the uploaded photos. Photos, captions, and conversation responses related to Eid greeting photos (which include family pictures) were the data sources that we processed.

Through the collected visuals, further data mining was carried out to get a comprehensive explanation. We used the indirect observation method, which means, the researcher did not experience the process of creating the photo directly. In the end, the photo became the center of the data mining we did. The results of observations were recorded in indexing which contains data related to visual elements appearing in the photo, such as room color, clothes, headgear, furniture, gestures, and facial expressions. From the indexing, interpretation was made between the visual elements displayed, for example, to detect the subject that was the point of interest in the photo. Indirect observation to explore visual meaning through photos was also supported by other methods, such as the reflexive photography method. Simply put, the reflexive photography technique is a development of the elicitation method, where participants are involved to respond to the photos that they see so that the values, assumptions, beliefs, and cultures of the participants are drawn (Langmann & Pick 2017). In contrast to the elicitation method, in the reflexive photography method, the focus of meaning is not only presented through the respondent as a participant but is elaborated through the interpretation of the researcher who in this case acts as a participant in the research. The process of extracting and interpreting was carried out using a semi-structured interview method, in the sense that the conversations occurring could not be separated from the visual context that was being sought for meaning together with the participants. In addition, this article uses archive studies. Archival studies were carried out to find comparative data in the form of text, as well as family photos in Indonesia from pre-independence times to the present day.

3 RESULT AND DISCUSSION

3.1 *Family in a portrait*

In the Latin term, *protrahere* meant to forth, until the term changed its shape to portrait. Change does not only occur in form but also in the expansion of meaning. As in Webster's Advanced Learner English Dictionary (2008), it can mean 1) a painting, drawing, or photograph of a person that usually only includes the person's head and shoulders; 2) a detailed description of something or someone; 3) a way of printing page so that the shorter sides are on the top and bottom and the longer sides are on the left and right – compared to the landscape. The expansion of this definition shapes our meaning of the topics and themes raised as photographic works. It can mean the object itself- which is said by Gombrich (2004) as an end product on a long road through schema and correction-, but it can also be interpreted as a description of something.

The existing definitions related to family, in various discourses, form connotations from various perspectives (social, economic, political, and emotional). The term family is rooted in Latin, *familia,* which means servants in a household. Over time, the meaning of the word family has expanded. The same is the case in Indonesia. We are introduced to the term Family as the equivalent of family. The family comes from the Sanskrit languages, *Kula* and *Varga*, which refer to groups based on lineage until later adapted in Javanese, with the same mention (*Kulawarga*). In its later development and practice, the term *keluarga* is not limited to biological kinship. Shiraishi (2001) mentions that the term family is used as a designation for those who live together, in a small circle, for one reason or another, which makes them a member of the family.

In Indonesia, the term "*Potret Keluarga*" as the equivalent of family portrait is less popular than other terms, namely "*Foto Keluarga*" which is commensurate with the term family photograph/snaps. The term *foto* refers to the use of an image recording device in the form of a camera that produces an object in the form of a printed image. In contrast to portraits, which in the dictionary sense, are also interpreted connotatively -not specifically using photography technology- as a description of an object/phenomenon. Departing from an understanding of family photos in linguistic constructions that have been described previously, thus we can draw a common thread, family portraits, like other photo themes that circulate in the arena of culture and human interaction, are not value-free. In this case, the language construction itself.

3.2 *Historical chronicle*

During the Dutch East-Indies (Pre-independence Indonesia), photographic technology was brought by the colonial government a year after the invention in Europe in 1839. Initially, the procurement of photographic technology sponsored by the Dutch East Indies government was intended to test how this technology was implemented in a climate tropical. Furthermore, the objects and purposes of photography developed into the practice of documenting and depicting nature and everyday activities, including humans in it (Strassler 2010). After that, in several cities in the Dutch East Indies region, such as Batavia, Surabaya, Semarang, and Malang, amateur photographers emerged, which at that time were dominated by ethnic Chinese and Dutch (Maxwell 2020; Ouwehand 2017; Protschky 2015; Strassler 2008). Based on KITLV records, at least 135 photo studios were present at that time (Ouwehand 2017).

The need for photography then shifted. After the advent of photography technology, mastery of skills using the camera by several people was continued, portraits with the theme of leisure time emerged. This visual was not only dominated by colonial citizens but also rich people of Chinese ethnicity and native aristocrats at that time (Strassler 2010). Photography, in its time, became part of the lifestyle of the upper class. So, it is not surprising that photos are then used as a benchmark for certain status and standards in a community group, such as modernity and civility (Strassler 2008, 2010), the power relations of each subject in the photo (Rose 2010), to socio-economic status (Halle 1987; Hughes 1986).

Until the post-independence era, photography was still a luxurious thing that was not accessible to everyone. To have family documentation, people at that time used photo studios in their respective areas. Along with the departure of the colonial government and the Indonesian government's policy of nationalizing colonial companies, photo studios were no exception. Slowly the photography business began to be filled by Indonesian natives, collaborating with Indonesian-Chinese in running this business (Strassler 2008). This cultural collaboration was able to shift the cosmopolitan style to a more "nationalist" style so that it seemed to bring up objects that were felt to be "more Indonesian" in line with the nation-making ideology that developed at that time (Tsing 2011). These styles are present in the studio background, the subject being photographed, as well as fashion, although it does not eliminate the visual styles that were present during the colonial period, including the poses and objects depicted on the background (Strassler 2008).

The mass spread of photographic technology as well as its domestication was felt by Indonesian urban communities at the end of the 80s through the presence of point and shot cameras, commonly referred to as the popular term *tustel*. The compact size, with a simple way of use, more or less influenced the lifestyle of the people at that time. There are more casual (informal) family photo themes because they no longer have to visit photo studios to document family moments together.

In the aftermath, photographic technology is getting closer. The presence of new technology that is increasingly accessible to many people, makes it possible for every citizen to own a camera. The phenomenon of mobile phones with cameras, as well as the presence of a digital ecosystem, has made cameras and family photos no longer a luxury that many groups of people cannot afford. Likewise, the presence of various digital platforms open up the possibility for practitioners and new photography objects to appear in the media. Family photos from all walks of life, today can be present on the same stage with celebrities. Likewise, family photos that previously dominated domestic spaces are also present to decorate public media through many internet platforms.

3.3 *Family Eid in Indonesia*

Eid events in 2020 and 2021 feel different from the previous years. The global pandemic that hit all parts of the world, including Indonesia, has forced the public to adjust to this condition. One of the things they have to negotiate is an event to forgive each other by taking advantage of physical meetings. This condition was common in the pre-pandemic period, especially along with the presence of online conversation platforms mediated by the internet. Through existing technology, briefly, humans can interact with their networks without meeting physically. Activities that are part of the ritual of this holiday include, forgiving each other, going home, and gathering with the family. Not to forget, along with the development of photography technology, some of them captured the special moment by taking pictures together.

To replace Eid greetings with face-to-face and physical ones, a popular thing to do is to send greeting cards through various available virtual world platforms. Some public figures take advantage of image-sharing platforms such as Instagram to display their family activities on holidays. Usually, the photo series of these activities is closed with a group photo with the complete family members, using Muslim's related clothes – *koko* shirts, robes, and head coverings in the form of hijab, cap or *kopeah* – of the same color. Not infrequently the color of the clothes worn has certain patterns based on gender, for example, female family members use the same color of clothes among themselves, to distinguish them from male family members (who are also compact in wearing the same color/pattern of clothing). Families that appear in photos often construct the colors and patterns of clothing in such a way that they can be seen harmoniously with the interior colors of the house or the background of the place they use when taking pictures together. In the comment column, they usually affix the words "Happy Eid Al-Fitr", "Happy Eid", "Happy gathering with family", or saying in Arabic "*Taqabbalallahu Minna Wa minkum* (hopefully Allah accepts our charity and fasting worship)", narrating the joy of welcoming the holiday. Coupled with the smile that appears from each family member taking pictures, adds the impression of happiness. As explained in the picture above an image of a Muslim family is reflected that is religious, complete, unified, has a good aesthetic "taste", harmonious, and is happy. Photographs of celebrities and

public figures, quickly gain likes, a benchmark of appreciation in social media. At this point, we are talking about rapidly spreading popularity.

The same phenomenon is carried out by many people who can access photo-sharing platforms in Indonesia. On the same day, similar visuals emerged with similar visual patterns and text narratives. The difference is only in the familiarity of the subject in the picture. They share photos through a wide selection of channels, of which Instagram and WhatsApp group chat are two of them. Another differentiator between the two is the reaction that is present. It is rare to find comments highlighting one of the family members in it. Most of them only responded to the holiday greetings spoken by the photo uploader in the virtual dialogue room. In fact, when I asked some of the respondents who were members of a conversation group or networked with one of the family members in the photo, they didn't know the other family members. They are usually only able to identify the status of each family member (father, mother, child) in the household, but do not know the specifics of some of the questions We asked the research participants, such as what is the name of each family member in the photo? what happened to him/her lately? or where does he/she go to school?

4 CONCLUSIONS: RETHINKING FAMILY IN DIGITAL INDONESIA

Through historical understanding, we can see that photography is not just an object that exists without being based on a certain ideology. A family photo as an object can provide an overview of how each era idealizes the form of a family. This cultural negotiation then builds up from time to time. Finally, family photos almost always talk about moments of togetherness, a series of processes that are compressed and constructed as if they are only able to represent events of joy, an attempt to represent the best - which is diverse, related to the cultural and ideological construction of the family concerned and how they contextualize the world around them- when the photo is in a public space so that it raises suspicions that the family Eid photo that is constructed in such a way is a gimmick that borrows the ideal view of the family -or follows the existing trend-, that it does not represent how the family runs in their daily practice.

When we discuss the concept of the Indonesian family in the context of family Eid photos circulating in the public arena, there is another spectrum of this concept. They imagine that the concept of family in Indonesia, apart from not always being related by blood, also does not require each family member to know each other. Of course, further research related to this view needs to be done further to understand more about this paradoxal construction. At the same time understanding the visual political aspect of the uploader when he uploads family photo images in a virtual public space requires research.

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Reduce mycelium leather (Mylea) waste from Mycotech Lab Indonesia into fashion accessories

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ABSTRACT: The manufacture of Mycelium Leather is a solution to meet the growing demand for animal skins in the fashion industry. Mycotech Lab Indonesia discovered a robust, sustainable, and eco-friendly leather material made from the Mycelium interlacing network. The company provides high-performance and sustainable materials through biotechnology to global markets by empowering local communities and aiming for sustainable product accessibility. The quality of Mycelium Leather (Mylea) consists of several grades from A to E, with leather sheets measuring 18 cm × 18 cm and 20 cm × 20 cm for sale. From the standardization of sizes, there are little pieces of leather left and categorized as waste. This company wants to reduce this waste and turn it into a profit by collaborating with writers. From the potential addition of existing waste, the results are in fashion accessories in the form of earrings that can increase the company's income. The results obtained from this study are steps to reduce Mycelium Leather waste from waste samples provided by Mycotech to become an earring that follows the current fashion trend. Observing several forms of leather accessories on the market and color trends on several trend forecast webs, this waste from Mycelium Leather has excellent potential to develop the Mycotech's business in the fashion accessories line.

Keywords: Mycelium Leather, Mycotech Lab Indonesia, waste, fashion accessories

1   INTRODUCTION

Based on the lean six sigma book, waste is a work process activity in which it cannot provide added value for processing raw materials in a particular matter (Forrst 2003). Based on this explanation, every company must reduce waste that causes losses and reduce the level of profit of the company concerned.

The concept of reducing hard waste is also known as the reduce principle. In responsible waste management, the sequence of stages is arranged according to the priority of the 3R Reduce, Reuse, and Recycle (Kancana 2013). Sewage treatment aims to produce single-use waste without causing harm or problems to society and preventing pollution (Mohammad 2019).

The need for animal leather is a challenge for scientists and engineers to find alternative raw materials for making new leather that is readily biodegradable. Mushrooms have the potential to replace the raw material for making the leather. The most important part of the fungus that provides this potential is the mycelium. Mycelium consists of fine threads called hyphae. Many molds grow and spread in a suitable medium, such as sawdust or coffee grounds, forming a dense, foam-like structure. With proper nutrition and environmental conditions, mycelium is helpful for many things.

Mycotech is a start-up that makes eco-friendly composite materials and leather. The materials that they use from recycled products from agricultural waste. Agricultural wastes contain cellulose,

such as sawdust, empty fruit bunches, palm oil, sugarcane fiber bagasse, etc. The product also uses natural adhesives obtained from the mushroom mycelium. They want to reduce the waste that they make because the concept of this company is creative with nature without adding to the problem of garbage on the earth. They also hope that from this waste, they can turn it into profit for the company.

In the world of fashion, accessories are things that someone wears to support or replace clothes. Accessory forms vary, and many of them are related to the concept of the accessories themselves. The vital role of accessories in one's appearance turns out to be very influential with how stylish or not the style is. For example, the appearance becomes perfect with several choices of accessories (Graham 2012).

Based on some of the opinions above, it is necessary to have appropriate waste management strategies from production, which will increase the profits of this company by turning existing waste into fashion accessories. Therefore, researchers are interested in conducting a study on Waste Management Strategies of Mycelium Leather from Mycotech Lab Indonesia for Fashion Accessories.

2 RESEARCH METHODS

The method in this research is observation, interviews, and literature study. Conducted interviews with the founder of Mycotech Lab to collect data and analyze the needs of this company in reducing the waste produced and the researcher's appropriate strategy to overcome it. In addition, field observations determine the trend of developing accessories and suitable supplements to treat this company's waste. Several data analysis regarding waste management strategies was carried out in this study to obtain research to apply in this research. The exploration process was done independently and in collaboration with several employees in this company.

2.1 *Primary Data*

In any business activity, whether industrial, trade, or otherwise, will inevitably produce waste. Waste is the residue of a business or activity. Some of the waste produced harms the company as well as the environment (Kamtini & Enggan 2019).

Environmental pollution is the entry or inclusion of human activities of living things, substances, energy, or other components. The quality drops to a certain level which causes the environment to be unable to function according to its designation (Trevor & Daniel 2019).

The Waste hierarchy can help determine what kind of waste management is appropriate to use in this study to minimize damage due to waste. REDUCE – efforts to reduce the use of raw materials as efficiently as possible in a production process. Also, pay attention to the waste.

Figure 1. UNEP, Green economic report 2011.

2.2 Secondary data

Mycotech Lab started in 2012 when the team discovered the potential of mushrooms in creating eco-friendly materials. The process of making tempeh inspired Mycotech Lab, so it tries to find a solution in making new environmentally friendly leather materials because mushrooms are the decomposing agents themselves. They discovered a technology that uses fungal threads that can convert agricultural waste into composite materials. Mycelium works like glue that binds one part of the waste to another amount of the trash. For example, tempeh food binds soybean grains using a fungus (*Rhizopus oligosporus*). This composite can make a substitute for animal leather.
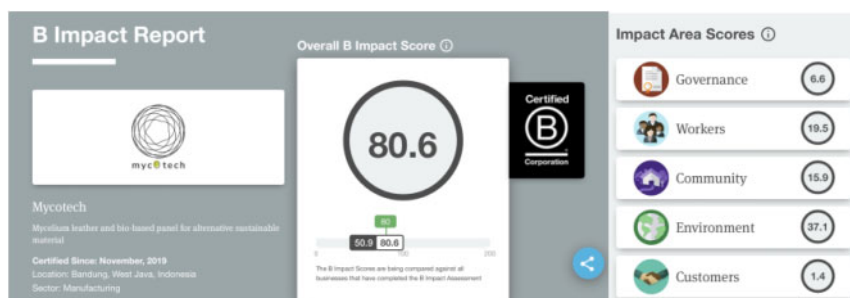
Figure 2.   Certified B Corporation Mycotech 2021.

Mycotech has two types of products, namely Biobo and Mylea. Biobo is a decorative panel for interior wall elements, while Mylea is Mycelium Leather material used for books covers, shoes, wallets, bags, watches, and other fashion products. Therefore, the waste that the researcher will process is the waste product of Mylea.

Figure 3.   Mycelium leather (Mylea), 2021.

2.3 Analysis

The characteristic of this Mycelium Leather is that it has a distinctive aroma. This leather will be softer when stored for a long time, has a firm texture, so it lasts a long time. The care instruction is relatively easy; wipe it regularly with a clean and dry cloth to last long.

This lack of leather has a color that is easier to fade when exposed to the sun continuously, the same as cowhide. Another thing is that because mycelium skin has many pores and is absorbent when it comes into contact with liquid, and it will soak if not appropriately wiped and leave a trail of stains.

In the production process of Mycelium Leather (Mylea), they have several grades of leather from A to E with sheets of leather size 18 cm × 18 cm and 20 cm × 20 cm. Mycotech Lab gave a sample of waste that they produced weighing 319 gr. Classifying the Waste of Mycelium, leather size is the next step to determining the shape of fashion accessories in this research. After measuring this waste, it has different lengths of leather from 26.8 cm to 2.4 cm, and for width, the smallest is 0.02 cm, and the largest is 2.3 cm.

2.4 *Observation*

Trends color and shape of accessories are observations from several marketplaces that sell leather accessories compared with waste samples from Mycotech to produce fashion accessories. Based on the size of material and statement of the form of accessories made from leather, earrings are the choice of accessories to be processed. The body of earrings from existing waste can be rectangular, with a width of 1cm and a length that corresponds to the primary size of the earring.
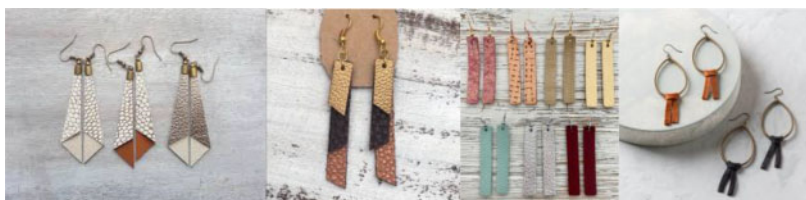
Figure 4.   Accessories from leather trends 2021/2022, 2021.

There are several steps involved in making earrings from existing waste whose shapes can follow current accessories trends.

1. Cut the Mycelium Leather with a width of 1cm with a length following the size of the waste.
2. Paste the leather together with leather glue into two layers to make it thick.
3. Give a gold layer on all sides and the part that becomes the bottom of the earring.
4. Make holes in the leather with a drill or leather punch.
5. Join the leather with a nickel ring to attach to the base of the earring.

Figure 5.   Form of earrings from waste of Mycelium Leather 2021.

3   RESULT AND DISCUSSION

The results obtained are waste with a weight 63gr and produce six looks of earrings. Each look consists of 12 pieces with 144 pieces earrings. Observing several forms of leather accessories on the market and color trends on several trend forecast webs, this waste from Mycelium Leather has excellent potential to develop the Mycotech's business in the fashion accessories line.

Table 1.   Collection plan and pricing strategies of Mycelium Waste 2021.

STYLE NUMBER	PHOTO	DESCRIPTION	PRODUCT CATEGORY	BASE EARRING PRICE	CLIP EARRING PRICE	GOLD FUELLE	TOTAL MATERIAL	WORKER WAGES	PACKAGING	TOTAL COGS	RETAIL PRICE	MARKUP	MARKUP (%)
1		SARAH	FASHION	23,670	9,812	1,980	35,462	25,000	4,500	65,162	105486	130,324	66.67%
2		JOANA	BASIC	31,018	120	1,980	33,118	25,000	4,500	62,618	167830	125,220	66.67%
3		AMANDINE	REGULAR	38,730	13,960	1,980	46,670	25,000	4,500	76,170	228048	152,340	66.67%
4		BELATON	REGULAR	29,170	16,120	1,980	49,270	25,000	4,500	78,770	236310	157,540	66.67%
5		PIERRE	FASHION	29,170	16,120	1,980	49,270	25,000	4,500	78,770	236310	157,540	66.67%
6		DODE	FASHION	23,670	21,010	1,980	46,660	25,000	4,500	76,160	228060	152,730	66.67%
7		LEA	REGULAR	24,440	16,480	1,980	45,920	25,000	4,500	75,420	226260	150,840	66.67%
8		DELPHINE	FASHION	24,160	16,480	1,980	45,620	25,000	4,500	75,120	225360	150,240	66.67%
9		NICOLA	BASIC	17,310	60	1,980	18,350	25,000	4,500	48,850	146550	97,700	66.67%
10		JEREMY	BASIC	18,150	60	1,980	20,190	25,000	4,500	49,690	149088	99,392	66.67%
11		ADELAIDE	REGULAR	24,160	60	1,980	26,200	25,000	4,500	55,700	167100	111,400	66.67%
12		DARA	REGULAR	21,010	16,480	1,980	42,470	25,000	4,500	71,970	215910	143,940	66.67%
13		CAROLINE	REGULAR	27,320	16,480	1,980	48,780	25,000	4,500	78,280	234840	156,560	66.67%
14		MANDY	REGULAR	18,150	60	1,980	20,190	25,000	4,500	49,690	149088	99,392	66.67%
15		AGATHE	BASIC	24,440	120	1,980	26,540	25,000	4,500	56,040	168120	112,080	66.67%

4   CONCLUSION

This research shows the necessity to reduce the use of Mycelium Leather as efficiently as possible in the production process of fashion accessories, such as earrings, that can increase the company's income. For example, it sorts the existing Mycelium Leather pieces according to size and makes them fashion accessories. Earrings are accessories selected based on the consideration of material size. Mycotech Lab waste of 319 gr has been reduced to 63 g. The waste reduced was approximately 80.25%. From 319 gr of waste of Mycelium Leather, it can produce six looks of earrings. Each look consists of 12 pieces with 144 pieces earrings.

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Changes and dynamics in the creative industries

E-Book for education in pandemic era

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ABSTRACT: During the COVID-19 pandemic when lectures are conducted online, and students
are prohibited from going to campus or leaving their house, learning materials that are easily
accessible are required, one of which is e-books. E-books enable easy reading and is highly accepted
among students. In addition, to face creative industry competition, electronic textbooks are very
much needed. This research is to find out if e-books will help students in the learning process and
make studies easier for students. The study aims to ascertain the level of acceptance of e-books
for academic use among students. This study uses a survey method in the elective small class for
making illustration concepts with a total class enrolment of 15 students. The instrument used was a
questionnaire to measure response to the e-book. The results of the questionnaire showed that 99%
of students stated that using e-books facilitates and helps the learning process. The results of this
study reveal that students have a high acceptance rate of e-books for academic use. Moreover, e-
books are easy to integrate with the online learning media used. The results of this study are expected
to encourage universities to strengthen the use of e-books as learning and teaching materials in
lectures.

Keywords: Academic use, Digital era, *E-book, Online learning*

1   INTRODUCTION

The development of technology is growing rapidly and affecting human lives. The use of technology
has penetrated all fields, including the field of education. In this digital era, of course, it cannot
be denied that changes in books are visible. Since 1990 digital literacy has developed and become
a community need. Digital literacy activities have been synonymous with one's ability to use and
understand the use of information and communication technology, for example in supporting the
world of education and the economy. While the notion of digital literacy is a combination of the
ability to find, utilize, evaluate, create, and share content using technology and the internet (Cornell
University 2009). The development of digital literacy has become an academic demand at every
level of education in Indonesia, especially in universities. Students today are addicted because they
search Google more often than open a book as a reference. This shows that the internet offers various
needs in finding information (Juliana Kurniawati 2016). One form of digital literacy in education
form is e-book. E-books are known as digital books or electronic books, in English the term e-book
is an abbreviation of Electronic book. Vassiliou and Rowley mention that e-books are digital objects
that emerged as a result of integrating the concept of books with features available in the electronic
environment. By the explanation in the proceedings of the 2019 PGRI Palembang University
Postgraduate Education National Seminar, the function of the e-book is as an alternative learning
media. Digital books provide information interestingly and interactively. In addition, digital books
are a medium for sharing information that is easily disseminated. E-book itself is a digital object
that emerged as a result of integrating the concept of a book with the features available in the
electronic environment. In addition, during the current COVID-19 pandemic, where learning is
done online, the use of e-books is very appropriate and needed. Online lectures are a choice
for teaching and learning activities (KBM) amid the COVID-19 pandemic. The new academic

year of higher education that will or has even started at many universities makes students undergo lecture activities. All teaching and learning activities such as discussions and presentations strive to continue with various adjustments. Lectures that are carried out online, require online supporting facilities. One of them is in the form of online lecture books or e-books. Therefore, credible, affordable, and easy-to-use e-books can be very helpful tools in academic learning and teaching. E-books make books easier to write and easier for students to accept therefore this study aims to ascertain the level of acceptance of e-books for academic use in terms of appearance; affordability; and ease of use. The research was conducted on students majoring in visual communication design, Ciputra University, Surabaya.

2 RESEARCH METHODS

2.1 Methods of data collection

This research uses a qualitative method involving 15 students of the elective class as the participants. This study used a questionnaire consisting of 9 questions regarding students' perceptions of learning e-books. This study uses a survey method in the elective class to create an illustration concept involving 15 students. During the COVID-19 pandemic, each class is limited to a maximum of 20 students. The data from this study is the answers to the questionnaire. The form of the questionnaire used is a closed questionnaire. The questionnaire contains 9 question items with 2 yes or no answers. After that, an interview was conducted regarding their opinion about the e-book during teaching.

2.2 Methods of data analysis

Questionnaire analysis was obtained based on the following steps: With each answer given by the students; the score was calculated by using the percentage formula. In this study, a score of 1 was obtained if students answered Yes, a score of 0 if students answered no. The interpretation of the student response average score is 85%–100% Very Positive, 70%–84% Positive, 50%–69% Less Positive, 50% and below Not Positive. This research consists of several stages, firstly choosing the courses and e-books to be studied, secondly carrying out learning using interactive e-books. Third, observing teaching and learning activities. Fourth, give a post-test. Fifth, data collection and scoring of the final results.

3 RESULT AND DISCUSSION

Online learning

Online learning is distance learning. The distance learning system is a system that has existed since the middle of the 18th century. Since the beginning, distance learning has always used technology for the implementation of learning, starting from the simplest technology to the most advanced. In short, the history of the development of distance learning can be grouped according to the dominant technology it uses. Online learning is learning that is done through the internet. Therefore, in Indonesia online learning is translated as 'network learning'. The term online learning is often synonymous with other terms, such as Internet learning, e-learning, tele-learning, web-based learning, distributed learning, etc. (Ally 2008). In recent years, online learning is often associated with and used as the term m-learning or mobile learning, that is, online learning through mobile communication devices such as computers, smartphones, and tablets. As in the face-to-face education system, online learning activities also involve the delivery of learning materials. If in face-to-face learning, the material is given by the teacher in front of the class, and in online learning, the material must be delivered through the media. Thus, because the online learning process occurs through the internet network, the teaching materials used are also mainly packaged in digital formats that are uploaded to the web pages or online learning sites used.

Teaching materials

Teaching materials can be packaged in various learning media, both one-way and two-way. One-way learning media is media that do not have interactive features for their users, including books (e-books), audio and video cassettes or CDs, television broadcasts, radio broadcasts, and computer-based teaching materials.

Teaching materials are all forms of materials used to assist instructors/teachers in learning and teaching activities. The teaching materials in question usually exist in the form of written or non-written materials (Majid 2013). Furthermore, Panen said, teaching materials are systematically arranged materials or subjects used by students and teachers in the learning process (Prastowo 2014). According to the Dikmenjur website of the Ministry of Education (2008:6), the teaching materials are a set of learning substances/materials arranged systematically, showing a complete picture of the abilities that students will master in learning activities.

Understanding e-books

One of the students learning media that implements technology and communication developments with user interaction that is currently being developed is digital books or known as e-books (Hartanti 2013). Digital books, also known as e-books, are publications composed of text, sounds, and images. They are published in digital form and can be read on computers or other electronic devices such as tablets or androids (Andikaningrum et al. 2014). E-books or digital books are the evolution of printed books that we usually read every day (Subiyantoro 2014).

As per the research findings on the development of e-books conducted by Abdul Ghofur and Rudy Kustijono (2015), the e-books developed are in the very feasible category with a percentage of 88.89% for students' positive responses and 87.50% for students' learning mastery results. The facilities offered by e-books make it easier for students to remember material compared to reading textbooks in general. The digital format of the e-book can always maintain the same quality. Easy to handle, in which can track and search content quickly and easily. This is very useful for people who are engaged in literary research. People who do not read can also use it because the format of the e-book can be processed by the computer, and the content of the e-book can be read by the computer using a text-to-speech synthesizer. Duplicating e-books is very easy and inexpensive. It is also easy to distribute by using electronic media such as the internet. The effectiveness of e-book teaching materials is assessed from the responses of students. Students' responses to interactive e-books were obtained from questionnaires filled out by students. The response is a person's tendency to carry out certain attitudes, both positive and negative. In this study, students' responses were seen after using the module measured using a questionnaire filled out by students. The results of students' answers to the questionnaire are shown in the table below:

Table 1. Response questionnaire.

Question	Percentage of Answers	
	YES	NOT
The teaching materials provided are by the objectives of the lecture	100%	0
The teaching materials provided support the final achievements expected by students in lectures	98%	2%
The teaching materials provided content material that supports lectures	98%	2%
The teaching materials provided make it easier for students to do lecture assignments	100%	0
The teaching materials provided contain examples of supporting lectures	97%	3%
The examples provided make it easier to understand the material.	100%	0
E-books are easy to use in online lectures compared to printed books		
I find it easy to access books via the internet	100%	0
Total	99%	1%

Based on the survey, the average of student response 99% is in the positive category. This means that students respond that using e-books can help them in learning. Student responses to book access via the internet also show a positive response, it is 100%.

4 CONCLUSION

During the COVID-19 pandemic, the online learning system creates hurdles at times for students and lecturers. When students cannot leave the house to buy books as part of learning, e-books are the answer to that problem. Yet, not all e-books can match the courses being taught, and are affordable for students. Moreover, lectures on illustration concepts have their level of difficulty.

Based on the research findings and student responses, it is found that the e-book has fulfilled the completeness of the contents and is easy to use in lectures. In the future, e-books deserve to be promoted as lecture materials. Student responses to the use of e-books in learning have a positive average percentage and above. This can also be seen from the comments and input of students on the questionnaire which said; e-book is appropriate and easy to understand. They find it easy to access and read material anywhere before lectures. This proves that the use of e-books in college learning is very good and necessary. In addition, e-books can make it easier for students in lectures and they can also save paper.

Moreover, in the era of the creative industry, the change from printed books to digital books is also happening. As we can see, all printed books have switched to digital books. Many bookstores have begun to close their stores and switch to online sales and digital books. Thus, making e-books is very appropriate for the digital era and facing publishing competition in the future.

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NCapture and field observation to determine the SME food souvenir packaging as multiple case studies

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ABSTRACT: Small Medium Enterprises (SMEs) which produce food products become a part of tourism and souvenir commodities. Packaging is a key factor to influence consumers to buy, and the color becomes the primary element in designing packaging. A study on SME food souvenir packaging is still rare and needs attention. To obtain it, multiple case studies will be conducted. This paper describes two methods in determining SMEs food souvenir brands as multiple cases are being studied, i.e., NCapture travel blogs using NVivo12 and field observation to well-known souvenir shops in Bandung. The findings of SMEs food souvenir brands will be categorized into four criteria: a legendary and established brand, a brand that entered modern retail, an indigenous local cuisine brand, and a new brand. The findings will be used as multiple case studies for further research.

Keywords: Bandung, food souvenir, NCapture, observation, packaging, SMEs

1 INTRODUCTION

Small Medium Enterprises (SME's) that create food goods become a component of tourist and souvenir commodities. Conversely, the packaging is a critical factor in convincing consumers to buy, and color becomes the key element in packaging design. However, research on the packaging of SME food souvenirs is still limited. Packaging for SMEs products have an unattractive shape, appearance, and color (Pulungan et al. 2018). Thus, there is a need to investigate how color is used as a branding and value creation in the packaging of SME food souvenirs in Bandung. A systematic review has been done to answer this research question (Swasty & Mustafa 2021). The systematic review, in contrast, focused exclusively on food packaging globally, leaving out coverage of SME-related activities in Southeast Asia, notably in Bandung-Indonesia. Multiple case studies will be undertaken to get the necessary data. The purpose of this study is to evaluate the role of color in branding and value creation in the labeling and packaging of SME products in Bandung. Purposive sampling was utilized in this study to determine the cases. Additionally, this study gathered case studies from SMEs based on an analysis of food souvenirs' need for color in packaging design. A preliminary study was undertaken to determine the food souvenir category (chips, cookies & cakes, coffee, tea, and regional foods & beverages) and to identify SME brands.

A case study attempts to discover generalise and apply patterns in one individual, group, or a number of units (Gustafsson 2017). This method helps address "how and "why" questions of the social phenomenon to understand the essence of the process or circumstances (Yin 2018). This paper aims to describe the steps in choosing the case being studied. The following subsections describe the brief overview of NCapture and field observation.

1.1 *NCapture*

NVivo software is a qualitative data analysis tool developed by QSR International in 1995. In March 2018, the latest version of NVivo 12 was launched. The N stands for NUD*IST (Non-numerical Unstructured Data Indexing Searching and Theorizing). Vivo was taken from the term

"in-vivo" which means coding based on real data experienced by participants in the field. The naming "NVivo" indicates the main function of the software to code data effectively and efficiently (Bandur 2019). Many recent qualitative studies use NVivo software as qualitative data analysis tool (Mitchell et al. 2019; Won & Westland 2018; Yu et al. 2021).

NCapture itself is an add-on for Google Chrome Web Browser. It can be used for directly importing data (web page, database, social media site) into the NVivo program. The NCapture button is located at the top right. The data can be captured as web page pdf or article pdf. Once the data has been imported as pdf into NVivo software, then the researcher can start coding and analyzing the qualitative data. The benefit of using NCapture against dragging and dropping articles into the project file is that the web page, database, social media site details, and other bibliographic information can be automatically added to the article (O'neill et al. 2018).

1.2 *Field observation*

The term "observational research" refers to the systematic method of monitoring and recording human behavior and cultural phenomena without interrogating, communicating with, or interacting with the group under study (O'Grady & O'Grady 2017). They point out that observation offers useful information rather than performing an interview. Observation underlies several scientific disciplines in the natural sciences. Key research design questions such as what, where, and how long to observe as well as questions about how to record and how to analyze must be answered first. Observation can be used independently or in conjunction with other research methods (Byrne 2021). According to Byrne (2021), the type of observation is (1) structured or controlled observation and (2) unstructured/ uncontrolled/ naturalistic observation. Whereas observation is divided into two categories based on scale, which are (1) observing from a distance and (2) getting up close and personal.

2 RESEARCH METHODS

2.1 *Methods of NCapture (data collection and analysis)*

First, data collection used NCapture travel blog articles with keywords "toko oleh-oleh Bandung" in Google search engine. Using NCapture, the blog articles were captured in Pdf format, then imported into NVivo12 in December 2020. Using NVivo 12, the top 16 articles were used to reveal the most common souvenir food categories and brands recommended by travel bloggers. This method is more accessible for the researcher. In addition, tourists usually search food souvenir products or shops from the internet to get information or recommendation. The top 16 articles were used as purposive samples since according to Hagaman and Wutich (2017), 12–16 samples are enough for studies with homogenous populations on reaching study-wise saturation.

The 16 articles were subsequently evaluated to concentrate on food souvenir categories and food souvenir shops or brands through content analysis as widely used for qualitative data analysis (Kuckartz 2019). Nvivo12 software was used to identify key themes or patterns as conducted by prior studies (Vijayakumar et al. 2018). First, the content was coded into food souvenir categories and food souvenir shops. Afterward, a word frequency query from the codes was explored to identify the key themes. Finally, these key themes were manually crosschecked and put on the list for the subsequent field observation.

2.2 *Methods of field observation (data collection and analysis)*

This study employed an unstructured approach that included getting up close and personal observation. The observation was conducted as it offers useful information rather than performing an interview (O'Grady & O'Grady 2017). The samples were selected using purposive sampling. The observation from twenty (24) well-known souvenir shops in Bandung which offer various local

food souvenirs based on finding from the NCapture. The field observation was conducted in January 2021 and was limited to souvenir shops as tourists usually visit several tourist attractions and souvenir shops. Supermarkets were excluded from this field study, even though many major chain supermarkets in Bandung (e.g. Borma and TransMart) provide food souvenir products. The observation focused on booths or stands that display food souvenir products. This type of method enables provision of information in real market setting. Data were collected by taking pictures of food packaging, the display, and the environment of the retail. Field notes were used to document and summarize what was observed as suggested by Byrne (2021). The general criteria and the category of multiple cases were set. Finally, a couple of food packaging that meets the criteria were chosen as multiple cases.

3 FINDINGS

3.1 *Tata layout NCapture finding*

Following the coding of the articles into food souvenir categories and food souvenir shops, the word frequency query was performed. The query was limited to thirty (30) often occurring words with a minimum length of five (5) words. Following that, the word clouds depicted in Figure 1 were formed. As can be observed, the most often appearing terms for food souvenir product categories were 'brownies' and *'pisang bollen'*. Whereas the most commonly occurring terms for food souvenir shops or brands were 'Kartika Sari' and 'Amanda Brownies'. Following that, field observations were undertaken at different souvenir shops based on these findings.

Figure 1. Word cloud on food souvenir product categories (left); food souvenir shops/ brands (right).

3.2 *Field observation finding*

Field observation of 24 souvenir shops in Bandung was conducted based on finding from NCapture. Data collected were documentation of souvenir food packaging, as seen in Figure 2. The front-of-pack which contained a transparent window was excluded as this study focussed on color on label/package design only. In general, the food packaging documented which have more than three flavor variants as prior study (Hartanti & Nurviana 2020) suggested.

Figure 2. Documentation of several souvenir food packaging from Bandung.

3.3 Set the criteria for multiple case study

Following field observations of twenty-four (24) souvenir stores in Bandung using NCapture input, numerous brands and product categories emerged and were collected as data. Following that, the researchers were required to select numerous brands and product categories for inclusion in the multiple case studies. Multiple case studies will be conducted in the next research to discover if there are any similarities or distinctions between the cases, which allow giving a more convincing theory when several empirical findings are present (Gustafsson 2017). There are no rules on how many cases are required in multiple case studies, however, Yin (2018) argues six to ten cases are adequate to provide convincing support of initial propositions. Another study (Bordeleau et al. 2020) uses four cases as they argue to be sufficient to identify substantial conceptual defects and as a basis for theoretical generalization. Therefore, this study used four multiple case studies as suggested by Bordeleau et al. (2020).

Following the determination of the number of cases, the next phase in the process was to assign the cases to thematic groups. The documented food packaging was classified according to these criteria which include (1) a legendary and established Bandung brand, (2) a brand that successfully entered modern retail (souvenir shops), (3) an indigenous local cuisine brand, and (4) a brand that was newly formed (start-up company). Following the screening and selection of four brands representing distinct product categories, further basic criteria were established. The other general criteria are as follows: SME products from Bandung, have (only) P-IRT number (home industry food certification, available at souvenir shops, no transparent window, have minimum three variants (Hartanti & Nurviana 2020), glossy and smooth surface to get color constancy (Granzier et al. 2014). Finally, the four brands with different product categories were selected (Table 1). Those brands were chosen because they meet all general criteria and represent each category.

Table 1. The selected brands for multiple case studies.

Category	Food Packaging	Product category
Established brand		Cake
Brand that successfully enters modern retail		Snack
Indigenous local food brand		Indigenous local food (*liwet* rice)
New brand		Coffee

4 CONCLUSION

This paper clarifies the stages involved in selecting the appropriate case study through the use of two methodologies. First, by using NCapture and use keywords like "toko oleh-oleh Bandung" in e.g. travel blog articles in Google search engine. In this case, the search result identified twenty-four (24) souvenir stores in Bandung. Field observation was undertaken to aid in the screening and selection of four distinct product brands. Finally, they are thematically classified to contain sets of generic criteria that provide comprehensive information for the study. This article provides insight into the process of selecting study objects or case studies for scholars. According to the indications offered in this article, the case study selection and categorization contributed to achieving the research's primary objective—the analysis of the role of colors in branding and value creation in

SME product labeling/packaging in Bandung. The findings from this paper can be used to perform additional research using the sample of several case studies.

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How to connect: Designing digital platform for amateur musicians access in Bandung's music ecosystem

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ABSTRACT: The development of information technology could make it easier for beginner and amateur musicians to have strategies in the music ecosystem. There are several problems for entering the music industry, especially for amateur musicians. Many issues involved are due to lack of access, lack of knowledge, and absence of mentors who can help them enter the ecosystem. Research method used was a case study in Bandung's music ecosystem and data were collected through interviews, observations, and literature studies. The result of this study is to design digital platforms such as website-based information that can introduce amateur musicians into the music ecosystem. This platform is expected to provide access and networking related to the music ecosystem that can be used to gain knowledge and help their careers. The benefits of this research will be very useful for musicians, especially amateur musicians, the music community, and music entrepreneurs.

Keywords: amateur musicians, digital platforms, music website, music ecosystem

1 INTRODUCTION

Understanding the music ecosystem is an important aspect for amateur and beginner musicians to get involved in the music industry. A music ecosystem is defined as a physical and socio-cultural environment that develops various ideas about music, sound, sound instruments, recording studios, media, venues, music education, and economic value that sees music in the realm of cultural production and cultural domains (Harrison 2020). Music ecosystems usually consist of the relationships of various musical actors who are all interconnected from the aspects of music creation, reproduction, distribution, and consumption. Bandung is known as one of the cities that has a potential music ecosystem, one of which is because the influence of social capital makes the music ecosystem sustainable (Simanjorang & Pawitan 2020).

In recent years, the importance of musicians or music actors regenerations emerged to be sustainable in Bandung. Some problems include lack of access to the music industry, lack of knowledge about the music industry, and lack of mentors to support and guide beginner and amateur musicians. That's because of the contestation of actors between the government, tobacco companies, private actors, and the community/collectives (Resmadi & Bastari 2020). That contestation creates unequal access and makes a gap for amateur and beginner musicians.

The presence of digital technology should be able to bridge the access gap. The music industry is shifting to digital technology and creating many opportunities. Musicians can now reach their listeners directly. Traditional methods are no longer considered relevant. The role of consumers is becoming more central. In the digital music era, value is created through many-to-many stakeholders and simultaneous relationships (Ordanini & Parasuraman 2012). Thus, through digital technology, access and networking should be created into a music ecosystem and eliminate various existing gaps. Digital platforms can create creative hubs in a music ecosystem.

Digital platforms have indeed changed the way people consume and produce music, from the consumption of streaming services, subscriptions, to platform-based advertising (Tang & Lyons 2016). Currently, the music business is also dominated by a combination of conventional business

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models that are connected to the internet, start-up technology, and digital media in an ecosystem that gives birth to access to create musicians, agents, managers, music curators, tastemakers, gatekeepers, and music critics based on social and technology (Baker 2019). Digital technology encourages the importance of interaction and participation because musicians must build connections with their audience (Tovalfy & Barna 2020). From previous literature, it is emphasized that digital technology will be able to encourage access and networks to give birth to various music actors (musicians, producers, management artists, records labels, curators, event organizers, crew, music journalists, the tastemaker, and else).

Previous studies described how digital technology relates to the music ecosystem. Research on the music ecosystem in South Korea emphasizes the importance of digital platforms as a new distribution channel. It is important to share assets in telecommunications, licensing practices, and information technology capabilities. Convergence between actors in South Korea is encouraged so that the music ecosystem continues to develop (Tan et al. 2020). Other research states that the presence of digital platforms can encourage innovation in an ecosystem through various activities such as seminars, workshops, discussions, online sites, and social media communities in one place. Digital platforms can encourage innovation in the music ecosystem through various stages, including co-discovery, co-creation, co-delivery, and co-capture (Saragih et al. 2019).

Table 1. Initial framework of the music business co-innovation process (Saragih et al. 2019).

Convergence of ideas	Co-creation experiences	Collaborative arrangements	Value co-capture
Shared values Co-discovery Trust Coexperiences Codefinition Mutual benefits	Engagement with all stakeholders, including customers Existences of co-creative labour Godesign Coelevation	Orchestration Value co-delivery Governance and leadership Resource integration Exchange of knowledge	Shared financial incentives Co-development Shared nonfinancial benefits

Previous studies only discussed the role of digital technology in terms of technological determinism, where the presence of digital technology has various effects on the music ecosystem. From some of the works of literature above, digital platforms are the latest innovations in the music ecosystem. With some of these theories, digital platforms can be the key to connecting various accesses between music actors so that they are connected. Based on the co-innovation process framework (Saragih et al. 2019), this digital platform can create networking and access based on the convergence of ideas, co-creation experiences, collaborative arrangements, and value co-capture. Novelty from this research is to develop a practical strategy through designing a website that can be a creative hub between communities so that amateur musicians can build their networks. Networking is an important keyword for the music ecosystem in the digital era.

2 RESEARCH METHODS

The research method used in this study involves qualitative research, especially case study methods. A case study is a study covering a case in real life, in a contemporary context or setting. Case study research is a qualitative approach in which researchers explore real life, explore single cases or multiple cases, collect detailed and in-depth data, involve various sources of information, and report descriptively (Creswell 2015). The case study chosen is Bandung's music ecosystem because this city has produced many musicians, especially amateur and beginner musicians. In addition, Bandung has strong social capital in its music ecosystem in a sustainable manner (Simanjorang & Pawitan 2020). Social capital is of course an important thing to build a network. Data collection was carried out through observations, interviews, and literature studies. Through results of

observations and interviews, it was found that the main problems in Bandung's music ecosystem are the generation gap, contestation between actors, and difficult access for amateur and beginner musicians. From that insight, creating a website as a creative or community hub hopefully can create access and networks for amateur and beginner musicians.

3 RESULT AND DISCUSSION

Several previous studies stated about the designing digital platforms for various purposes, such as music websites for archiving (Yuliansyah & Nurrahmah 2019), promotion of information (Hasugian 2018), recommendation (Barik et al. 2021), and marketing (e-commerce) (Kurniawan 2017). The novelty produced in this paper focuses more on aspects of access, connection, and creating networks forum between musicians, especially connecting amateur musicians with professional musicians and to other music actors.

The main ideas in this website are creating access and connection through various stages from co-discovery, co-creation, co-delivery, and co-capture (Saragih et al. 2019). Users can find other amateur music actors and create collaboration through demos, profiles, forums, and podcasts/videos. The message concept of this website is for beginner and amateur musicians to create access and network into music ecosystems.

Website is an application containing a variety of multimedia documents (text, images, sound, video, and animation) that contains the HTTP (hypertext transfer protocol) protocol and functions as a promotional, marketing, information, educational, and communication media (Hasugian 2010; 2018). This website functions as a communication medium to create networks, interactivities, and educational media to gain knowledge about the music industry.
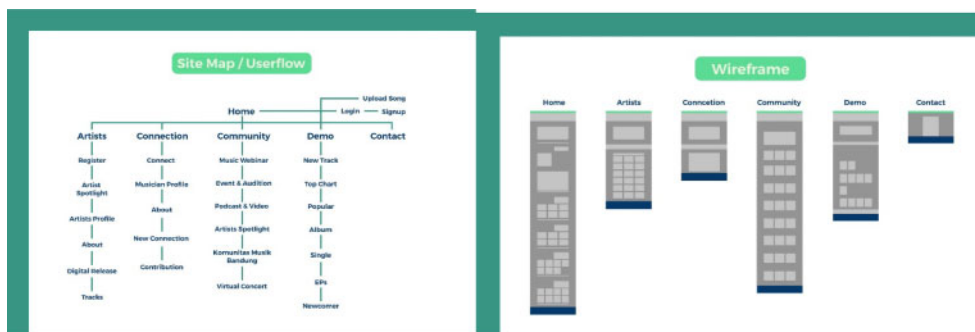
Figure 1.   Website site map and wireframe.

The purpose of this website is to create music industry access, give knowledge about the music industry, and find connections. The main idea of designing this website is to serve connection as a forum/hub/community for amateur musicians to share and build networks. Contents of this website: Home, About Us, Search, Forum & Community, Connect with Musician, Musician & Band Profile, Upload Your Music, Collaboration & Featuring, Top Musician, Update/News, Event & Audition, and Merchandise. The main page on this website is "Artist", "Connection", "Community", "Demo" and "Contact". The main color is using green which emphasizes the simple, elegant, and modern impression on the user interface. The use of a sans serif typeface is the font family of the Trueno font for the headlines, sub-headlines, and body text to give a modern impression.

The main concept of this website is a creative and community hub with interactivity between users. From the sitemap or user flow, there are several features including "artist", "connection", and "community" as the main page. It can be seen from this sitemap that it emphasizes the aspect of building networks through "connection" and "community".
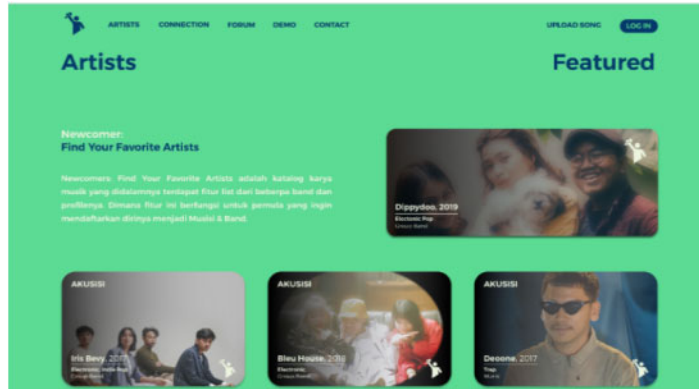
Figure 2. Website interface.

This website design emphasized aspects of co-discovery, co-creation, co-delivery, and co-capture. In the "Artist" feature, users can search artists/musicians and listen to songs from musicians who have submitted before. In the "Connection" feature, users can search for connections, and collaborate with others. While in the "community" feature, users can search for various music community activities, from searching for event schedules and auditions, getting music information through videos and podcasts, searching for a directory of music communities in Bandung, and to virtual concerts.

Users can create networks and find mentors. Users can build a connection after visiting the profiles of several other users. The purpose of designing this website is to make connections. Thus, interactivity between users occurs when they seek needs from other users. Meanwhile, issues related to access to knowledge about the music industry can be addressed through webinars and audio podcast features. And then, users also can submit their demos to showcase their music.

4 CONCLUSION

Digital technology can create access for beginner or amateur musicians to the music industry. The impact of digital technology is changing the technical production, distribution and promotion methods, and consumer behavior. Previous research has emphasized more on the aspect of technological determinism where the presence of digital technology has changed practices in a music ecosystem. The role of digital technology in a music ecosystem, especially through the presence of digital platforms such as websites, can encourage the presence of various forms ranging from archiving, promotion and information, information and recommendations, to marketing. In other ways, a website can build as a creative or community hub to create connections among amateur musicians into the music industry.

This website wants to encourage access through connectedness between actors because social capital is one of the main assets of the music ecosystem, especially in Bandung. Users can access each other, build networks, and find mentors. One of the important points to encourage the creation of access in a music ecosystem is through the presence of a network. It is hoped that through this network, amateur musicians can dive in and learn in the music industry and build connections in their communities.

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Form and function of graphic illustration in interior design (Artotel Thamrin Jakarta as case studies)

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ABSTRACT: Visual appearance can play role as part of interior design elements, such as room accessories and furniture, which also blend with interior design elements of the room. The purpose of this study is to determine the form and function of graphic illustrations in certain places that will have a role when applied to a space that already has its functional value. The theory of design principles is used to be able to observe the graphic illustrations applied to each interior design element in these rooms. By using qualitative methods, literature studies, direct observation, and interviews with the artists involved were carried out to analyze the data. Findings from the research suggest that graphic illustrations applied to interior design elements no longer have a functional value as a work of art. The graphic illustration has a new function, namely as a supporting element for activities in space by the users of the space.

Keywords: graphic art, hotel, illustration, interior design, visual appearance

1 INTRODUCTION

New hotel segments like lifestyle hotels started to adopt the concept of design, artwork, landscape, and décor as a key foundation for competition and customer appeal (Ivanova 2020). Instead of focusing primarily on the number and type of property facilities and room amenities, the marketing emphasis shifts to the exterior and interior appearance, design, and ambiance of the hotel (McKenney 2015). This study uses the interior design of a lifestyle category hotel as a case study, with the use of artwork as the dominant design element, Artotel uses graphic art as the main identity by applying graphic art dominantly to its interior design elements. In its application, Artotel selected several contemporary artists to work on graphic art in their hotel facilities. The work of graphic art artists who are usually in galleries or exhibition venues, also on the street, is designed by the hotel to be part of the interior design elements.

It is a designer's responsibility to know how to select and use artworks to fit any type of hotel design project. Suitable works of art can help determine visitors' initial impressions of a hotel and their overall experiences. Carefully selected and thoughtfully placed artworks also produce a strong visual impact on people and create great first impressions. This is an overlooked function of artistic features in the boutique hotel design process (Chen 2019). However, most designers still confuse the role of art's behavioral-changing theory, such as, what role do aesthetic features play in boutique hotels? Art is a concept that mixes many aspects (Wolfgang 2011). The problem of this research lies in the phenomenon of the use of graphic illustration which changes its function which was initially an art medium and its role was to convey messages from the artist's personality to the function of graphic illustration as a visual display in interior design which has its functional value. Knowing the values of graphic illustrations applied to interior design elements in terms of the form and function of interior design elements of Artotel Thamrin, Jakarta is the purpose of this research.

The theory used in this research is the aesthetic theory, and theories related to design principles for the context of space. Daniel Berlyne in Environment Psychology for Design states that humans

respond to aesthetics based on examining the nature of stimuli. These traits are novelty, incongruity, complexity, and surprise that get a comparative or investigative response (Kopec 2018). Understanding aesthetics in interior design can be done in various approaches, including by studying the perceptions of the public and designers in understanding design works. The value of beauty which consists of design elements and design principles has an important role as a reference that can be used to provide an assessment of design work (Sofiana 2015). This statement is used as a research urgency, where the application of graphic illustration as an interior design element is a new form that comes out of the initial form of graphic art used as a work of art, where the artist's self-expression becomes the initial basis of the graphic illustration.

A lot of visuals, videos, and other promotional materials appeal to attract customer attention and lead to a booking. In this process, the property appearance may have a crucial role in the final customer choice (Kirima et al. 2017). This research seeks to capture the phenomenon related to the form of illustration in new media, especially as an element of interior design. Not a form of graphic illustration that acts as a patch or decoration element of an interior design element, but the graphic illustration that acts as part of an interior design element and supports the function and value of a room.

2 RESEARCH METHODS

To find out the new forms and functions of graphic illustrations applied in hotel interior design, research methods and stages are needed. The approach used to solve this research problem uses a qualitative approach with the case study method. Observations are carried out by conducting a digital visual study of the research object, where there are many data sources related to the application of graphic illustrations on the research object, seeing the interior design of the research object is dominated by the graphic illustration. Furthermore, observations were made with a short visit to the object of research to complete the data obtained digitally. As supporting data, interviews with participating artists and illustrators were also conducted, to obtain data on how artists and illustrators process space with their illustrative works.

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2.1 *Methods of data collecting*

Primary data is taken from digital visual studies and obtained directly from the field where the data is brought and simulated for further observation and analysis. Starting with the finding of the phenomenon that art or graphic illustration acts as a form of self-expression of artists and illustrators as works of art. Followed by this graphic illustration is bought into new media and forms, based on new needs. The phenomenon is studied, observed, analyzed, and juxtaposed with related theories. Later recommendations for designers, artists, and illustrators are found. These recommendations should enable collaboration of interior design with graphic illustration applications that are by the rules and functions of space to get a good composition.

The analysis is divided into two parts, each part is determined based on the research problem. The first analysis is about the form of graphic illustration as a visual display of interior design, and the second analysis is about the function of graphic illustration as a visual display of interior design to visitors.

3 RESULT AND DISCUSSION

In any boutique hotel design project, works of art are unique features of the human experience. They involve the complex interplay among stimuli, persons, and contexts (Helmut 2011). The use of graphic illustration works that are applied to the visual appearance of interior design has its functional value related to interior design elements. In this case, the graphic illustration by the artist/illustrator has a function as a selling point and the identity of Artotel Thamrin, Jakarta in its

Research Sample	Artists	Illustration technique	Illustration shape	Interior Design Element	Image references
Bedroom 2nd floor	Ykha Amelz	Sticker, Wallpaper, Doodle on wall	Text, Caracter figure	Bed Backdrop + Working table	
Bedroom 3rd floor	Zaky Arifin	Illustration with chalk (Chalk on Blackboard wall)	Line shaped Animal figure	Bed Backdrop	
Bedroom 4th floor	Oky Rey Montha	Painting, Wallpaper	Character figure	Bed Backdrop	
Bedroom 5th floor	Wisnu Auri	Doodling, Wallpaper	Abstract figure, Text, Caracter figure	Bed Backdrop	
Bedroom 6th floor	Eddie Hara	Wallpaper	Character figure	Bed Backdrop	

Figure 1. Artist interview results (image source: artotelgroup.com).

concept. Artotel has a concept that puts forward the value of art in all of its design elements, both from the architectural elements and also the interior design elements.

Graphic illustration works by artists and illustrators who usually attend art exhibitions are now present in a hotel commercial building located in the capital's business activity area. Their works usually use canvas, print, and so on for art exhibitions, in this case, the artist and illustrator work on their graphic illustration work on the media of interior design elements by responding to the fields in the room.

The application of graphic illustrations to hotel facilities in this case study can be seen from the shape of the facade of the building, where the visual dominance of the facade lies in the application of striking graphic illustrations. The use of white paint as the base color is used to highlight the complex form of graphic illustration. The building facade element in the form of a glass window does not reduce its basic function but the shape of the window blends with the illustration. The graphic illustration here becomes a differentiating identity compared to the identity of the surrounding buildings so that it is out of habit and outside the context of the building in general in its environment.

Entering the ground floor of the hotel, we will meet the lobby and restaurant area. These two public areas are also dominated by graphic illustrations and art installations that blend with interior design elements so that the interior design in these two areas emphasizes that artwork is the main design element in the interior design. The object of research is limited to the second floor to the sixth floor, where the area consists of a consumer stay room, and a circulation area in the form of corridors and foyer lifts. For the rooms, the researchers used a sample of 20 units on each floor. Bedroom unit 20 is a 20m2 room with a king-size bed, work area, bathroom, wardrobe, TV, etc.

The picture below is a research sample of studio-type 20 room units on the fifth and second floors. The highlighted area is the main focus area for the visual appearance of the space. There are two activities of space users related to visual appearance. Activities in the work desk area, and activities in the bed area.

Figure 2.   Area of application of illustration in hotel bedrooms (image source: Personal documentation).

4   CONCLUSION

Function and form Graphic illustrations that applied in the Artotel Thamrin, Jakarta are works that no longer have the same functional value as their works in art activities in art galleries. The application of graphic illustrations in the visual appearance of interior design has new functional values related to interior design elements. In this case, the graphic illustration of the artist/illustrator has a function as a selling point and the identity of the interior design. Each work of the illustrator has a specific character to the work on the interior design elements of the living room and hotel foyer area.

The conclusion from the results of this study is that recommendations for interior designers and artists/illustrators on how to apply visual appearance to interior design, specifically interior design for hotel objects in bedrooms. The two areas of interior design elements are areas that are identified as requiring a high stimulus for the activities of the space users. In the bed area, the position of

the room user will not make a direct gaze at the visual display on the back wall of the mattress, so that the level of stimulus when the room user is in the mattress area will be lower. In contrast to the work desk area, with a work desk directly adjacent to the wall, the visual display on the wall will provide a greater level of stimulus to space users. The use of graphic illustration as an added value of interior design is currently widely used. This study focuses on hotel bedroom objects with graphic illustrations that are applied to interior design elements. Opportunities to learn the relevance between graphic illustrations and objects of other spaces are very open.

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Game as a platform for fun online class

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ABSTRACT: Online learning is being widely used during the COVID-19 pandemic. Many online
applications serve as a medium for online learning. However, each of it has a level of saturation that
results in a decrease in learning performance and eventually into gimmick problems that students
often face. In this paper, the author tries to create an online class application concept by adopting
gamification to immerse students in taking online classes. This relieves boredom due to applications
that only prioritize functions, so students have other goals when accessing online class applications.
This study uses a mixed-method sequential combination to understand phenomena that occurs with
a concurrent triangulation strategy for comparison of both high school teachers and high school
students with the same weight as application users. Media studies are conducted to compare similar
media that have the potency to be used as online learning media. Gamification can make students
motivated in online classes. Moreover, there is higher potency to make super apps by implementing
gamification on online class media.

Keywords: application concept, COVID-19, gamification, online class, super apps

1   INTRODUCTION

The online learning system has become a new habit in society during the COVID-19 pandemic.
This system has been implemented since the enactment of form letter number 4 of 2020 regarding
the implementation of education policies during the spread of the Corona Virus Disease (COVID-
19) by the Ministry of Education and Culture. After this policy was initiated, many applications
appeared on various platforms such as computers and mobile phones that help the online learning
process. However, this change harmed some students; due to several factors, including inadequate
equipment such as hardware that does not meet the minimum specification standards, network
problems, applications, and lack of interaction between teachers and students themselves. A study
said, "During the COVID-19 pandemic, students exhibited little or no progress during online
learning sessions where the most prominent learning loss was observed in the students who were
less fortunate." (kemendikbudristek et al. 2021).

   Learning loss is a lack of interest in student learning that causes students to do other things
during online learning sessions, such as turning off the webcam, playing games, browsing social
media, and even sleeping. In addition to the lack of interaction, there are other causes of learning
loss: the application used in online learning itself. Therefore, as stated by kompas.com (2021),
"teachers must be able to provide creative and innovative online learning processes so that students
do not lose concentration and enthusiasm in online learning sessions".

   Each application has a level of saturation that can result in reduced student motivation. However,
this can be overcome by applying game elements to immerse students in attending online classes.
These elements include providing challenges, rewards, and punishments in gamification so that
students have other goals in participating in the learning session.

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2 RESEARCH METHODS

This study uses a mixed sequential method with analysis using a concurrent triangulation strategy. High school and vocational high school students are the primary targets in this study because they have complete responsibility for the social environment (Desmita 2009). The response will show results of effectivity and the suitable kind of gamification for both teacher and students. Features and tools present in the application mentioned by the respondent will be listed and compared to determine which feature should exist on online application media.

2.1 *Mix methods*

The sequential combination method is considered suitable in this study because this method can combine research findings obtained from both methods (Mulyadi et al. 2020). Interviews were conducted with teachers, and questionnaires were given to students to get various points of view from participants in online learning sessions. Media studies were conducted to compare the media that are commonly used in online classes.

2.2 *Concurrent triangulation strategy*

The analytical method with the Concurrent Triangulation Strategy is suitable because this study possesses data that can be compared. This strategy is adopted to determine whether there will be convergence (unification), differences, or combinations. In this strategy, mixing occurs when the researcher reaches the interpretation and discussion stage (Mulyadi 2020). By comparing data from teachers and students, the authors can find out what factors can affect the saturation of an online learning session and determine what kind of features and tools should be present in media for online classes.

3 RESULT AND DISCUSSION

In this study, the questions focused on the experiences of teachers and students while taking online classes. The analysis is carried out to determine what kind of online application users want by comparing teachers' and students' data. An analysis of applications commonly used for online classes in Indonesia is also carried out as a benchmark to determine the basics needed to create a better online class application.

Table 1. The efficiency of online class.

Not Very Efficient	Not Efficient	Normal	Efficient	Very Efficient
10%	30%	40%	16.7%	3.3%

The questionnaire was taken from 30 Vocational/High School students in Indonesia who took online classes during the COVID-19 pandemic. Online learning tends to be less efficient, especially for Vocational High School students who feel confused when practical activities are rarely carried out. Students can focus in learning sessions when the material is presented, and the teacher's teaching methods appeal to them. The majority of students often turn off the camera (56.7%) when the learning session begins. It happens because of permission granted from the teacher as well as technical problems experienced during the learning process. Even though the camera was turned off, most of the students followed the lesson, and the rest did other activities.

Table 2. Most favorite application for online class.

Zoom	Google Meet	Whatsapp	Other
26.70%	46.70%	16.7	9.9

The most popular application is Google Meet, with technical problems, including network stability, sound quality, and device overheating. The preferred graphic display is simple (36.7%). It can be because all are (70%) and the on what prizes will be. Most types of are/online motorcycle taxis, and with regular tasks difficulty levels. Most students believe that gamification can increase attention in online learning (55.6%) depending on what prizes will be given. The most popular types of prizes are shopping/online taxis vouchers, with routine tasks difficulty levels. The majority of students believe that gamification can increase attention in online learning (55.6%).

The interview was conducted on one of the Telecommunication and Information Technology teachers at Vocational High School of Telkom Jakarta. Online learning is considered less efficient, especially for vocational students. It is because every student has the possibility of experiencing technical problems and troubleshooting while doing practical activities. Normal subjects have little impact on the efficiency of the learning sessions. The condition of online learning has a positive side where students are required to find information independently.

Teachers are concerned when students turn off the camera, as it also raises a doubt about whether the learning materials are well received or not and if students attended online class sessions or practiced activities when the camera is turned off. The teacher implements different ways such as asking questions frequently, this one is the most effective. In addition, teachers also often ask students to turn on the camera to receive attention due to a busy schedule and devices that must be turned on for approximately 5 hours per day.

On the other hand, teachers are also concerned about the Loss of learning caused by online classes. Therefore, some teachers include mini-games in their lessons. Learning losses cannot be directly overcome because this is caused by the students and must be resolved gradually.

Interviewees prefer the Zoom application because it is easier to use. On the other hand, according to the interviewees, Google Meet has a weakness that is very memory-consuming, which causes applications used for practical activities to tend to be heavier when used simultaneously. In addition, technical problems faced include unstable networks, limited internet data, and blackouts. Gamification can potentially attract students' attention in online learning by giving simple prizes such as vouchers, seminar tickets and others with different difficulty levels.

Media studies were carried out on the applications mentioned in Table 2. Resource persons suggested the Discord application because it can be used as media for online classes. The comparison results are divided into two parts: core features and tools, categorized as free-to-use applications. Core Features is classified as a usable mechanical system and becomes the main highlight of an application. Tools are classified as optional mechanical systems provided by the application and may or may not be used depending on the user's wishes. All applications in Table 3 have desktop and mobile versions.

Zoom and Google Meet are the main choices as online class media. Both applications have similar tools and are very important to use in various situations. However, both applications have one crucial feature called breakout rooms which can only be accessed when users purchase premium services. This feature is essential because it can divide channels into one learning session that can be used for group assignments. This system can make it easier for teachers to monitor students in group assignments.

Discord can be used as a medium for online classes. Discord has the advantage of a multi-server system where each user can have up to 100 different servers that can be accessed, and the administrator will manage each server. Teachers can act as administrators and manage channels as well as privileges for the student. Discord is designed to be a relaxed and straightforward application, but it does not have many other tools that support online learning, such as recording tools.

Table 3. Feature and tools comparison.

	Zoom	Google Meet	Whatsapp	Discord
Feature				
Social Media Integration	✓	✓	✓	✓
Multi-camera view	✓	✓	✓	✓
Breakout Room				✓
Administrator settings	✓	✓	✓	✓
Multi-Server				✓
In-App Private Chat	✓	✓	✓	✓
Tools				
Whiteboard	✓	✓		
Custom Emojis				✓
Video Recording	✓	✓		
Audio Recording	✓	✓		
Screen Share	✓	✓		✓

The application concept is made by prioritizing gamification as content that can trigger students to be more motivated in online learning sessions. According to Putra and Priyatmojo (2021) "Gamification can be accepted and applied in English classes to fulfill the purpose of gamification, namely to increase students' interest in learning English". Therefore, gamification has great potential to be applied in media that support online classes. "The success of gamification design in e-learning systems must consider the main concepts in games: goal-based activities, reward mechanisms, and progress tracking" (Yamani 2021). In addition to this, we must consider the type of players who will be involved later. Valkyrie (2017) mentions that, "there are 4 types of players who are focused on the intersection between productivity and engagement".

Figure 1. Types of players (Valkyrie 2017).

The four categories of players should have content so that they have achievable goals when accessing the app. All content has rewards in the form of points or prizes in the form of objects. All missions are given to get students' attention. For example, the daily mission is to turn on the camera during the lesson/meeting for 2 hours. Indirectly by implementing these missions, students will try to turn on the camera when the lesson begins. Implementing eye tracking in the system, it can also help to reduce cheating committed by students.

The point system is implemented so that students can choose what prizes they want to exchange. Achievement is implemented, which aims as progress tracking for students. The ranking/Leader board is implemented for students who like to compete. Students who fall into the enamored category tend to be more concerned with the opportunities that exist in the game mechanics (Valkyrie 2017). Opportunities here can be interpreted as what benefits they will receive when running content.

Meanwhile, students in the novelty category do not like content that is "too challenging", the same as users in the progression category, because both groups often threaten to leave the game if the content does not meet their preferences (Valkyrie 2017). Nevertheless, more challenging content can be given to a faithful and enamored player. It is because these types of players can win the level of making increased sense of satisfaction as part of the entertainment (Machfiroh et al. 2021).

Table 4. Goal-based activity.

No.	Content	Types of Players			
		Faithfull	Progression	Enamoured	Novelty
1	Level system	v	v	v	v
2	Daily Mission	v	v	v	v
3	Weekly Mission	v	–	v	–
4	Short Terms Event	v	v	v	v
5	Long Terms Event	v	–	v	–
6	Achievement	v	v	v	v
7	Ranking / Leader boards	v	v		

Gamification implemented in online classroom/conference media has the potential to cover a larger scale, for example, by making Super apps specifically for conferences, seminars, classes for public, internal, or both. Super apps can expand the scope of application users, especially those who work in the academic field. Motivation can also be increased because the prizes given are increasingly diverse. In addition, information about conferences and seminars can be compiled in one application to facilitate disseminating information. Its development must prioritize the features and tools that can be used in the application, especially memory usage, and avoid damage to the user's device.

4 CONCLUSION

Previous research by Putra and Pryatmojo (2021) stated that gamification could increase student interest in learning the English language in offline meetings. As previously explained, the concept of gamification in the application can also increase student motivation in online learning sessions. Students are required to motivate themselves to complete missions and get rewards. In implementing gamification, user categories must be considered so that each category has content that they can enjoy and complete. All missions are aimed at focusing students' attention in the learning session.

For further research, gamification in applications has great potential to become super apps. It is necessary to pay attention to its development, especially features, tools, and systems. The content presented can be developed by researching gamification in other applications. User categories can be developed using theories from other scientific fields to expand the reach of the content.

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Legends come alive: Preserving the visual idiom based on Osamu Tezuka's Paidon

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ABSTRACT: Osamu Tezuka is known as a pioneer of modern manga. His works such as *Tetsuwan Atom, Black Jack*, and *Kimba The White Lion* have been translated into various languages and have received many prestigious awards in the field of comics. In 1989, Tezuka passed away, leaving a cultural legacy not only for manga but also for the comics world. *Phaidon* is a manga created under the name of Tezuka and published in 2020. The interesting thing about *Paidon* is that its creation was done by Artificial Intelligence and staff from Tezuka Pro. This process is relatively new in comics because, generally, comics are made by an artist/group. This research focuses on *Paidon* as a case study to build a model of how visual idioms are constructed. The method used is the visual analysis by Gillian Rose, which covers aspects of production, image, and audience, where each aspect includes technological, compositional, and social modalities. This study concludes that the preservation of deceased artists required capable human resources to mimic the visual language; the AI took the role of a production apparatus. This might be one production method in the future. However, without the capabilities of human resources, *Paidon* would not achieve a maximum visual approach.

Keywords: comic, manga, Osamu Tezuka, *Paidon*

1   INTRODUCTION

Osamu Tezuka (1928–1989) is a manga artist who was considered the God of Manga by many during his lifetime. Tezuka had released 700 manga series, which contained new aesthetic and dramatic approaches and marked a modern era manga. Tezuka began his career through *yon-koma* (a 4 panel comics) titled *Ma-Chan's Diary*. The first comic book created by Tezuka is *Shin Takara Jima* (*New Treasure Island*). This comic is printed in *Akahon* format (*Aka*=red, *Hon*=book), this low-quality red-covered book became an inexpensive entertainment format for children in Japan during post World War 2 era. In *Shin Takara Jima*, Tezuka experimented with the narration and implemented a film approach, which was inspired by Hollywood movies, he also adapted the style of American animations such as *Mickey Mouse* and *Felix The Cat*. This filmic approach and visual character became a style trend that many manga artists copied at that time, moreover, the visual characteristic became the standard format of the manga (McCarthy 2009). Although Tezuka drew many influences from western popular culture, he still maintains Japanese identities within his characters which is also manifested through the races of his characters (Whaley 2012)

In 1952, *Tetsuwan Atom* also prominently known as *Astro Boy* was released by Tezuka. The story was about a child android able to permeate American market and adapt in various media. The Osamu Tezuka Manga Museum officiated in 1994 in Takarazuka as a conservation endeavor to Tezuka works and inspiration to pop culture, especially among young manga artists.

Through many works by Tezuka, several years after his death Tezuka released other comics titled "*Paidon*". *Paidon* is one of Tezuka "works" released in 2020 through Kodansha publishing. This manga was created by Tezuka Pro staff with assistance from AI (Artificial Intelligence). This approach in making comics is relatively new, especially from the deceased artist. Even though there are speculations that this is an endeavor to conserve Tezuka's works but still everything about the phenomenon is much to look at. A previous study about the involvement of AI in making art

concluded that art by definition is only created by humans (Hertzmann 2018), which means that AI is considered as a tool in the art-making process. This study serves as a basis for conserving art with the assistance of AI. This case study could be the gateway to conserve deceased artists' works even after their deaths despite its controversies. This study aims to formulate the construction and visual language by deceased artists but their works are well documented using a qualitative approach with the theory suggested by Gillian Rose.

2 RESEARCH METHODS

The methodology used in this research is qualitative inquiry, the validation of the data is through empirical studies obtained from visual data, interview, and observation. Although, the qualitative methodology won't allow generalization of the findings (Batista et al. 2021), meaning that there's a slight possibility that the result won't apply to certain visual constructions. Nevertheless, the analysis of visual data and the observation data will be the primary focus, which will lead to conformity to formulate the visual construction and visual language. The visual data will be obtained through literature studies. The observation will be conducted online through distribution on the website of *Paidon*. the interview will be conducted with a native Japanese artist which have the capabilities to give perspective through experience and observation. The analysis of data will be conducted through visual methodologies suggested by Gillian Rose. Rose's visual methodology analyzes three sites of a visual object, namely: sites of production, sites of the image, and sites of the audience. Each of the sites contains three modalities, namely: technological modalities, compositional modalities, and social modalities.

2.1 *The production site*

The production sites discuss every aspect of the production of a certain visual object; the three modalities of this site are mainly focused on the production process, the technological apparatus, category of a certain visual object, the formal aspect of the visual object, and the social condition, which affects the production of the visual object.

2.2 *The site of the image*

The site of the image is focused on analyzing the meaning of the image. The technological modalities will analyze how the visual presentation is perceived by the audience and how they are being presented in the technological aspect (such as color, grid, texture) and also what certain practices of the artist mean (certain techniques of choice will result in a certain way). The compositional modalities will discuss how the public categorizes the visual object, for example, several people will appreciate a nude photograph, on the other hand, certain people will disdain the painting and see it as an act of bestiality. Lastly, the social modalities will focus on discussing how certain images affected people whether in the behavioral stage or the cognitive stage.

2.3 *The audience site*

The three modalities constructed in the audience site will primarily focus on the public. Rose suggests that the researcher should position themselves as an audience and have their interpretation (Rose 2001). The technological modalities will discuss how the technological aspect of visual presentation affected the reaction of the audience; this means a technological presentation of certain visual objects will create a different impact of the audience. The compositional modalities are more or less the same as the site of the image; it will discuss the meaning of the visual object with the audience. The social modalities are the primary discussion in this site, it will discuss how the visual is being presented, what does it mean to the audience, when is it being presented, where is it being presented and distributed, who is it for, and why is it being presented in a certain way.

The social class of the audience will also affect different reactions and behavior of certain visual objects.

3 RESULT AND DISCUSSION

In this section, each modality will be analyzed. This analysis is based on obtained data such as literature study, interview with a Japanese artist to make a perspective pertaining to the subject, and observation data, which was obtained through the distribution website of the comic.

Figure 1.   (Left to right) Paidon and Apollo, *Paidon* title page. (Source: Morning Magazine 2020).

This analysis includes the social, technological, and formal aspects that are covered within the works. The conclusion of this analysis will be formulated into the recommendation of the visual construction, production, and substance creation method. Below is the analysis table.

Table 1.   Analysis of modalities.

| Site | Modalities | | |
	Technology	Compositionality	Social
Production	AI created script and drawing drafts. These drafts will be processed traditionally by Tezuka Pro staffs. *Paidon* published by Kodansha in the format of a magazine comic. In its early inception, *Paidon* can be read freely in 30 days through the website	Adaptation of American animations and filmic narration still appears in *Paidon*. In Japanese terminology, manga refers to comic book. From the cultural aspect, *Paidon* can be categorized in modern manga	Tezuka Pro collaborated with Keio University in developing AI, based on respondents, this comic creates nostalgia and is Tezuka alike
Images	The black and white format initially minimalized production costs until it became the characteristic of the manga. *Paidon* is no different from other manga generally, looking by the visual presentation and format.	Based on the previous discussion Tezuka is one of the pioneers in manga history, this culture is rooted after Tezuka's legacy, therefore radically *Paidon* is one of the cultural phenomena, although the AI touch is mere production apparatus. *Paidon* also sparks nostalgic feeling in the readers.	*Paidon* is generally a comic, however looking at other aspects, *Paidon* creates social perspective such that the works from deceased artists could be revived in a certain method of production

(*continued*)

Table 1.   Continued.

| Site | Modalities | | |
	Technology	Compositionality	Social
Audience	The creation process with the assistance of AI doesn't expunge Osamu Tezuka's visual characteristic. There are fewer discrepancies than other general manga. The AI touch make compelling impression on the audience, there is certain solicitude that is covered within *Paidon*.	One of Tezuka's story's characteristics is the philosophical storyline. These traits still are covered in *Paidon*	*Paidon* is distributed through comic magazines and website. It is being disseminated specifically in Japan only. Released in February 2020, this manga is produced for fans to enjoy his new works. Inspiring young manga artists, and preserving Tezuka as a Japanese culture icon.

4   CONCLUSIONS

As previously discussed, Tezuka visualization is heavily influenced by American animation icons such as Walt Disney and *Felix The Cat*. Tezuka adapted various genres in terms of themes, ranging from adventures, drama, and actions; however, future technologies and spirituality are often the predominant themes in Tezuka's works (*Astro Boy, Phoenix*). This still can be seen in *Paidon*. This manga is set in 2030; Paidon is the protagonist solving many criminal cases in Tokyo with a multi-talented bird robot named Apollo. *Paidon* still represents Tezuka's visual characteristics as big-eyed and expressive to various characters; the perspective and dramatic effects still appear in *Paidon*. In addition to that, the futuristic impression is still being presented by the properties, backgrounds, and environment designs.

Paidon was created with the assistance of AI to be processed traditionally by the staff of Tezuka Pro. AI was assigned to create story and drawing drafts based on compiled data of 65 Tezuka's previous works, including *Black Jack* and *Astro Boy*. The AI collects and processes the data to be processed by human resources. The human factor took a significant role in the production process, making it more emotional, aesthetically, or story-wise. Multidisciplinary collaboration is one of the essential keys in works production; in *Paidon* case, there are parties in charge of developing AI to facilitate human resources in manga production. The capabilities of human resources to mimic the visual language of a specific artist are required to achieve an outstanding preservation result.

The AI touch in the production of *Paidon* certainly became a great assistance to the production of manga. However, there are several missing artistic details on *Paidon* compared to Tezuka's previous works. As a conservation endeavor for deceased artists, the use of the AI could be one approach to foster novelty in terms of art, or *Paidon's* case new approach in comics, so to speak.

Paidon is a case study where AI supports the process of creating manga for the deceased artist. The frequency of publication is much lower than general manga, making this research only focus on the first chapter. More visual and textual data are also needed to further inquiries whether this kind of product can continue to be accepted by the audiences. Further studies related to supporting aspects such as; local culture, audiences demand, government policies are needed to see how far this kind of creation model is applied to comic production in general. This recommendation might not apply to certain artists in certain countries as government policy, economic situation, and social system may differ.

This research still needs several data to provide a more conclusive result. The data needs to be inclusive, including more in-depth interviews. A similar study pertaining to the comic industry needs to be continued as old masters have different aesthetics. In addition, this study covers only one case study.

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Culinary industry digital promotion strategy for generation Z on the Instagram platform

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ABSTRACT: This study contains an analysis of the digital promotion strategy of the Ayam Geprek Bebas in Bandung, which was observed in 2020–2021. It responds to the next wave of consumers, a new generation called Generation Z with different behavior from the Millennials. A new approach is needed to understand how to effectively gain attention and increase the product sales in the market toward Generation Z. The methods used in this qualitative descriptive research are literature study and participant observation. Meanwhile, the digital marketing theory is used to analyze the promotion strategy applied by the brand Ayam Geprek Bebas and the view of characteristics from each generation to understand how the object's behavior understudy is. The results of this study show that the application of digital promotion and marketing strategies by the Ayam Geprek Bebas can persuade Generation Z with an increase in awareness, which impacts increasing online and dine-in ordering transactions.

Keywords: Promotion strategy, Culinary industries, Digital promotion, Generation Z

1   INTRODUCTION

Fluctuated changes in the industry are always challenging for every company, in this case—where a newer generation, such as Generation Z with the swift buying cycle, enters the culinary market. As each generation has a different habit for food consumption, the culinary companies must adjust their strategies with this transformation. Therefore, research is required to find out how the characteristics of Generation Z change within the culinary market and how companies can adapt their promotion and marketing strategies to the characteristics of Generation Z to survive.

Ayam Geprek Bebas is a culinary brand located in Bandung, established in 2015. Like other culinary brands, Ayam Geprek Bebas also needs to adapt to the entry of Generation Z in the market to compete in the culinary industry, especially, in the area of Bandung. Adjustments on digital promotion strategies need to be done by understanding Generation Z's characteristics and implementing this insight into the promotion strategy.

A generation is a group of people who were born in a certain period of birth. Still, the year of birth is not the main factor that forms the characteristics of a generation and it cannot be ascertained with the exact number of years. The time of birth is only a marker for other factors. The factors that shape a generation include significant events, the generation who raised them, and technological developments.

Generation Z grew up with parents from Generation X, shaped by various events and recent technological developments (Stillman 2019). Every generation has a significant event that changed the way they live and the way they think. Generation X witnessed how television and pop culture entered Indonesia. Millennials witnessed the monetary crisis and the great riots in 1998. While Generation Z witnessed the war against terrorism, how the internet entered, and the development of the iPhone. These conditions are significant forces that occur in the environment when each generation enters adulthood.

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Technological developments also have changed how Generation X carries out parenting of Generation Z. This takes the protective attitude of parents to a new level. Generation X parents get warnings through instant messaging on the protection of Generation Z children from several issues that were never a problem in the past. Starting from the ingredients of children's snacks at school to selecting the safe plastic for drinking bottles. On the other hand, Generation X is just as comfortable with technology as their Generation Z kids. As a result, Generation X as parents have a lot in common with their children, Generation Z, in terms of taste in music, clothing, and activities they engage in (Stillman 2019).

Generation Z grew up with a screen that was always on, ranging from car tv, school computers to smartphones. Technology cannot be separated from the reality of Generation Z (Turner 2012) where material things always have similarities in the digital world, such as maps, radios, compasses, calculators, dictionaries, etc. Every physical thing always has a perfect imitation in the digital version. For Generation Z, physical and digital is the same thing (Merriman 2015). This generation is used to the practicality of the internet (Greydamus 2012). Seeing products, comparing, asking questions about products, making purchase decisions, and all associated tasks are managed through technology and the internet.

Born after 1995 and growing up with internet access (Mowery 2002), Generation Z does not like advertisements that offer their products between their online activities (Stillman 2019). The habit of Generation Z contrasts Generation X and Millennials, who grew up with television showing advertisements during their favorite shows. Both Gen X and Millenials were forced to watch advertisements, or they would miss the shows they were waiting for. Generation Z has the option of skipping advertisements and speeding up shows if they find them uninteresting. This generation can entirely control their choice of media. If they are interested in a show on TV they search for the same on the internet. It is a new challenge for creative teams and marketers to get their attention, considering Generation Z's attention to advertising is very narrow.

In addition, social media is also an important thing that cannot be separated from the daily life of Generation Z (Stillman 2019). Nurhayati (2021) states that social media penetration will reach 94 percent in 2020, making Indonesia the most prominent social media market globally. Seeing many social media users from Generation Z, the brands need to regularly update their social media feeds and use them as a virtual showcase for their products.

The previous research that analyzed the characteristics of Generation Z as consumers could be found in many sources. This fact indicates that research related to Generation Z and their consumer behavior is fascinating to study. For example, in a research journal by Stacy Wood in NC State University, *Generation Z as Consumers: Trends and Innovation*. A scientific work studies Generation Z's character and their differences with Generation Y (Millennials) and differences in consumer habits. This qualitative descriptive study looks at four characteristics of Generation Z as consumers: 1) Focusing on innovation. They are always looking for the best innovation implemented by various companies to make shopping easier; 2) Convenience, which grew up with millions of things that are in the market. They will choose the offers that can enable them to shop more efficiently; 3) Securities, grew up with recession and various news about crises, Generation Z is pragmatic and need-oriented consumers. They are more careful about products and brands they buy; and 4) Escapism, an environment that gives responsibility and pressure at a young age. It makes Generation Z a generation that consumes many products that make them escape from the busyness and daily problems, such as video games, subscriptions to movie platforms, coffee shops, etc.

2 RESEARCH METHODS

2.1 *Literature study*

A literature study is done by looking for reference sources from books and journals, including the literature on the characteristics of Generation Z and some of its constituent characters, as well as literature on promotion, marketing strategy, and design elements.

2.2 Observation

Participant observation is carried out with participants, which means collecting data by observing closely with the group to study their habits by involving themselves intensively. In this study, observation was done by participating with Generation Z consumers as well as Graphic Designers who designed promotions and designed Instagram Feeds.

3 RESULT AND DISCUSSION

Insights gained from the analyzed result are implemented during the design process by placing ads on the sidelines of Instagram Stories. Instagram users in Indonesia spend an average of 8 hours per day, which proved the significant increase in consumer engagement. Instagram Ads were also chosen because it is a short-medium but can provide awareness about the product. Ayam Geprek Bebas gets attention from 25,838 or an increase of 95% from Generation Z consumers aged 18-24 years that visit their Instagram page. Ayam Geprek Bebas also uses social media as a virtual showcase of products and customer service through direct messages, which always respond quickly to complaints or questions from consumers. Besides that, there is also various information such as outlet addresses, menu prices, promo info, FAQs, and reviews for Generation Z consumers who look for information about Ayam Geprek Gratis before ordering or coming to the location. In addition to the information offered, the Ayam Geprek Gratis social media also directly links to the online food ordering application.

From the observational data conducted on the digital Promotion strategy of Ayam Geprek Bebas, as a whole, they began to maximize the use of social media. It means communicating with customers, creating virtual showcases of products, and using online food ordering application platforms like GoFood, GrabFood, and Shopeepay.

Table 1. Observational data of Ayam Geprek Bebas.

Generation Z Characteristics	Strategy	Image and Description
1. Short attention span to advertising	Design ads briefly but able to get the attention of Generation Z consumers and provide information about the product as best as possible Z	
2. Completely control what they want to see on the internet	Placing advertisements in strategic positions to get the attention of Generation Z consumers	An 8-second ad placed between Instagram Stories through Instagram Ads that can describe products so that consumers get awareness about the products offered by Generation Z

(continued)

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Table 1.   Continued.

Generation Z Characteristics	Strategy	Image and Description
3. Social Media as an inseparable part of Generation Z's everyday life	Facilitating the Interest-Search-Action process of Generation Z consumers in the use of Generation Z's social media	 Highlight column on Instagram that provides various information about Ayam Geprek Bebas to Generation Z consumers The link that is connected to a Google Map of the outlet location, and a link for online ordering
5. Sensitive to the development of communication and technology	Analyze and choose which trends will influence the digital Promotion strategy that will be carried out	 Taking advantage of the ongoing trend when the Korean drama series 'start-up' is being discussed on social media by placing it at the Ayam Geprek Gratis outlet to increase brand awareness

Source: Syakuntala, Nurusholih (2021).

While responding to the various trends, the marketing team and designers chose which trends can be followed, aligned with the Ayam Geprek Bebas Promotion, and marketing strategies to increase consumer engagement and awareness. It was done when the Korean drama 'start-up' trend was being discussed on social media. Ayam Geprek Bebas created feeds related to the trend and increased 68% from consumer comments and likes. If riding the wave of trends strategy is implemented into a branding strategy, designers have to take advantage of issues that are being discussed by the wider community as a strategy, the issues that are currently being discussed need to be reviewed and modified to better fit the business identity.

The development of technology and social media accelerates the spread of information on the internet. Generation Z is very sensitive to changing trends on the internet, ranging from the short video *Odading Mang Oleh* to the BTS Meal phenomenon from McDonald's. The rise of a trend can occur in one night or less. Many of the trends on the internet appear and disappear in the same week (Hendroyono 2019). Like the fast trend in social media, the development of technology on the internet is also speedy. Generation Z witnessed many significant innovations and failures in the

world of technology. They saw how Google Glass, a product believed to change technology, later failed to the Clubhouse application on the iPhone, which succeeded.

4 CONCLUSION

The entry of a generation that has a different character from the previous generation and designing the right strategy to get the attention of a new generation of consumers must be done by various brands to maintain their existence in the market, especially in the culinary arts industry. The Promotion strategy Ayam Geprek Bebas on social media feeds answered that the characteristics of consumers, especially Generation Z, could be persuaded with the right approach and on target. However, Generation Z's digital promotion strategy will continue to change, considering the significant events currently happening, namely Covid-19, will continue to change the characteristics of Generation Z and how Generation Z will perceive a brand. Therefore, an in-depth study is needed to be developed to examine how Generation Z and the Covid-19 pandemic affect their characteristics.

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Mangrove tourism promotion strategy in Serdang Bedagai during the pandemic

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ABSTRACT: Mangrove Forest is a unique and distinctive forest ecosystem; it is also a very potential natural resource. Serdang Bedagai District has a unique coastal area. In addition to the panorama, there is education about the importance of mangroves as habitat guards and coastal natural preservation. However, the condition of Indonesia being hit by the COVID-19 pandemic, the economic burden has increased. Many attractions lack visitors, resulting in a decrease in the income of people who depend on these tourist attractions for their lives. For this, it is necessary to carry out innovative promotional strategies, especially to increase the awareness of the visitor community so that visits to mangrove beach tourism can increase again. This study uses a qualitative approach, the data collection instrument uses observation and interviews with purposive sampling the results will be analyzed using a comparison matrix. The results of this study are useful for increasing visits to mangrove beach tourism by paying attention to health protocols during the COVID-19 pandemic so that the income of residents can return to normal.

Keywords: COVID-19, Mangrove Forest, Promotion strategy, Promotion mix

1 INTRODUCTION

Mangrove beach tourism is one of the beach tourism located in Serdang Bedagai District, North Sumatra. Mangrove forest on this beach is a very productive ecosystem. Mangrove forest is a unique and distinctive forest ecosystem and is a very potent natural resource. In addition to the panorama, there is education about the importance of mangroves as habitat guards and coastal natural preservation. Mangrove forests are important habitats for thousands of species, they also stabilize coastlines, prevent erosion, and protect the land and humans from big waves and storms – including humans who live around it – (Fadly 2019). Education about the importance of mangrove forests is very important so that later mangrove forests can be maintained and preserved to avoid extinction. Not only for flora and fauna but the benefits of mangrove forests are also felt by residents who rely on their income from Mangrove Beach tourism. However, the current situation in Indonesia is still affected by the COVID-19 pandemic, the economic burden caused by this pandemic is very heavy. The tourism sector has experienced a drastic decline and the number of visitors who come to this tour has decreased. Sustainable tourism is not simply an environmental project or a green business plan, but should be integrally linked to projects of mobility justice that help support the rebuilding of resilient regional ecologies and regenerative economies (Sheller 2021). For this, it is necessary to carry out innovative promotional strategies to increase visits during the pandemic so that Mangrove Beach tourism can stand up to defeat the difficulties of the impact of the COVID-19 pandemic. But not forgetting efforts to increase public awareness of visitors so that visits to mangrove beach tourism can be orderly following government recommendations regarding preventing the spread of COVID-19.

2 RESEARCH METHOD

This study uses a qualitative approach with observation and interview instruments, the basic principle of obtaining in-depth information becomes a guide in determining the sample, which is selected depending on the criteria determined by the research objectives (Soewardikoen 2019:48). The research that will be discussed is the Mangrove Tourism Promotion Strategy in Serdang Bedagai during the pandemic. Strategic planning is carried out by the tourism office as a promotional tool, one of which is by approaching the community so that people see and are interested in visiting mangrove tourism objects. In this study, the government acts as an informant in discussing the promotion strategy of mangrove tourism objects in Serdang Bedagai Regency. Selection of informants using purposive sampling to solve research problems can provide a more representative value. There are three staff in the Tourism Office, including NI as the Head of Tourism, and US as the Secretary of the Tourism Office, and HL as the person in charge of the Mangrove beach, who were then designated as informants, because the researchers set specific criteria as research requirements to be able to answer research problems related to the strategies carried out by the Tourism Office. The design of this promotion strategy collects data using observation methods to mangrove beach tourism sites and then conducts a literature study by looking for data sources from books, journals, and the internet. The collection of data is also supported by documentation in the form of photographs with informants and internal data firms. After that information is collected by conducting interviews with the local natural resource's office. The results are analyzed using a comparison matrix and an approach with the AISAS model which is used as a reference in designing promotional strategies to increase tourism existence during the COVID-19 pandemic.

3 RESULT AND DISCUSSION

The results of interviews that have been conducted with the Government Tourism Office of Serdang Bedagai District, that Mangrove Beach has advantages and attractions, namely that is the only tour in Serdang Bedagai that has education about mangrove forests. It offers views of the birds and some gazebos and swings which can serve as good photo spots. So far, the support from the local government has only been for road repairs, building toilet facilities, and prayer rooms as well as conducting seminars for MSMEs around tourism in the utilization of mangrove forest resources. The local government has not carried out any strategies or efforts regarding promotion, only brochures and magazines for all beaches in Serdang Bedagai are displayed at the Government Tourism Office.

Figure 1.   Mangrove beach tourism. *Source*: Personal documentation.

According to the results of observations that have been made, that mangrove beach tourism is located in the Serdang Bedagai district, which is quite far from the city of Medan. The position of Kualanamu airport with Mangrove beach tourism is quite far. So, it takes quite a long time to go through it. However, there is a toll road that connects directly from the airport to the Sei Jenggi toll gate, which takes about 38 minutes. Vehicles that can be reached from public roads are only by using public transportation on the Trans Sumatra road, to enter the Mangrove beach area, a private vehicle is needed because there is no online transportation or public transportation. The

condition of the road is already asphalt but there are only a few parts that are still rocky. Facilities that are already available are restaurants that provide food caught by local fishermen, toilets, prayer rooms, and homestays. However, the condition of this facility looks poorly maintained due to the decreasing number of visitors. The condition of the mangrove forest is very beautiful and there are many banners for learning about the types of mangroves, and education about how long it takes for the types of waste to decompose.

A similar Project Analysis was conducted on Banyuwangi Beach and Mangroves on Bintan Island. Banyuwangi District has great potential for its diverse tourism wealth, ranging from mountains to a very beautiful 175.8 km coastline. Very famous tourist attractions from Banyuwangi are Ijen Crater, Plengkung Beach, Red Island, and Watu Dodol Beach (Avinda 2016). Then the Bintan Mangrove is located in the village of Sebong Lagoi, this tour is managed by the local community and is used as a recreational object for natural tourism or commonly known as ecotourism. This tour has a mangrove forest with a length of 6.8 km. Many faunas live in mangrove areas such as mangrove crabs, red shrimp, mangrove snails, Lokan, and blood clams.

Seeing the greenery of mangrove trees and the distance to picnic locations such as beach panoramas, mangrove forests should also be used as tourist objects as well as interesting educational tours. Visual identity and promotional media are needed to increase public interest in visiting nature educational tourism (Ramadeni & Soewardikoen 2017). Making a promotional strategy with the theme 'educational tour' later this tour has two functions as recreation and education. Educational tourism is an educational activity implemented during excursions or trips which facilitates gaining knowledge and competence through practice. The model of structure of the education tourism concept identifies three main components: science of tourism, science of education, and the factors of the external environment (Prapiene & Olberkyte 2013: 149). The charm of the mangrove forest and its beaches, as well as the theme of the educational tour later as an invitation to create new experiences that are valuable and fun, will be the strength of the promotional strategy. The weakness of this strategy is that not everyone likes educational tourism, sometimes travel activities are just to relax as a fatigue reliever, while educational activities take quite a long time. Mangrove beach tourism has a beautiful panorama of white sandy beaches and many good photo spots, this can be improved and become a solution to these threats. There are not many educational tourist attractions in North Sumatra, this makes mangrove beach tourism a great opportunity for advanced tourism.

Analysis of similar projects is carried out to find out the differences and uniqueness with the object to be studied so that providing new insights into the mangrove tourism strategy in Serdang Bedagai District. Therefore, similar projects that will be analyzed are as follows:

Table 1. Comparison matrix with similar beach tours.

Location: Sergai, only known by local people. And reached only by private vehicle. Banyuwangi quite famous on the island of Java for the beach, which is very good in its natural potential. This island is known both from inside and outside the island, it takes a plane/ship to cross this island.

Facilities: Sergai, homestays, prayer room, toilets, and restaurant. Banyuwangi, apart from physical facilities, tour guide (English, Dutch, Japanese). Bintan, Speedboat, villa, hotel, resort, restaurant, and shopping mall.

Uniqueness: Sergai offers educational tours but has not been maximized. Banyuwangi as a national tourist destination based on culture, natural potential, environment. Bintan, around the mangrove forest as far as 6.8 Km by speedboat with natural views that are still very beautiful on the Sebong river.

Online Promotion Media: Sergai uses Instagram, Facebook. Banyuwangi has "Banyuwangi Tourism" application, Garuda Indonesia and Lion Air inflight magazine, IG, FB, YouTube, JTV, Website. Bintan uses Instagram, Facebook, website, YouTube, Net TV.

Offline Promotion Media: Sergai uses billboard. Banyuwangi uses billboards, banners, posters, event information panels. Bintan has tour packages to Bintan islands

The development of technology and informatics has a great influence on promotional activity, In designing this visual identity and promotional media, the selection of the right media is very

much needed (Sari & Soewardikoen 2015). Therefore, a promotional strategy will be made using the AISAS model. AISAS is a model in communicating marketing carried out by the Dentsu advertising agency obtained from technological developments (Sugiyama and Andre in Oktavia 2019: 54)

1. *Attention*, to make online promotions with Instagram, Facebook, YouTube, and Tiktok. Making offline billboard promotional media in the airport area and the Deli Serdang District and Serdang Bedagai District. Intend to attract the attention of the audience arriving in Medan and all vehicles on the Sumatra causeway.
2. *Interest*, to make the audience curious and want to visit can be made through social media Instagram, Facebook, and TikTok or put x-banners and brochures in the waiting room of Kuala Namu airport.
3. *Search*, create websites and social media by making information about tourism and creating hashtags for mangrove tourism to be disseminated by accounts or websites explore North Sumatra tourism which intends to provide wider and clearer information
4. *Action*, Audience will *be booking* or search about route information, ticket, or tour packages to Mangrove Beach.
5. *Share*, Later the audience who has visited will post travel activities through social media and can buy merchandise at tourist sites or shopping for souvenirs from Serdang Bedagai District.

4 CONCLUSION

The Mangrove Beach tourist area in Serdang Bedagai District offers unique tourism, in addition to the panorama there is education about the importance of mangroves as habitat guards and coastal natural preservation. Thus, this beach can be enjoyed by relaxing or recreational educational tours. However, the situation in Indonesia is being affected by the COVID-19 pandemic, Mangrove Beach tourism is empty of visitors, resulting in a decrease in people's income. Tourist areas have been affected by the economic crisis because of the pandemic. For this reason, a promotional strategy will be made by creating promotional media with the theme 'educational tour', which is a program where tourism activity participants travel on Mangrove beach tourism in a group or alone with the main aim of getting a direct learning experience with nature. This later serves as an invitation to create new experiences that are valuable and fun, this will be the strength of the promotion strategy and tourist attraction.

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Digital village transformation: A model cyber age for tourism

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ABSTRACT: The current research explores the potential 360-degree visual for virtual tourism to gain financially independent in the village during COVID-19. This paper focuses on Ponggok village where its *umbul* is a consequence not only of potential resources but also of long-term efforts of community empowerment to the digital village. The study uses an archival method or literature review and a case study. Under the background of the cyber age as a fundamental transformation, virtual reality has become a challenging issue for tourism concept which is engaged with ecological water resources. This study aims to identify the gaps in the featured literature and suggested potential virtual tourism in the underwater concept. The result shows that the internet, community empowerment, geographic resources, and building virtual technology are cyber age's elements. These are strongly indicated for successful virtual tourism based on digital village transformation.

Keywords: community empowerment, cyber age, digital village, Ponggok, virtual technology

1 INTRODUCTION

Online behavior has become a complex matter in a village. Due to COVID-19, there is a changing innovation for community empowerment as well. According to Karyna Tymoshenko, innovation of tourism is traditionally referred to as profile of digital and 360-degree or virtual reality with a particular community, cultural, and user practices with the earliest innovation with e-ticket service (Tymoshenko 2020). Also, internet technologies and telecommunication are keys due to which people can see some important information they need. During pandemic, a 360-degree virtual view tourism was reported, wherein its concept focuses on real-life gained content on huge screen monitors in specific space areas such as the walls or the floor of a room. These are authorizing multi-users for virtual touristic experiences. It can stimulate the potential emotion from a visual sense of the user. For the last decade, a real-world panoramic or 360-degree has been known as 360-degree VR (Slater & Sanchez-Vives 2016). It obtained momentum in the creation of both VR content and VR experiences. However, streaming 360-degree video is challenging for tourism, especially in underwater tourism spots. Thus, we used Ponggok Village as a case as it is rich in water resources and keen as an underwater tourism spot. Ponggok is one of the most famous villages in Klaten. The city reflected the cyber age as almost activities are conducted online during COVID-19. Cyber age can be defined as deeply embedded within a dominant rule using the internet by an online community or social media spaces that form part of the cyber age era. Previous research defined that cyber age becomes a new world of third space that manifests outside of old geographical physical boundaries as well. The cyber age comes up with pure community empowerment relations where the interaction and community are implemented at-a-distance (Wall & Williams 2007). Cyber age takes advantage of broadband network communications for the tourism industry (Mura et al. 2017).

The present research deals with the study of innovation of digital infrastructure in *Klaten* as a reflection of village transformation and cyber age concept. From a relationship regarding the term of transformation and cyber age, the present research highlights that successful a place is driven by the development of strong village innovations towards many aspects. Transformation in the village comes from how the community builds the village to become more independent and connects it

with digital technologies as well. Also, the current research aims to provide clear evidence and an empirical experience of how *Ponggok* village succeeded to transform Klaten city into the best destination for tourism. The village became a new role model of innovation in tourism concept based on water resources (*umbul*) for environment friendly concept. *Umbul* serves as an icon of the village and became a fully enticed, pointed, highlighted, and dream destination for both domestic and international tourists. Using Instagram and the underwater photography concept as the second strategy, *Ponggok* significantly increased thousand visitors a day.

However, underwater photography with fish has become a traditional concept to attract tourism in Ponggok. 360-degree virtual reality was never used by the community for visual attractiveness in cyber age cases. Thus, the present study identifies how 360-degree can be used for virtual tourism in cyber age phenomena which is gradually increasing in the COVID-19 era. In addition, previous studies also classified that cyber age is strongly connected with the internet and digital behavior. None of them focus on the independent villages with their strong innovation towards smart planning ideas, smart development approaches, and smart construction modes. Following Mora's et al., study, the present research is applied to fulfill the gap from previous studies. Therefore, our analysis of the transformation of *Ponggok* village with the potential virtual tourism in the cyber age can be seen as follows.

2 RESEARCH METHODS

A qualitative research approach was used by a project plan for virtual reality in the Ponggok village as a case study. We also used an archival method or literature review as well as an ethnography approach to understand successful virtual tourism during COVID-19. An ethnographic approach was conducted in Ponggok village, Klaten to identify their community empowerment as a fundamental strategy to build digital and smart village concepts. Whereas an archival method was used to explore the historical place of the village and its current strategy by applying underwater photography trend strategy. We also identify how Ponggok village constructed digital information (website) worldwide. All the data were used to show the village's transformation in the past, present, and future as a model of cyber age from the year of 1990s era to 2000s era. After data collection, the data (photo and a potential 360-degree VR strategy) will be carefully described. The image is expected to show the work details of environment, sample of cyber age in Ponggok, and archives. Historically, this could explain the transformation of a village in the current cyber age era. Application of possible 360-degree for future tourism will be analyzed as well.

3 RESULT AND DISCUSSION

Historically, the name of *Ponggok* village originated from the village of the Mataram ancient era namely *Wanua* in 1925. The term *Ponggok* traditionally means a center, core, source, heart, and sustainable water. *Ponggok* is well known as a village that has a strong meaning of an abundant water area (Agus 2019). According to the same legal source's information, *Ponggok* Klaten is geographically located in the east of Mount Merapi, the *Sanggrahan* area, a series of Shiva-Buddhist civilizations. The area is a generalist of many natural water sources that include multiple histories pertaining to natural water sources (*umbul*). Ponggok has a natural tourism spot that booms with historical value and aesthetic underwater photography icons.

As shown in Figure 1, the left side is *umbul* Ponggok Village of the 1990s era. On the right side, the village transformed and became rich in the multipotential natural water sources. We can see the water clarity and comfortable nuance that are the two best qualities of smart-potential nature for tourism. In this location, visitors can easily feel the concept of panorama underwater, shady trees, and fishes. In the cyber age era, they upload unique photos on Instagram and digital village websites to attract wider tourists (see Figure 2). The concept of tourism is such "bathing place for royal princesses" and a selfie with the fish. The potential natural environment and historical

Figure 1. Village transformation in tourism spot.

value are such a modal of transformation. It represents a prominent local resource beautifully seen through cyber age where the internet and the digital era are massively applied today. From our interview with a headman's wife of Ponggok, she explained that *Ponggok* not only focuses on water tourism spot but also keeps innovating on digital marketing (Irawati 2021).
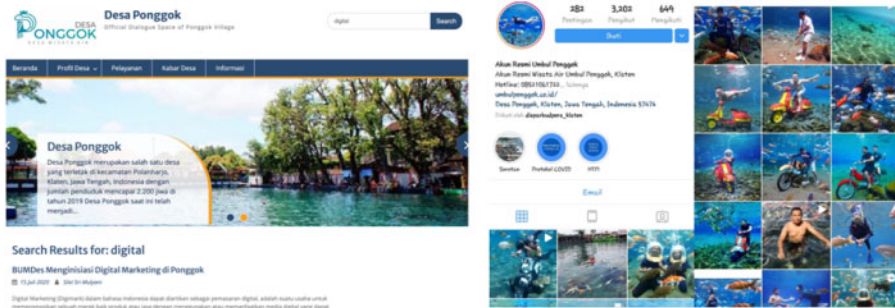
Figure 2. Village transformation in cyber age of digital system.

Instagram as cyber age infrastructure has been used by the local community to promote the village. Some of its attractive features might be the reason why *Umbul* Ponggok allows Instagram user tagging and upload unique photos from their smartphone gallery. Instagram has opened productive ways of both thinking and attracting wider social media user.

3.1 *360-degree for challenging underwater tourism*

A widely discussed research was conducted for the implementation of VR for further virtual tourism during the COVID-19 era. Previous studies traditionally focused on tourism products (Guttentag 2010) and marketing with VR in tourism (Huang et al. 2016). Due to the sophisticated virtual tourist experience, however, some believe that VR could be applied depending on the tourism industry as well (Cheong 1995). VR or 360-degree constitutes a cheap traveling, environment friendly, and challenging tour. In tourism contexts, VR creates a virtual environment with three classification frameworks namely: (1) non-immersive VR; (3) semi-immersive VR; and (3) fully immersive VR. Simply, non-immersive virtual reality could be assumed as a form of escapism from the common tourism routine. Semi-immersive virtual reality is more challenging due to requirement of advanced technology. Both two-way interactivity, visitors' interaction with the computer-produced subject and the way around others. Finally, fully-immersive VR is defined as providing synthetic real-life captured with complex facilities, namely providing full visual immersion, using a VR headset, and sustaining virtual touristic experiences to stimulate extra senses of the user. Thus, the type of

virtual reality as provided in Figure 3 could be more challenging for village transformation in the cyber age era, especially during COVID-19.

Figure 3.   An example of 360-degree for Ponggok as underwater tourism spot in future cyber age.

4   CONCLUSION

This study demonstrates that cyber age is supported by various innovations from the village through social media and virtual reality as a unique digital strategy. The present study found that community empowerment, digital infrastructure, historical value, and prominent natural resource make the village financially independent. These innovation breakthroughs make it possible for other countryside as well. The study demonstrates underwater photography as a digital infrastructure concept to successfully evoke tourists' attention. Its phenomenon describes a new role model of the transformation in the cyber age where Ponggok generated 14 billion income per year (Khoiri 2021). Some awards also address the empirical condition where the village has a strong contribution for becoming smart-village. However, the study needs to be aware that the investigation process is particularly simple because it requires ethnography approaches. Thus, future study needs to conduct side effect of virtual reality in a smart village concept.

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Digital space design as a show room (case study: Art exhibition 2021 Unjuk Rupa: Life after pandemic)

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ABSTRACT: Technology affects the world of daily life and even enters art. One technology that affects the art world is the digital exhibition space. As we know, the world of art is identified with exhibitions and direct performances attended by art lovers. Virtual showrooms become a choice so that exhibition activities can still be held amid the pandemic situation by inviting the appreciators of art to attend the exhibition. The literature study was conducted to review the theory or view of experts regarding the exhibition of artwork and digital showrooms. The results of the study digital showrooms can be used as an alternative space to run online, facilitate artists and audiences, even though the digital showroom cannot replace the real experience possessed by the conventional gallery. Art Exhibition 2021 Life After Pandemic is a case study of how the digital showroom functions to make artists' practice easier online. This study aims to provide an example of designing a digital space as a substitute for a conventional showroom.

Keywords: Art exhibition, Showroom, Virtual exhibition

1 INTRODUCTION

During COVID-19 Pandemic, technology is very instrumental for the survival of human life, where all activities are limited, a minimum distance is maintained, and the public is suggested to stay at home. The education is practiced at home and workers are required to work from home (WFH). Technology affects daily life and even enters the realm of art. One technology that affects the art world is the digital exhibition space. As we know, the world of art is identified with exhibitions and direct performances that showcase the work and are attended by art lovers. Such a situation pronounces the exhibition organizers to create a new method for the implementation of exhibitions by changing conventional methods of physical attendance in showrooms into a digital showroom (virtual). Virtual showrooms have become a choice so that exhibition activities can still be held amid the pandemic situation by inviting the appreciators of art to attend the exhibition. The virtual exhibition organizers design the exhibition in such a way that visitors can still feel the atmosphere of the art exhibition in general even in the virtual gallery. The showroom besides serving as a forum for works can also function to increase the confidence of a student as a means of promotion. But the procurement of showrooms can certainly take considerable time and costs. A digital showroom can be an alternative as a forum for student work (Senoprabowo 2019).

Each exhibition event requires a room as a place to display the work of the gallery. A gallery is a place to accommodate visual communication activities between the makers with the wider community through the exhibition (Irawan & Supriyanto 2018). In addition, the gallery can also be used to present the work of art, the area displays public activity, or is used for special purposes related to exhibitions such as curatorial, discussion, and so on (Prakoso 2018p). In this pandemic period, society is affected and art activities are restricted, including the gallery.

Conventional art galleries have been used by artists for the implementation of exhibitions for a long time. But the implementation of exhibitions physically produces problems such as \ capital requirement, a longer time for preparation, and also the community faces a gap with art fields.

Information technology progress allows gallery in the network (e-gallery) such as a physical gallery, digital information technology can be used by artists to have a room on the web page. Organizing an online exhibition or exhibition through the e-gallery makes it easy for artists to present artwork, at a cheaper cost, and makes it easier for people to appreciate artwork through gadgets (Maulina et al. 2019).

So far the implementation of exhibitions is done conventionally, in galleries, museums, or other buildings physically. The implementation of exhibitions conducted conventionally has a lot of problems, such as, financing, preparation for exhibitions including catalog-printing processes, exhibition promotional advertisements, the ceremonial opening of exhibitions, consumption, and so on. In addition, for new artists such as art students who rarely exhibit, it is rather difficult to enter the social field of the art; thus, artists face difficulty in arranging an exhibition. Art lovers who have financial limitations for traveling also face difficulty to visit the gallery because of the pandemic and associated restrictions on community activities.

Based on the phenomenon the purpose of the study is to design an exhibition online with a digital showroom using web pages. The use of art pages of art exhibition art 2021 Remarks: Life After Pandemic is created as a case study of how the digital showroom serves to facilitate artists to exhibit. To meet the needs of exhibiting artists who create artwork, online exhibitions can facilitate the presentation of artwork easily and also provide a community as an audience that can appreciate the artwork.

2 RESEARCH METHODS

The research method used is descriptive qualitative. The method of data collection in this study is by observation and literature. The observation was carried out through the implementation of the art exhibition 2021 Remukan Rupiah: Life After Pandemic a national exhibition with 45 participants from 11 institutions in Indonesia, held on June 25 – July 25, 2021. The exhibition was organized by the Telkom University Fine Arts Study Program to see the effectiveness and design of an online exhibition. The focus of observation in this exhibition is to research the webpage and digital showrooms as a substitute for conventional exhibition rooms.

3 RESULT AND DISCUSSION

The demonstration was first held in 2020, to facilitate the work of the Student of Telkom University's Fine Arts Study Program as an exhibition event. Rupiahs are held twice a year, each of which has a separate header that represents the works on display at each of these events. The 2021 national exhibition Unjuk Rupa Life After Pandemic was attended by 45 artists from 11 institutions in Indonesia, curated by Faqih Zein Sudaiz, Haikal Al Farisi, Sanjaya Ginting, and the exhibition took place from June 25 to July 25, 2021. The design of the digital showroom became an example as an effort to provide interactive showrooms carried out at several stages, namely through the unjukrupa.telkomuniversity.ac.id web and the opening of the exhibition through zoom by displaying a virtual gallery space.

When visitors access the exhibition through the Unjukrupa Web, visitors will see a page containing the exhibition information, a brief introductory text related to Life After Pandemic, exhibitors, and several photos of the following works. Once visitors access the Unjukrupa web, visitors will be taken to an exhibition menu page. On this page, there will be an exhibition title, the exhibition organizers, artists who participated, and the introduction of the exhibition curatorial. For the virtual showroom itself, visitors need to press the "Click Here to Enter Exhibition" button to access it, and the web page for the registration of exhibition visitors will appear. Followed by this, the description of the exhibition curation and the names of artists will be seen on the next page.The name of the artist can be suppressed to see the working title, photographs of work, and description of the work.
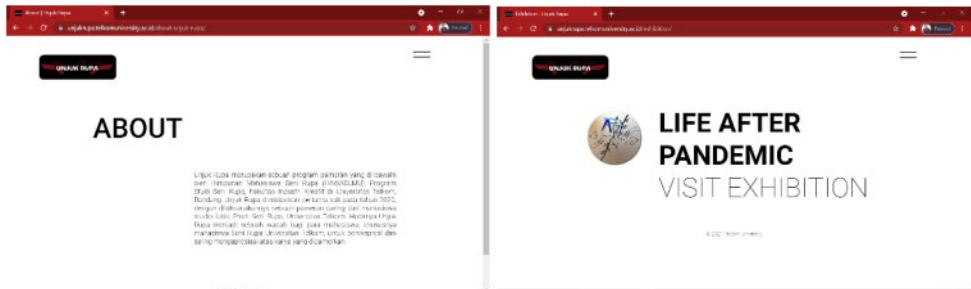
Figure 1.　View of the main page unjukrupa.telkomuniversity.ac.id.
Source: Personal documentation.
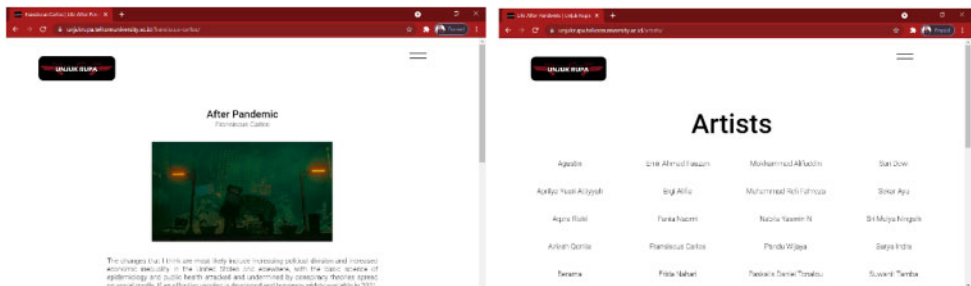
Figure 2.　View of the main page unjukrupa.telkomuniversity.ac.id.
Source: Personal documentation.

Art Exhibition 2021 Remarks: Life After Pandemic: In addition to displaying work through the web as a showroom it also held several events similar to those held in a conventional gallery. These include sharing sessions with guest artists, opening exhibitions, and artists' talks. All activities are presented online but the atmosphere of the exhibition is physically still maintained so that the appreciators can enjoy the exhibition only through the gadget. As the opening ceremony of the exhibition presents entertainment through music, the description of the work by the curator, and displays a virtual gallery that presents the works of artists in the gallery so that the gallery room atmosphere is felt very well.

Figure 3.　Display of digital show space art exhibition 2021 show remarks: Life after pandemic.
Source: Personal documentation.

This virtual showroom is designed in such a way to resemble a real gallery. In presenting the form of space, the organizer seems to use wall textures, floors, and ceilings taken by photographing this digital showroom gallery room, which should have a significant difference in terms of experience obtained by the audience in appreciating the work on display, compared to conventional showrooms.

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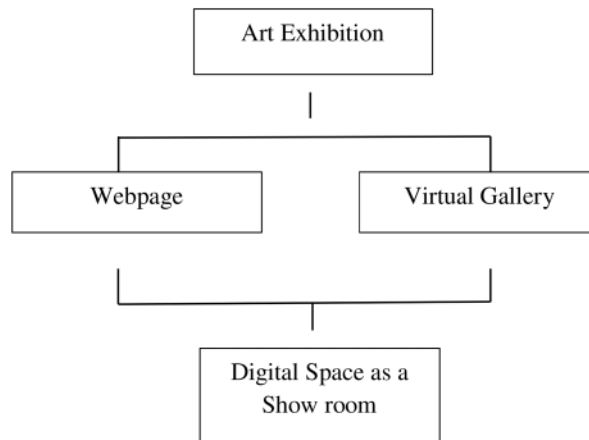
Figure 4. Diagram of digital space design as a show room.

The exhibition organizers can present an aesthetic experience that can be felt by the audience at virtual exhibitions to match the aesthetic experience felt by the audience at conventional exhibitions which is still being excavated and developed. So, it can be concluded that the design of digital space as a showroom requires web pages and virtual galleries.

4 CONCLUSION

Besides serving as a forum for works, the showroom can also function to increase student confidence as a means of promotion. But the procurement of showrooms can certainly take considerable time and costs. The showroom presented digitally can be an alternative as a forum for student works. Organizing exhibitions in digital space provides a variety of new possibilities, both in terms of formatting of showrooms, and the form of works displayed. However, to make this exhibition reachable to the public, it is also necessary to consider that the design of this digital space is understandable and accessed by exhibition visitors well. So far, the virtual showroom cannot replace the physical showroom. Many aesthetic experiences are lost when the author witnesses artwork in front of a computer screen, compared to looking directly. It is also reinforced by the number of images that have been presented in a computer application interface itself, so the work shown at the virtual exhibition is not as special as the work physically displayed in the physical showroom.

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The use of virtual YouTuber for online learning

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ABSTRACT: The restrictions caused due to the COVID-19 pandemic encourage the implementation of online learning as an effort to fulfill educational services in Indonesia. However, the interest in learning in students decreases due to repetitive process and boredom of the way the material is delivered by the lecturer. At the same time, Virtual YouTuber as one of the phenomena of Japanese pop culture is growing and actively reaching the public sphere in Indonesia. This study aims to determine whether online learning can use Virtual YouTuber in the process, by looking at the visual aspect of using 2D character avatars during the delivery of study material to college students as a strategy. This study uses qualitative research methods with a phenomenological approach and descriptive analysis. The results of this research show the possibility of this method to be used in online learning to increase student's motivation during pandemic.

Keywords: online learning, COVID-19, Virtual YouTuber, learning motivation, college students

1   INTRODUCTION

1.1   *Virtual YouTuber*

In 2016, the trend of Virtual YouTuber or the VTuber increased, wherein virtual characters took lead in YouTube videos and live streaming. Virtual YouTuber appears as a form of fictional 3D or 2D character model that can move, and the avatar usually uses Japanese animation or anime style to approach the audience who are familiar with Japanese pop culture, especially in East Asia. This trend is supported by the advanced technology of motion capture that has gotten easier to access by many users. Although Virtual YouTubers are making use of similar things, such as video games, daily vlogs, reaction videos, and live streaming, just like their human counterparts or ordinary streamers, this new combination of human and machine is bringing novel experiences to audiences and pushing further the boundary between the real and the imagined according to Michel (2018). Some of the most popular Virtual YouTubers are Kizuna AI, who has popularized the term "Virtual YouTuber", then Gawr Gura who came from the Japanese company Cover Corp. with a global range known as hololive English aimed at English-speaking audience and has become the most subscribed YouTube channel with more than 3 million subscribers.

The increase in Virtual YouTuber trend in Indonesia grew rapidly in the past year, not only in Japan but also all over the world, including Indonesia. Virtual YouTuber trend in Indonesia itself started growing when in 2019, one of the biggest Japanese Virtual YouTuber agency Nijisanji from Ichikara Inc. (now known as Anycolor Inc.), opened its branch in Indonesia as Nijisanji ID. Another big Japanese Virtual YouTuber agency hololive from COVER Corp. also established its branch as hololive Indonesia. This triggered the development of local Virtual YouTuber agencies and Virtual YouTubers who work independently, as well as Virtual YouTuber enthusiasts in Indonesia. The rapid development of Virtual YouTuber trend in Indonesia is also caused by the limitation from lockdown and WFH (Work from Home) policies by the government. Becoming a Virtual YouTuber is a lucrative option to earn extra money because they can monetize their content when the requirements are met; they also can receive a donation from their viewers. But not only from the creator behind the Virtual YouTubers, the viewer during pandemic is also becoming more

consumptive as a consumer who bought digital commodity created by the Virtual YouTubers aside from donating money during live streams. For the viewers, the existence of Virtual YouTubers has become an alternative source of entertainment during the COVID-19 pandemic.

In 2019, Puspitaningrum conducted research on the motives of people watching the vlog of Virtual YouTuber Kizuna Ai, known as the first Virtual YouTuber. Based on the results of her research, she concluded that there are various motives behind Japanese popular culture fans in Indonesia in watching Virtual YouTuber Kizuna Ai's content. First, the motives for Japanese popular culture fans in Indonesia in watching Virtual YouTuber content are interest-driven as well as curiosity-driven. Meanwhile, purpose motives for Japanese popular culture fans in Indonesia in watching Virtual YouTuber content, they have the desire to gain information, the need for self-actualization, the competency motive, the desire to get entertainment, and the need for self-existence. Fans of Japanese popular culture in Indonesia build various meanings in watching Virtual YouTuber content, namely the representation of the ideal partner, escape from problems, representation of interest in Japanese popular culture, role models in interacting with others, and the importance of expressing and conveying opinions. The results of the research conducted by Puspitaningrum are still related to the research conducted by the author, and the data collected is also still relevant today, even after the Virtual YouTuber trend in Indonesia has grown rapidly.

The growing popularity of Virtual YouTubers causes more types of content to be presented. Not only pure content for entertainment, such as gaming content, but there are also many Virtual YouTubers who present educative and informative content for their audiences, for example, the content "Rebo Nyunda" by Riksa Dhirendra from Nijisanji ID where every Wednesday, he streams to learn Sundanese language. There is also a Virtual YouTuber that brings content about history, natural science, and the development of soft skills, such as drawing tutorials, song writing, and more. The influence of these Virtual YouTubers' popularity also encourages the audience to join in learning and following the content streams that are presented.

1.2 *Learning motivation*

The consequence of lockdown regulation also affects students from elementary school to university students, which encourages the implementation of online learning to fulfill educational services during the pandemic. However, the interest in learning in students decreases due to repetitive process and boredom from the way the material is delivered by the lecturer and losing motivation because of the long lockdown that extended for more than a year. According to Hamalik (2015), motivation has two characteristics, intrinsic motivation and extrinsic motivation. Intrinsic motivation exists in the self-learner type and is very useful in learning not only systems but also situations that are functional. It means that intrinsic motivation does not require stimulation or influence from the outside because the nature of this motivation comes from the person themselves. While extrinsic motivation is caused by stimulations or influence from outside the learning situation so that students want to do something because of an invitation, order, or force. Then, according to Sumiyati (2017), learning motivation comes naturally within itself and grows due to stimuli from external factors, such as parents, teachers, and the environment. So, it is concluded that motivation to learn is influenced by the own self and also influenced by outside factors, so that a person can achieve their goal.

Then, by correlating the phenomena and growth of Virtual YouTuber trend that occur in Indonesia, this study aims to determine whether online learning can use Virtual YouTuber in the process, by looking at the visual aspect of using 2D character avatars during the material delivery to college students as the strategy to motivate them during the pandemic.

2 RESEARCH METHODS

This research uses a descriptive qualitative method with a phenomenology approach. Qualitative research according to Creswell, quoted by Eddles-Hirsch (2015), is a study that analyzes and

describes the experience of a phenomenon in the everyday world. In qualitative research, it will reveal the social meaning of a phenomenon obtained through the research subject that usually comes from the participants or respondents. Then, according to Alase (2017), phenomenology is a qualitative methodology that allows researchers to apply their subjectivity and interpersonal skills in the exploratory research process. Based on Creswell (1998), researchers in the phenomenology approach will compile initial assumptions about phenomena to understand what their respondents said, following with the concept of epoch, where the researcher will differentiate the subject's data with personal interpretation.

2.1 *Methods of data collecting*

Data for this research are collected using participatory observation, questionnaires, and interviews. Participatory observation is a method in which the researcher is involved in the daily activities of the person being observed or used as a source of research data. With this participatory observation, the data obtained are more precise, which reveals the level of meaning of each behavior that appears. Sugiyono (2017) explains that in complete participation observation when collecting data, the researcher is already involved completely in what the data source is doing. It makes the environment natural and this method is where the involvement of the researcher is the highest toward the activity that is currently being researched. The main data will be obtained through research subjects, namely students within an age range of 17–24 years who also like and actively watch Virtual YouTubers, especially those with educational content. Data collection through questionnaires will use Google Forms and be distributed on Facebook. Then there will be an interview with someone who does not know much about Virtual YouTuber but knows about the creative movement in Indonesia as supporting data to see his opinion from the perspective of ordinary people.

2.2 *Methods of data analysis*

The purpose of this study is to describe, explain, and analyze the data that has been collected to find out whether Virtual YouTuber can be used as an alternative to increase student learning motivation during the pandemic. Thus, this study uses a descriptive analysis method as according to Winartha (2006), the qualitative descriptive analysis method is to analyze, describe, and summarize various conditions, situations, and various data collected in the form of interviews or observations about the problems studied in the field. This method is often used to examine the condition of natural objects, namely objects that develop as they are and are not manipulated by researchers, and the presence of researchers does not affect the dynamics of the object where the researcher is the key instrument. The formulation of the problem is still temporary and will develop after the researcher enters a particular field or social situation with a view to understanding complex social phenomena.

3 RESULT AND DISCUSSION

The author analyzes the data that have been obtained and develop the main points to be used as a hypothesis for the basis of design in the future. Based on participatory observations, questionnaires, and interviews, the results obtained are then discussed.

Most of the respondents follow Virtual YouTubers, which are dominated by Virtual YouTubers from Japan, and have been following for more than 1 year. In addition to entertainment, respondents enjoy a variety of content created by Virtual YouTubers, including educational and informative content, such as historical content, education in English, and others. Respondents feel more motivated to learn and find out about the material presented by the Virtual YouTuber that they watch, not only for personal reasons but also because they are influenced and want to be able to follow the scope of the Virtual YouTuber's knowledge. In an interview with Bobby Charisma from the Jadi Gini Creative channel on YouTube, he stated that the use of Virtual YouTuber avatars is very likely

to be applied in online learning because anyone can use Virtual YouTuber avatars to deliver content according to their respective expertise.

Based on research conducted by Puspitaningrum, there are various motives behind Japanese popular culture fans in Indonesia in watching educational and informative content presented by Virtual YouTubers. So, if it is related to the data collected by the author, the use of Virtual YouTuber avatars in online learning to increase learning motivation has the opportunity to be implemented by relevant agencies. However, further planning needs to be done, especially in choosing what material is most suitable so that this idea can be implemented, and must pay attention to the way prospective teachers use the avatar, whether they can adjust to the nature of the interesting material or not. It is also necessary to make a Virtual YouTuber avatar and design its appearance well so that it is not less attractive than a Virtual YouTuber who already has a large audience. This is expected to increase motivation to learn and make the online learning process more relaxed and interesting during pandemics.

If we follow the current trending phenomenon, then the implementation can be through online platforms such as by creating a special account on YouTube or on special educational platforms such as Ruangguru, because most teachers are used to bringing material with more interesting approach and are able to utilize technology to support the process of delivering learning materials.

4   CONCLUSION

Starting with the presence of Japanese Virtual YouTuber agencies, Nijisanji and hololive, the existence and trend of Virtual YouTubers in Indonesia has grown rapidly over the past 2 years, not only on social media, but also their reach has expanded to several creative events in Indonesia. Moreover, the implementation of online learning during the pandemic has been carried out for more than a year. Online learning is increasingly reducing interest and motivation to learn because of the influence of the length of the pandemic period and also the way material is delivered, which is considered monotonous and repetitive. In connection with the use of the internet and social media due to the limited space for people to move, the Virtual YouTuber trend has become very popular, especially for fans of Japanese popular culture. Watching Virtual YouTubers who use 2D avatars and present a variety of interesting content makes this activity a source of media entertainment during the pandemic.

The use of Virtual YouTuber avatars for online learning is very possible because many Virtual YouTubers provide informative and educational content. However, this cannot be applied universally because it requires careful planning, preparation, and strategy, especially because not everyone knows about Virtual YouTubers. It is hoped that further research will be carried out to deepen improve this idea to the stage of designing a Virtual YouTuber avatar, to implementation when it is used in delivering material. Along with the development of the phenomenon of Virtual YouTubers around the world and the internet, the author hopes that this idea can actually be implemented in formal online learning.

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Designing multi-functional Quran stands (to support recitation activity) for the students in Islamic Boarding Schools: Case study of Al-Kholili Islamic Boarding School, Bandung district

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ABSTRACT: In an effort to continue its role in improving the academic skills of the institution, Al-Kholili Islamic Boarding School in Bandung Regency is required to be able to address the needs of their students. One of them is the recitation; the limited space and the size of the existing activity support tools can cause discomfort when students carry out these activities. Given that the recitation is a very important learning activity, it is necessary to design multifunctional furniture as a supporting tool that can stimulate students' interest so that they can carry out recitation activities comfortably. Using qualitative methods to find out and analyze the students' needs during the recitation, this design begins with observing and interviewing students as initial data and to formulate problems, then it is developed based on theories related to small spaces and multifunctional furniture to analyze design needs. The result of the design is in the form of a multifunctional Quran stand that puts forward functional aspects customized to the students' needs when reciting in a limited space. The results of this design are also expected to serve as a reference and research in designing furniture in a limited space.

Keywords: Multifunctional furniture, Quran stand, Reciting, Islamic Boarding School

1   INTRODUCTION

Islamic Boarding Schools, which are parts of Indonesian education, must maintain their existence to continue their role in increasing academic skills. One such institution is the Al-Kholili Islamic Boarding School, which is an Islamic Education Foundation that takes part in creating a sustainable generation of Quran so they can be more grounded with good quality of morals and success in the hereafter. According to Aisyah (2003), an Islamic Boarding School is a traditional Islamic educational institution that studies, understands, appreciates, and practices Islamic teachings by emphasizing the importance of religious morality as a guide for daily behavior. Azra (2000) suggests that Islamic Boarding Schools are educational institutions that have helped foster and develop human resources to achieve superiority. As an Islamic educational institution, Al-Kholili Islamic Boarding School throughout its history has played a major role in improving academic skills. To face competition and maintain its existence, the school is necessary to be complemented by the existence of supporting facilities so that routine activities can continue comfortably. The current problem in Al-Kholili Islamic Boarding School is that the existing spaces are limited, and the capability of the facilities supporting tools are considered inadequate to support existing activities. One of these is a Quran stand for students' reciting activities. Currently, its large and inflexible size has an impact on storage that will take up space when not in use and will affect the comfort of the students. According to Anggranti (2016), learning Quran is an obligation that must be implemented and developed by every Moslem, because it is directly related to ritual worship, such as prayers and pilgrimage. This is the argument for establishing reciting skills as the first and foremost priority in Islamic education, therefore a qualified tool is needed such as a compact Quran stand,

so that these activities can run comfortably even in limited space. For comfort while reciting, a furniture designer must be able to understand designing. According to Laurens (2004), a good design is that which can articulate the demands and needs of users. In fulfilling and supporting the reciting activities in Al-Kholili Islamic Boarding School, an appropriate concept design is needed to facilitate and support activities simultaneously, so that students can carry out recitation activities comfortably.

2   RESEARCH METHODS

The method used in designing multifunctional Quran stands is a case study that comes from the situation and needs in Islamic Boarding Schools related to routine activities that are usually carried out at Al-Kholili Islamic Boarding School in depth. By using a qualitative approach in an effort to understand the need for reciting activities by direct observation in Al-Kholili Islamic Boarding School in Bandung Regency and to observe the students' behavior while reciting; and what is the size of the room, how many students are there, where is the storage place, and so on. The data is then used as a means to find out problems and analyze design needs as the basis for the design object. The study that will be used as a basis for planning in designing supporting tools for activities must refer to the existing problems, considering that limited space is a major problem at the Al-Kholili Islamic Boarding School, this design uses the concept of a small and multifunctional space, where according to Collins (2008), the concept of a small space is not just a small space but a process of evaluating a narrow space into something spatial, so that its design can support the existing environment. In designing supporting facilities in a limited space, multifunctional furniture is intended to suit the narrow space of the Al-Kholili Islamic Boarding School. According to Akmal (2011), multifunctional furniture can be the best solution in overcoming difficulties in arranging small spaces. Akmal added that multifunctional furniture can optimize the use of space, where it can be used for various activities, so that multifunctional furniture is considered capable of creating a pleasant atmosphere and environment in meeting the needs of activities in confined spaces. This is in line with the opinion of Gerungan (2006), where the factors that influence the encouragement for students are the quality of learning support tools and the good environment. Designing multifunctional Quran stand is expected to support students' recitation activities, which will affect their interest in learning the Quran itself even in a limited space.

3   RESULT AND DISCUSSION

Based on the data collected from the observation process at the Al-Kholili Islamic Boarding School, the problem of limited space is found in rooms with a size of 9 square meters with 10 students, coupled with the large size of the Quran stand, which is 40 x 40 cm that made the students recite activities at this Islamic Boarding School very uncomfortable. Based on the problem, a compact learning support tool is needed to help students in reciting comfortably. In designing this multifunctional Quran stand, it refers to literature as a reference. For the functional aspect, this Quran stand requires the criteria of multifunctional furniture by combining two functions. According to Akmal (2011), by combining two or more different functions in one product, a multifunctional furniture can be adapted to the needs of space so that it can support more complex activities in a limited space. Based on this, this multifunctional Quran stand has the main function as a support for the Quran when reciting and can be used as a tablet or smartphone holder when not in use for reciting. As for the need in a limited space, this multifunctional Quran stand is made with a knockdown system to make it practical in terms of storage. In terms of form, this multifunctional Quran stand applies geometric shapes with the consideration that shape is a form that does not take up space and can follow its function, which according to Akmal (2011), multifunctional furniture is considered effective when all designed forms are in accordance with their function.
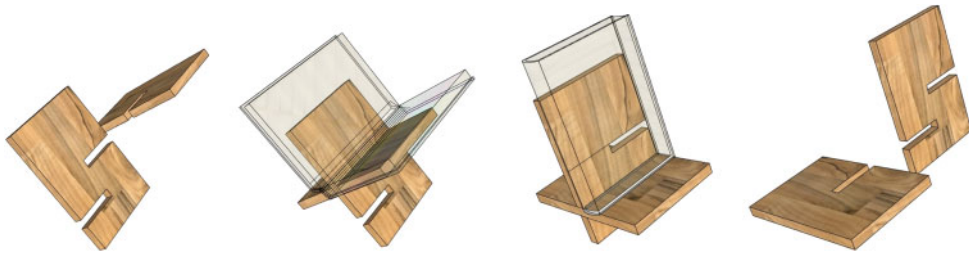
Figure 1. Multifunctional and knockdown system visualization.
Source: Personal documentation (2021).

The form will also affect the dimensions used. From the initial data it was found that the size of a large stand does not meet the criteria for multifunctional size, for that this stand uses a size that adjusts to the size of the Quran, which is 20 x 30 cm. Another aspect that is considered in this design is the material. According to Jamaludin (2007), one of the materials commonly used for furniture is solid wood based on consideration of its strength and durability. For this reason, for designing multifunctional Quran stand, teak wood is used with a thickness of 18 mm as it is strong and durable considering that this product will often be used and disassembled. In addition, this product is also equipped with a strap to tie as well as a handle for easy mobility.
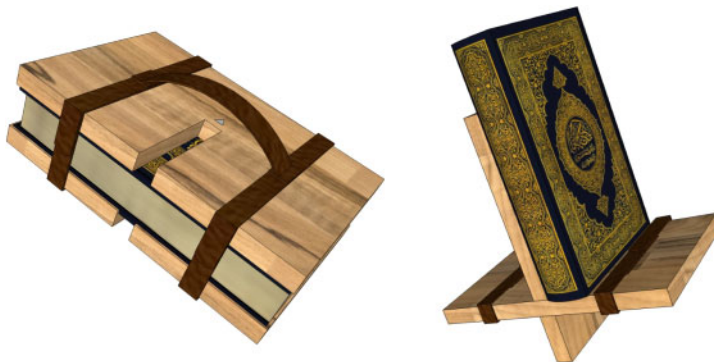
Figure 2. Product visualization.
Source: Personal documentation (2021).

4   CONCLUSION

Based on the aforementioned background, supporting facilities are needed to adapt to existing conditions so that students in Islamic boarding schools can carry out reciting activities comfortably. Based on this, the design of this multifunctional Quran stand is a solution for students when reciting at Islamic Boarding Schools in a limited space, because the design of this Quran stand uses the principle of multifunctionality in adjusting to a limited space by taking into account the size of the room and the number of users where the furniture can be used for more than one activity. In addition, the design of this multifunctional Quran stand can optimize the use of space, where furniture can be used for more than one activity, so that the design of this multifunctional stand is a simple shape that fits the criteria of multifunctionality by maximizing product size and practicality of storage and also using solid wood material with knockdown system and strap for consideration of durability and mobility.

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Proposing SCAMPER: Approach to reach brand strategy equipoise during the COVID-19 pandemic

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ABSTRACT: The COVID-19 outbreak has disrupted lives across the world, disturbing everything we have ever known, paralyzed the economy, and caused changes in human behavior. To survive, brands must do the same by changing, innovating, and adapting to address new problems. This conceptual paper discusses the possibility of adjusting the SCAMPER technique as a divergent thinking tool for finding innovations for business use. This research aims to identify an innovative business perspective by applying SCAMPER as a divergent thinking tool, using descriptive-exploratory analysis with a qualitative approach, and to identify the pattern to find new perspectives in creating brand strategies.

Keywords: brand strategy, covid-19 pandemic, customer behavior, innovation, SCAMPER

1 INTRODUCTION

COVID-19 has taken the world by surprise; it is a global disruption that fundamentally changed everything we know about almost everything. Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) is a virus that attacks the respiratory system, which can cause mild interference to the respiratory system, heavy lung infection, and also lead to death (Pane 2021). It attacks not only the body and physical health but also mental health; humans that are known as social creatures are required to change their life routine, such as minimal mobility, social distancing, being in quarantine, wearing a mask everywhere, having insecurity and suspiciousness for everyone they meet or places they visit. Humans are thrown out of the balance and are still adapting to a new way of living their lives, thinking, deciding, and acting.

The limitations imposed to hold the pandemic to spread even more has caused the domino effect of how people spend their money, less spending in the restaurants, hotels, and other brick and mortar retailers, this has weakened the economy (Baker et al. 2020). In their research, Nielsen found that the pandemic has caused the growth of constrained consumer groups, from 23% in September 2020 to 46% in December 2020, triggering a decline in household income due to unemployment. This result should alarm the brand practitioner because currently, 63% of the consumers have a low consumption ability, are forced to change the priorities in their spending habits, and only 33% are still insulated or secure about their financial condition, which was 77% earlier. The data varies depending on the country's status, with developing countries suffering from a higher number of consumers that plunge into the constrain group, Thailand 73%, South Africa 66%, Turkey 65%, and India 63% (NielsenIQ 2021).

The decline of the customer spending ability leads to deflation, price fall, more layoffs, and businesses going bankrupt. A multitude of companies, big or small, filed for bankruptcy in 2020 because of their incapability in dealing with the pandemic. A few examples of such companies include JCPenney: USA Department Store chain, Muji: Japan Home goods chain, Gold Gym: USA Fitness Centre chain, Hertz: the USA Car rental chain (Tucker 2020). The bankruptcy occurred because they are too big to move or too old to change, but most of them are caused by the absence of an adaptive business model and fail to innovate, keeping up with the current consumer condition

and demands. If this continues for an extended time, the economy is bound to collapse (Ganong & Noel 2019; Manasseh et al. 2018).

The change of customer behavior must be dealt with seriously by the brand practitioners, finding the equilibrium to survive this. It is a known fact that a brand must be agile, adapt, and keeps up quickly, especially on time like this, understanding the customer shift of needs, gaining a competitive edge, and acting before it changes again. Innovation performance measurement research conducted by AC Nielsen in August 2020 stated, "brand that maintains focus and continues to adapt in difficult economic times emerge stronger, and the COVID-19 pandemic is no exception", while brands that cannot maintain healthy innovation are left crumbling.

Brands must adapt, bootstrapping to the current condition, understanding that their customer has shrunk in numbers and consumption ability, focusing on the necessities and essentials of the customers and the company. However, adaptation itself is not the actual answer, it can keep our head above the water, but through innovation, we can ride the wave and survive the pandemic. Creating innovation with limited resources, both people and capital, such as in this pandemic is often considered impossible. The industry needs to find a method to help them innovate inside the boundaries that constrain them. The problem is what kind of method and approach can be quickly adapted by the businesses to help them find the balance or equipoise in the market.

Creative divergent thinking process called SCAMPER, an acronym of Substitute, Combine, Adapt, Modify, put to another uses, eliminate and reverse (Barak 2004; Ozyapark 2015), could help businesses with the limited condition as mentioned above to develop new ideas from existing products or services without investing a large amount of money and effort. It focuses on improvement, innovation, or problem solving to generate as many possible new solutions (Ozyapark 2015).

2 RESEARCH METHODS

This research is categorized into descriptive-exploratory research with a qualitative approach. The purpose of this research is to identify an innovative business perspective by applying SCAMPER as a divergent thinking tool and, finally, by recognizing the pattern to find new perspectives in creating brand strategies. This conceptual paper uses literature review as a comprehensive study by interpreting the literature that addresses a specific topic (Aveyard 2010); it will gather detailed descriptions to explain complex phenomenon from the theoretical body of knowledge and analyze it, formulating a conceptual foundation or theory building as a basis of hypotheses design as a proposition of a possible solution (Snyder 2019).

2.1 *Methods of data collection*

The data collection procedure used in the process is a literature review, by reading and summarizing previous research from peer-reviewed and professional journals articles, statistical data from trustworthy researchers, academic books, website material from professional and other scholarly articles in the scoop of branding, customer behavior, and SCAMPER from the last five years, will provide an understanding of a particular area of the study and also critique or critical evaluation of the subject matter. The data gathered will be examined using thematic analysis to find the pattern and the relation to each other, whether complementing or detracting.

3 RESULT AND DISCUSSION

Interactions with others may increase the risk of virus transmission (Seghal et al. 2021) conducted research focusing on understanding consumer buying behavior during the COVID-19 pandemic in India and found that customers in India consider hygiene practice, safety measures, and packaging.

With mobility limitations and fear of infection, the consumer is reluctant to have direct access to brick-and-mortar shops. However, on the upper side, it also accelerates the adoption of digital technology. Research by a UK-based business incubator organization in 2020 found that Corona Virus

disruption has pushed the UK SME's adoption of technology into three years' worth of innovation in just three months (Be the Business 2020). They have shifted their process by adopting digital business transactions or e-commerce (www.reply.com 2020). Technology adoption by selecting and utilizing particular technology to improve the consumer quality of life is needed (Sharma & Mishra 2014).

Besides e-commerce, the existence of social media makes business people, organizations, and governments look for ways to achieve bigger things with efficient spending. The impact of social media is considered the most effective form of marketing in building relationships with consumers, building good relationships with consumers (Semuel & Setiawan 2018).

Salem and Nor (2020), suggest that consumers need the brand to advise them about the health benefit of adopting e-commerce as a new alternative and safer option. So, a brand must adjust the primary purpose of their promotion from disseminating information, influencing, persuading, and reminding the brand's target market. Creating and maintaining a brand image is an essential part of a company's marketing program and branding strategy (Yan 2019), to educate the customer and show that they know what the customer need, giving them an experience of the product and obtain information through various sources (Raharjo & Amboningtyas 2017).

These are the opportunities that the brand can grasp and develop into a new strategy; the old approach needs to be innovated, becoming more responsive and adaptable to the new challenge brought by the pandemic. The data gathered by previous researchers (Bar et al. 2020), about innovation in a crisis stated that most of the decision-makers in the company are focusing on cutting costs, driving productivity, pursuing the available opportunity, and minimizing the risk of their core business right now. Innovation is considered the high investment luxury, only 25% of the business executives consider that it will help them through the crisis, innovation is often considered frightening, difficult to develop and establish, thus, many people often position themselves in a safer and easier chair as an executor of what we are, than becoming innovators of what can we achieve.

Brands and businesses need to understand the rapid changes in customer behavior, identify the new opportunity that appears in the new era, adapti their core to meet the customer's unique needs with new offerings, and find new approaches to maintain competitiveness. Eberle (2008) coined the SCAMPER method which is a practical and convenient problem-solving method used to create low-cost innovation by responding to the customer shift. It guides the user to work with the information or data that they already have in a systematic approach and work with the guides of the leading questions provided, that makes them more efficient and effective (Scott et al. 2004), and it can encourage the user to gain new and various perspective (Kerr 2009).

It has a similar goal with design thinking in generating problem-solving options, where SCAMPER focuses on improving and innovating products or services. In contrast, Design thinking puts human exploration as the center of the problem solver. SCAMPER is an acronym of the specific thinking process of the methods itself, which are:

- S (Substitute): identify a part of the business process, product, or service that can be replaced with another and improve it.

  Question form: What can be a substitute to improve?

- C (Combine): Sometimes combining several ideas, business processes, products, or services can result in more efficient output.

  Question form: What existing assets that are already possessed can be combined to be more efficient?

- A (Adapt): Existing strategies used in other fields or companies are sometimes applicable to solve the brand experience problem.

  Question form: Which ideas could be adapted, copied, or borrowed from other people?

- M (Modify): Modify an aspect of the situation or problem to help see which one adds value or is more significant.

  Question form: What can be modified (minify or magnify) on my product, service to give new insight and help identify the important one?

- P (Put to another use): Like adapt, it is about putting an existing idea into another use. Question form: What else can it be used for? Can someone else use it?

- E (Eliminate): This is about eliminating inefficiency, making things more compact and sleeker.

  Question form: Can it be eliminated without altering the function or result?

- R (Rearrange): By rearranging the orientation of a process or product way around, a brand can see from different alternatives.

  Question form: what would I do if I had to do this process in reverse?

SCAMPER guides the user to use their divergent thinking, helping them produce various creative problem-solving alternatives, Re-identifying customers, creating new positioning, messaging, visuals, and marketing strategies suitable to the current condition to form their new brand strategy. The exciting part is that the process uses the resources that the brand already has in its grasp, so the solution created is not something in high investment or needs a long learning curve to initiate.

4 CONCLUSION

Innovation is not something that needs to be mind-blowing and high tech, but by changing and getting out from the constraining box of how things have been: simply by substituting, combining, adapting, modifying, differently using, eliminating, and rearranging the aspects that the brand already has, can also serve an advantage that makes a difference between plunge into bankruptcy or surviving. From the alternative found in the process, the brand can decide how to drive its brand strategy for the changing era.

Further research can focus on dissecting the brand strategy of several well-known brands that have shown their willingness and effort to put their head above the water and in the same time expand their business both in the physical form of geographical and also in the mindset of the people through their brand existence and positioning.

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Utilization of environment graphic design in the face of Covid-19 through health protocols

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ABSTRACT: The Covid-19 pandemic has made the world communities vigilant about health problems. People are still struggling to adapt to the current situation. Environment Graphic Design (EGD) is implemented as a tactical step to control the spread of Covid-19 in crowded centers and commercial facilities in the middle of the city. The research aims to find visual adaptation of brands in EGD based on health protocols applied in flooring stickers assigned. The research was conducted by qualitative and comparable methods in several crowded centers by several represented brands. The benefit of research is finding out how the brand's visual character in EGD can implement awareness with regard to health protocols in addition to determining consumer preferences for brands and being one of the indicators of brand adaptation to social problems related to the Covid-19 pandemic.

Keywords: health protocols, Environment graphic design, brand adaptation

1 INTRODUCTION

The Covid-19 pandemic hit the world for more than a year while the curve of the number of people infected still fluctuates. Similarly, in Indonesia, the number of infected people increases, and it is not yet sure when the pandemic would end. One way of dealing with this problem is to implement health protocols (Waluyo 2020). Environment Graphic Design (EGD) is needed to control and remind the importance of taking care of yourself and others in the surrounding environment. Social distancing or keeping a safe distance so as to prevent transmission through droplets is one way to stop the transmission of the virus (Saponara et al. 2021). This method effectively reduces the rate of transmission as community activities begin to increase in the city's crowded centers. The technique used in social distancing is to mark places that are centers of the community, especially in the city (Saponara et al. 2021).

Economic activities and movement within societies cannot be stopped because it is necessity of life and daily chores that cannot be avoided, especially in meeting the needs of both goods and services by doing shopping, work, and recreational activities (Bonfanti et al. 2021). The government provides opportunities for manufacturers as well as the public to continue economic activities but with compliance to health protocols, including wearing masks, washing hands, and maintaining social distance (Wellenius et al. 2021). The protocol must exist as a condition of opening a crowded center, market, mall, or shop. Some manufacturers offering certain brands have conducted educational programs on the importance of health protocols for the government through media directly related to consumers. Media in direct contact with consumers and customers is considered EGD media as part of applicative media that is actively used when interacting in the store or place of peddling products (Kato 2015).

People increasingly use various ways of approaching the public through media to prevent the spread of Covid-19 (Jia et al. 2021), for example, through social media, especially visual messages through chat media like WhatsApp. This digital media is very effective because the public is very familiar with it, making it easier to disseminate information through continuous messaging (Utari

et al. 2020). This study discusses the problems of cyberspace in the internet world that are indirect to community activities. The initiatives for preventing the spread of Covid-19 are undertaken directly by using conventional media, such as flyers that briefly educate about the dangers of the virus (Santosa et al. 2020). This research is closer to the public through a direct approach to media commonly used in the campaign process. There is a tendency of the public to ignore the media slightly.

Another visual approach to assertiveness in health protocols is through infographic approaches (Aryanto 2020). In this research, the infographic approach is used to facilitate the message to be directly conveyed to prevent the spread of Covid-19. The problem is that many people do not easily remember visuals in infographics because of the low visual literacy and understanding in society. Semiotics visual language is contained in the campaign to prevent and counter the spread of Covid-19. There is a meaning that is interpreted by the message in the verbal and visual signs (Widiadnya 2020). This research further examines the signs contained in Covid-19 prevention ads from their verbal and visual meanings.

2 RESEARCH METHODS

The technical approach of research comprises several steps in its implementation, including; preparation of study concepts, parameters as research instruments, sampling, data collection, data tabulation, data sorting, data analysis, data synthesis, conclusion drawing, and report writing (Sekaran 2006). This study uses qualitative descriptive methods of EGD objects compared to people's preferences. Technical research by digging research objects through three data sources: observation of objects, interviews to experts in the field of study, and questionnaires to users who are residents and communities that directly and indirectly are related to the object of research.

Observations were made by searching visual communication in EGD in modern shopping centers based on location variables and other variables supporting this study. The interview method is addressed to users and experts directly related to social distancing EGD. The selection of informants through the level of interest is expected to provide data quality to solve existing problems. Questionnaires are distributed to residents to make it easier to know the response from users. This questionnaire contains open questions regarding the utilization of EGD.

Secondary data is viewed based on fundamental limitations contained in research objects based on literary data. Literary data come from various written sources, journals, and books related to brands, sign systems, and supporting theories, in addition to reference sources from other papers related to research. A library study was conducted to find data sources based on brand role related to health protocol, especially Covid-19.

Brand plays an essential role in an identity product representation, primarily in the adaptation process of enforcing health protocols. Each product has an identity or name image that makes the product popular and permanent in the minds of its consumers (Wu & Ardley 2007). Consumer confidence in the brand will be ingrained in those who have become customers because the brand can bewitch into one part of life. The value of a brand in this digital era is increasingly noticed because brand information technology is experiencing evolution. A brand's ability to survive in pandemic situations shows brands' ability to adapt and strategize in today's internet age. Consumers no longer consider a brand's strength to be dependent on conventional terrain, as they did before (Clifton et al. 2009).

3 RESULT AND DISCUSSION

Most of the EGD health protocols applied to the floor apply to stores, franchised restaurants, outlets, stores, minimarkets, supermarkets, and shopping malls (Atamaz 2019). Flooring stickers (floor stickers) are utilized on floors of building. The flat and slippery floor structure facilitates its application as the solid floor materials are generally made of ceramic, granite, or marble stone.

These markers are spread out to points that people may often pass through or crowd, such as in escalators, entrance corridors, payment points, elevators, toilets, and other facilities.

Figure 1.   Application of environment graphic design health protocol.

The primary purpose of using EGD as a medium of strategy applied by brands in the media store is to prevent crowding. Crowding leads to transmission of infection. Therefore, it is necessary to stop the spread with preventive measures. The government stipulates recommendations to enforce physical distancing. Each brand complying with these protocols, including manufacturers representing brands, must provide concrete evidence of these measures and policies through the utilization of EGD in-store media (Wagle 2013).

Brand manufacturers utilize the momentum through several strategies. The most important is how brands adapt in pandemic situations and conditions such as today; for example reducing production amounts, cutting promotional costs, further leveraging and strengthening sales through e-commerce or social media (Yang et al. 2021). The goal is to maintain the existence of brand and survive. One of the adjustment measures in the adaptation period during community activities after lockdown is how to continue following government rules, increase social responsibility as a form of corporate concern felt by the community, and as a step to increase brand awareness that penetrates its customers (Dewangga et al. 2021).

Figure 2.   Main functions of EGD utilization during Covid-19.

There are four main functions emphasized through the implementation of GDE in in-store media during this pandemic, among others; a. Informing the rules to the community, b. reminding the importance of maintaining social distance, c. urging to remain vigilant, d. directing people to stay compliant to protocols.

Brand adaptation is indicated by the presence of brand identity through implementation of media in the form of the presence of identity elements, both implicit and explicit. The presence of identity elements in the form of colors, logos, typography, and brand visual characters emotionally becomes an information builder in the graphic design environment applied. People can perceive and associate these forms as representations of a particular brand.

Based on 250 respondents who have experience and opportunities to travel during the adaptation of the pandemic, the level of public preference brands in adapting during this pandemic. A total of 68.3% of audience expressed great pleasure and support for the steps taken by brand manufacturers in implementing the rules with the EGD approach through in-store media conducted in the center of security, especially in malls or department stores. The consumers responded positively to this positive step.

A total of 75.4% of respondents supported and were pleased with brand manufacturers that used EGD as a form of social responsibility and empathy directed toward consumers. This means that consumers realize the importance and need for the government rules conducted by manufacturers as a form of brand CSR on the issues and problems of this pandemic. In addition, supported by the benefits for consumers, as many as 71% of respondents feel helped and expressed very useful.

Logos and visual brand approaches contained in EGD are used for brand recognition for customer awareness. Many as 72% of respondents were very happy and agreed on the brand's presence in a logo or visual forms, such as color or typography. This means using brand logos or other visual articles amplify consumer awareness of products and brands even though it is contained in EGD on in-store media as a flooring sticker. Measuring awareness is also related to consumer loyalty brand, and based on a survey, as many as 68% of respondents agreed and influenced in increasing loyalty to products. The strategy can be a way to increase the value of consumer awareness of a product or brand.

Measurement of utilization of EGD as a formal aspect of the manufacturer in following the government's rules, as many as 70% of respondents agreed that manufacturers took such approach because of the form of obligations required by the government to producers. This was also supported by 82% of respondents who stated that EGD placement is appropriate and as per health protocols set by the government.
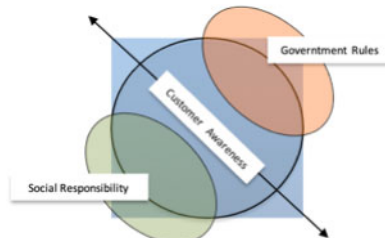
Figure 3.   Direction of brand adaptation strategy through EGD.

The above discussion results can be found related to the direction of strategy in the use of EGD as an adaptive step taken by brands in the pandemic era as it is today. Three functions lead to one of the functions of the strategy. In particular, the critical function of manufacturers in approaching EGD is a formal requirement of government regulations that must be met in complying with health protocols during this pandemic. The following function is part of the brand's social responsibility strategy in dealing with the current pandemic problem. The function that becomes a slice of both is part of strengthening awareness of the brand that is unconsciously one of the essential parts and awaited by consumers in adapting between the needs and trust in choosing a brand. This step strengthens consumer loyalty to the brand or brands that have become their choice.

4   CONCLUSIONS

In conclusion, the brand adaptation in addressing and facing the current pandemic era is to use a strategy directly through the EGD approach to give people more space to adapt to the situation without patronizing it. The community should be educated about the different protocols that need people to stay away from the crowd. Manufacturers with owned brands are also socially responsible in line with government regulations without forgetting the element of awareness created through a simple approach based on implied visual communication and expressed through EGD visualization contained in in-store media in the form of flooring stickers.

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Implementation of user-centered design (UCD) approach to human-centered design (HCD)-based mass application (non-profit organization case)

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ABSTRACT: Our study is to design an app and web to digitalize blood donation for Indonesian Red Cross (IRC), the national association in Indonesia that is engaged in the social and humanitarian field, among cities in Indonesia. This non-profit service comprises a complex administration system that is required to be managed. A mobile application with User-centered Design (UCD) can provide up-to-date data anywhere at any time will help the Indonesian Red Cross provide better service to blood donors. This study also uses in-depth interviews conducted directly with users and combines UCD theory used in the website creation process. Interviews were conducted directly with daily officers and people involved in the hope of providing a better user experience. After the data are collected, the app will make the data available both in the form of web for IRC officers and in mobile phones through the mobile apps.

Keywords: blood donor, HCD, IRC, mobile apps, UCD, web design

1 INTRODUCTION

Administrative management requires a system. The definition of administration is cooperation that aims to achieve a goal. This administrative activity has become universal. Everyone must be involved in this administrative activity in daily life at a certain level. Moreover, the process of administrative activities exists in every sector of life (Ojogwu 2017). This administrative activity also exists in the blood donor unit (BDU). This activity is carried out independently, and each unit is managed differently. The activities carried out started from holding events, accepting donors, to carrying out administrative processes. The administrative process is a vital part. This is because the data needs to be stored in a clean and secure place. But sometimes, this recording is still done manually, even though using a program. The program is still simple and cannot be accessed by the chairperson or other field implementers in real time. This is a challenge in itself. Through User-centered Design (UCD), the researchers implement an approach to design UI/UX for the required website applications. This website will help administrative staff perform data entry, and the head of BDU can monitor this data. This paper comprises a case study at BDU Banjar City. The BDU, located in Banjar City, West Java Province, is engaged in blood donations from the surrounding area. The BDU experiences problems in recording data right from the donor entry to blood storage. This small town is quite interesting because the people care about donating blood. This is reinforced by the presence of the blood donation unit bus presented by the Indonesian Red Cross (IRC) (Banjar 2020; Priyanto 2021) and the people of Banjar city are very enthusiastic, including the government (Priyanto 2021). Therefore, there is need for a secure and accessible website to manage the administration task at any given time.

1.1 Blood Donor Unit (BDU)

The Indonesian Red Cross Organization (IRC) has a management structure from the main level to the provincial and district levels throughout Indonesia. The management itself aims to support further implementation of IRC's duties and functions toward the community in the social, health, and humanitarian fields. IRC's primary work focus on the BDU. The BDU is one of the fields within the IRC organization that regulates duties and functions in terms of providing health services in the field of blood donation (Suherman 2017).

1.2 User-centered Design (UCD)

UCD is a method based on user needs obtained through an in-depth analysis of target needs (Agarina et al. 2019; Idris et al. 2021). UCD is more optimized and focuses on user needs. Hence, the application will determine the needs of the user and the user no longer needs to change the behavior to use the application (Agarina et al. 2019). UCD is based on knowledge of ergonomics and usability of user requirements. Standards for use of UCD have been made by ANSI-ISO (American National Standards Institute), which is generally referred to as ISO (International Organization of Standardization). ISO defines user experience as "perceptions and responses resulting from the use or anticipated use of a product, system or service". A user experience includes affection, feelings, emotions, beliefs, and expectations that occur before, during, and after product use (Chammas et al. 2015).

2 RESEARCH METHODS

This study uses in-depth interviews conducted directly with users and combines UCD theory used for website creation process. This process starts with the interviews of persons who need an application. Interviews were conducted directly with daily officers and people involved in the hope of providing better user experience.

2.1 Mapping RP, RQ, and RO

The interviews resulted in mapping of Research Problems (RP), Research Questions (RQ), and Research Objectives (RO) so that the direction of this research can be more focused, this can be seen in Table 1.

Table 1. Mapping RP, RQ, and RO.

Research Problem (RP)	Research Question (RQ)	Research Objective (RO)
The data input process is still manual and data access is still not real-time	What kind of interview method is used to review the existing problems?	To find out problems in the input process and manage information
	Method with the right Ui/UX to create a website?	To produce a prototype design with the required UI/UX

From Table 1, it can be seen that the UCD method used in the process of making this website can has several aspects, namely:

1. Benefits: data is centralized in the cloud, can be accessed in real-time, and from anywhere.
2. Availability: data can be accessed easily and is available any time. The website can be designed with the latest technology so that it can last for a long time.
3. Interest: there is need for a system that can be automated and minimize errors.

2.2 *Generated low fidelity*

From the results of interviews and mapping from Table 1, some features can be generated, such as login, dashboard, administrator, and blood donor management (see today's data and data of all who have donated blood). UI/UX designing is done using methods such as sketches, wireframes, and making mockups. Use wireframing as blueprint of the entire design that website will use (Bank & Cao 2014). The low fidelity UI/UX prototype design from the UDD application website can be seen as follows:

1. Feature login
This feature is used to enter the application according to the role; the results can be seen in Figure 1.
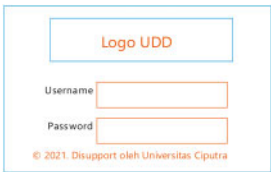
Figure 1. Feature login.

2. Feature dashboard
The dashboard feature views summary data from active donors, donor transactions, ongoing donors, successful donors, and failed donors. This feature can be seen in Figure 2. This dashboard is designed by applying one place information by displaying a menu on the left side. Users can easily click several menus, and the results will appear on the right side.

Figure 2. Feature dashboard.

3 RESULT AND DISCUSSION

The low fidelity design is used to carry out high fidelity manufacture and implementation. This stage has made several adjustments with regard to color and coding implementation that needs to be done carefully and the design of the mockup has not changed much. In this section, the results of the UI/UX implementation that has been carried out will be displayed. The coding implementation has been completed using the CodeIgniter platform. The process is done to get the advantage of the database and responsive website to appear on smartphones and tablets. The implementations of wireframe that has been done are:

1. Feature Login
The results of the login feature can be seen in Figure 3. In this feature, if the user forgets the password, they can immediately click "Forgot Password", so there is no need to migrate to another page.

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Figure 3.   Implementation login feature.

2. Feature dashboard

The results of the feature dashboard can be seen in Figure 4. On the dashboard, there are several menus on the left side, namely:

Beranda. This page provides information on total active donors, total successful donors, total donor transactions, total failed donors, and total ongoing donors.

Admin data menu. This admin data is useful for superusers to add other users who can also monitor activities on UDD.

Menu Data Pendonor Darah. In this menu the admin can find out the name of the donor, blood type, membership, ID card, gender, number of donors, the last donor, status whether he/she is allowed to donate or not.

Menu Data Donor Darah. This menu displays data on blood donor history (all), this section displays data on all donors, both on current and previous days.
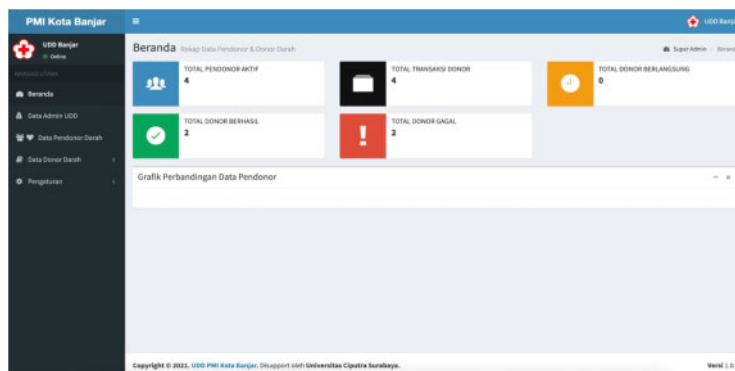
Figure 4.   Implementation dashboard feature.

The results of the implementation of UI/UX functionally help field implementers.

4   CONCLUSION

After implementing the UI/UX on the blood donor website, we can conclude that UI/UX is simple with icons that clarify its function. Then the users can find it on one functional dashboard. The UI/UX implementation has been carried out, and the implementation has tried and found it easy to input data, and the menu is very familiar with their daily needs.

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Painting with algorithms: The potential for using the P5.js programming language for new media artist

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ABSTRACT: Generative art is an art form that uses the programming language. It is used by artists, designers, and programmers as a medium to create artwork with a digital media platform that has unlimited potential. This article attempts to show the tendency of new media artists to use programming languages, especially creative code such as JavaScript library p5.js as a medium for their works. This article focused on visual artworks of contemporary new media artists who use ideas that develop from images that were previously processed by artists in the field of painting, photography, cinema, and video art. The image can be processed in such a way with computer programming by using the qualitative method, with special attention on technology and how it influences the technicalities and ideas of art medium. The main data for this research is the interview article with a new media artist who uses p5.js, along with literature and journals about media art and computer art history, this research will determine how the artist sees the p5.js as a medium that enriches the new media art and contemporary art in Indonesia.

Keywords: Generative Art, P5.JS, Digital Art, New Media Art

1 INTRODUCTION

Seeing the potential and development of contemporary art, especially, in the field of new media art that rely on digital computing, the artists must play an extra role as a programmer or he must collaborate with programmers to present works that can expand their visual presentation and elevate the idea of technology and their effects in our lives (Greenfield 2006). Since the digital media is built by codes and programming language, the artist-programmer must be good at using the programming language or the software that can convey their concept. The rapid evolution of computer programming has formed new creativity involving interdisciplinary form between art, science, and technology.

To have a full understanding of this interdisciplinary approach, we must look back to the first period where computers and art interact. Frank Dietrich in his article *Visual Intelligence The First Decade of Computer Art (1965–1975)* evaluated the first computer exhibition held by scientists. At that time scientists exhibited as well as collaborated with artists. It is interesting because this exhibition was initiated by scientists. Bela Julesz and A. Michael Noll at the Howard Wise Gallery in New York and Georg Nees and Frieder Nake at the Niedlich Gallery, Stuttgart, Germany. The works of these scientists responded to the visual phenomenon research they were working on in the form of computer graphics (Dietrich et al. 1986).

One of the iconic works of the exhibition is the work of Kenneth C. Knowlton and Leon Harmon entitled *Study on perception*. This work is an early form of work that uses image processing. This work is a bit reminiscent of Manet's work entitled *Olympia*. Manet, at that time, used a woman who worked as a prostitute to pose naked like the goddess Venus, the depiction of Olympia uses the tendency of images of that time to use brushstrokes and raw colors as the impression of light to capture the subject it depicts (Mansfield 2013).

Using the same approach that is almost similar to the work displayed at the exhibition entitled *The Machine* at the Museum of modern art New York in 1968, Knowlton dan Harmon uses impressions, but the impression is not from light as the Impressionist does, instead it uses binary numbers to convert analog voltages into typographic symbols that are sourced. The image comes from scanning photography. This work might be the 'first' nude computer work ever made (Dietrich et al. 1986).

Physical materials such as ink, paint, paper are slowly starting to be replaced by computers, the use of computers to process data is becoming more difficult to separate from our daily lives, technology has become an extension of our bodies and minds (Richardson 2016). Computer ability to manipulate, change and combine image data digitally today is certainly far advanced from the era that Dietrich described in the 60s. One of the significant factors in this important progress is the continued development of software for computing processes. This software has developed very significantly in the last two periods. One of the main factors is in the spirit of open-source, platforms. This paradigm for learning programming languages is becoming more and more accessible for artists, designers, and programmers. The development of the programming language and the software editor are designed and simplified so it can be easy to use and opens up possibilities for ways of thinking the user. In the early 2000s, the use of computer software as part of the work of computer engineering students, media artists, designers, and architects rose fairly rapidly (Manovich 2013).

The development of software and programming language ultimately opens up opportunities for new visual forms which are a combination of aesthetics and algorithms. Harold Cohen, a painter who finally entered the programming world in the 1970s is an interesting example. Cohen has been interested in the relationship between computers and images; Cohen is specifically interested in the possibilities created by conditional programming, conditions such as *if-then-else*. Cohen sees the way the programming language is the same as the way humans think. Cohen not only uses computers as a tool for the production of works of art, but he also explores the possibilities and nature of computers as a producer of visual representations (Taylor 2014).
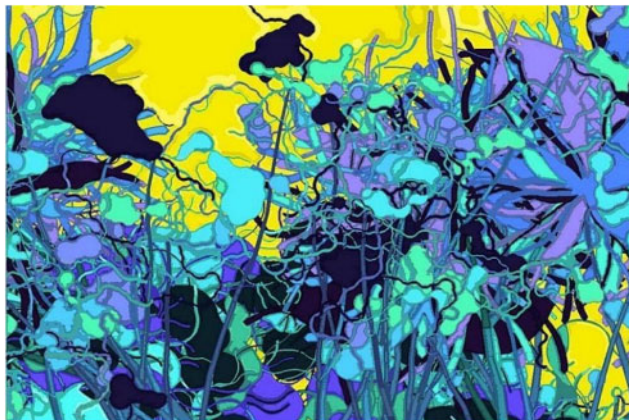
Figure 1.   Aaron Harold Cohen computer program designed to make art.

One key point of Cohen's investigations on computer programming language and human cognitive is that computers can create independent works of art; a thought that goes beyond the computer as a tool for creating visual ideas for artists. This algorithm aesthetic is the basis for generative art and other art forms that explore variations of artistic concepts that depart from algorithms.

In the present research, we will discuss how the development of computer programming languages such as JavaScript is currently used as a medium of art for new media artists. We will try to see that this new approach finally creates an art form known as generative art, an art form that emphasizes inwards the process rather than steady images so that its image forms are consistently changing. By focusing the research on P5.JS, a library of JavaScript programming language, this

research will see how the potential use of the software as a medium that enriches the new media art and contemporary art in Indonesia.

2 RESEARCH METHODS

This research uses a qualitative research strategy and uses two main data sources. The main data comes from interviews with artists who use new media art to see how the JavaScript programming language and its library p5.js work. The second data source is library data related to the history of new media art, especially those related to programming languages. The data is then analyzed and studied to see how new media art influences the development of contemporary art in Indonesia.

Research study on the history of new media art in Indonesian contemporary art derived from a literature review of books and journals. One of the main sources of this research is *Apresiasi Seni Media Baru*, a book that seeks to explain the phenomenon of new media art in Indonesia, which was initiated by the Indonesian Arts Directorate.

The process of this research started by collecting articles related to new media that related to software technology, JavaScript programming language, and new media art. The important artists and their works are the blueprints of today's contemporary programming works.

Finally, to complete this research about the potential of the medium in Indonesia's contemporary art, we interviewed young new media artists named Kelvin Djunaidi new media artist from Jakarta, and Adi Setyawan, Gina F. Adita from Bandung. They use software tools such as MAX/MSP, Arduino, and P5.JS in their latest works. The main data is from Kelvin Djunaidi works and interviews, collected from 2019-2020 projects. The works evolve from one medium to another in these interviews we investigate the role of artist-programmer in the creative exploration of the medium.

3 RESULT AND DISCUSSION

The history of dematerialization of art began when Duschamp used the *Readymade*, the idea of how banal and everyday objects could be used as the art medium. This concept changes the way we look at the relationship between the process of the art and its medium. This art concept evolved in the 1960s, into Conceptual art, the same period as computers and programming languages developed in North America. The computer art creates a new form of 'reading' the artworks where it is more than just an object but also an idea as a mental process, eventually, it will become easier to associate the computer art form with conceptual art (Tamblyn, 1990).

Frank Dietrich's paper analyzed the relationship between artist-programmers and computers as the medium. The result of these symbioses gave birth to a new art form based on codes. It has been more than five decades since Frank Dietrich discussed the first decade of computer art. Human interaction with technology and its effect is still an interesting issue for the contemporary art. Nowadays the computer has become a part of our life, the access to experiencing the digital world is becoming easier to manipulate and transform with today's programs and software.

P5.js is an open-source software based on JavaScript and has its roots in processing programs. P5.js can create an interactive visual and has many other possibilities for various projects. P5js is a programming library (Engin 2018). A library is compiled of codes that can be used by JavaScript language for a specific purpose from the processing project initiated by Casey Reas and Benjamin Fry. These two creative programmers designed JavaScript-based programming language that could help designers, programmers, and artists to create creative codes that produce forms of communication and artistic expression for their projects. Processing uses a pre-existing programming basis, namely Java, but the language is considered unable to function in a JavaScript flexible browser and is finally converted using JavaScript (Shiffman 2012). The advantage of this programming language is that it can be used in internet browsers and can be accessed anywhere as long as there is an internet network, this programming language can help improve the visual appearance of a site with interactivity, animation, and sound.
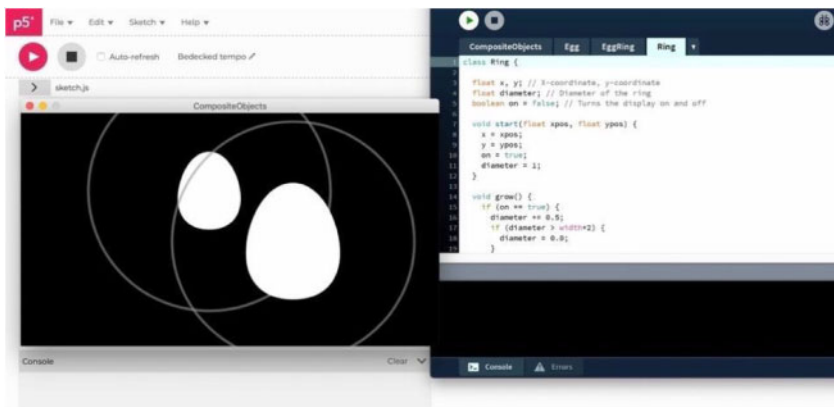
Figure 2.   P5.js editor from p5.js.org website.

Since then, processing has become one of the creative mediums used by artists-programmer and designers to create creative visual projects, artistic ideas that can be translated into art that change simultaneously based on the change of the data. Nowadays these kinds of art or design are popular with the term of generative art. One exhibition on the *First Decade Computer Art* by Frank Dietrich, is *Generative Computergraphik*e that was held in Germany in 1965. The exhibition uses the term generative to identify art that was made by computer programs (Boden & Edmonds 2009). Nowadays the term 'generative' in computer art and design has a wider concept rather than computer-based art but generally, it also has interactivity and usually emphasizes the process, as the artwork is continuous, it also changes and evolves depending on the parameter that the artist-programmer creates that would interact with the data received by the program systems.

Computer art in Indonesia came along with the emergence of the New Media Art. New media art entered Indonesia in the early 90s where young people at that time, especially in big cities had art institutions, and the students experimented with new unconventional forms of media. The use of strong media elements of technology such as computer and multimedia, in the end, makes young artists become 'fluent' using the digital-based media that is processed by the computers (Hujatnikajennong et al. 2006).

However, the development of computer art was widely displayed in the early 2000s when computers and theinternet became a phenomenon. Artists with programmer backgrounds or artists who collaborated with programmers began to multiply and became a fresh art form in their time. It was noted that several exhibitions began to take the curatorial of technology and interactivity as their themes and artists with different backgrounds, not only art academics but also various backgrounds (Sourd 2021).

The 2010 year was marked by the entry of social media and the form of open-source websites that made it easier for young artists to access this interesting art form free. The distance between countries was previously limited by physical distance and now it is easier for artists to access this information with the development of communication network technology and cyberspace (Kusmara 2013).

Some of today's young artists are increasingly fluent in programming languages and their work is not only based on computers but also based on the internet. One of the new media artists using p5.js is Kelvin Djunaidi, an artist and musician based in Jakarta. Kelvin is interested in the relationship between urban bodies and virtual spaces, thus, his works use real-time interaction and machine learning technologies. According to Kelvin, programming languages help him realize his ideas and make it easier for him to make artistic decisions. But he also felt that programming language itself is not easy and requires patience to learn it. Kelvin himself started learning P5.js when he needed visuals for his sound artworks. The visual generative form that Kelvin envisions can be realized

with p5.js as p5.js can be combined with browsers and other JavaScript libraries and is not as heavy as programs that have excessive features. So, through p5.js we can simply use the Chrome browser.
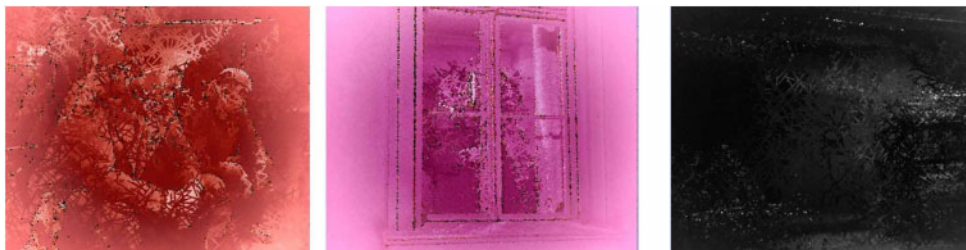

Figure 3.   Kelvin Djunaidi artwork using p5.js on "The testament of Dr. Mabuse" movie.

4   CONCLUSION

What we have absorbed and experienced in our daily life is not only the real world but also the 'digital world'. The new media artist using computer art now has evolved into generative art to represented contemporary issues with the contemporary medium, which is the programming language. With p5.js we don't need to use a lot of code or programs that have a high level of difficulty or even expensive paid software. But it still requires basic programming knowledge from pre-existing programming languages and patience to learn the ecosystem. P5.js programs are open source and tutorials can be studied on mainstream media channels such as YouTube or the p5.js software development site the p5.js.org. According to new media artists who use this program, it is time for art colleges to apply the basics of programming languages in their curriculum so that the student can be familiar with these art forms as soon as possible.

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Using business and design strategy to build brand identity and visual communication: A case of Mimi Sehat

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ABSTRACT: This study is intended to solve the problems in Mimi Sehat, a small-medium enterprise (SME) that has struggled in the culinary industry, mainly the health drink industry. The marketing of Mimi Sehat is currently limited as its visual communication has not been consistent in terms of visual identity, packaging, and promotion. The researchers collected the data through interviews, observation, documentation, and literature studies. The collected data were processed through the formulation of design strategies, such as PEST analysis, Porter 5 Forces, Competitor Analysis, SWOT Matrix, and Ansoff Matrix. The findings are used as the basis of the right visual communication design to solve the problems of Mimi Sehat to compete in the Indonesian culinary industry sector.

Keywords: brand identity, business strategy, design strategy, SME, visual communication

1 INTRODUCTION

The culinary subsector of creative industries was accounted as the largest contributor in Indonesia's Gross Domestic Product (GDP) of 41.69% (Badan Ekonomi Kreatif & Badan Pusat Statistik 2017). It can be assumed that the more significant the role of the culinary industry, the increasing competition between small and medium enterprises (SMEs) in the culinary subsector in Indonesia. Another phenomenon on the rise in Indonesia regarding competence in the culinary industry is the healthy living trend that is also propelling new competition in the culinary industry. Beverage and healthy food businesses are growing, as healthy and natural foods and beverages are becoming a lifestyle in Indonesia today. One of the traditional products is *jamu* as a herbal health drink. In addition to having a high business potential, the herbal drink also has a story attached to Indonesia's ancestors' culture. Therefore, it is essential to increase brand awareness and create innovations to compete in this culinary industry.

This study is on *jamu* (herbal health drink products), Mimi Sehat. Currently, the competition of herbal drinks in Cirebon City created hurdles for the market share of Mimi Sehat. Mimi Sehat requires some innovations to increase the value of its product and generate more profit. In addition, Mimi Sehat's visual identity is currently unable to increase brand awareness in consumers since there is inconsistency in its visual identity. In contrast, the visual identity should be consistent to show the public that the entity is consequent and professional (Rustan 2009). The current promotion is limited to word of mouth. In addition, another limitation that hinders the sale of Mimi Sehat is the packaging that is less attractive and does not support the delivery of products over a long distance and time. Thus, it needs packaging that can achieve strategic goals and marketing targets through the most appropriate design (Klimchuk & Krasovec 2012).

Competition in culinary subsectors in Indonesia also requires Mimi Sehat to optimize its strategy to compete in its subsectors. This company can achieve a competitive advantage by using strategic management methods; namely, the process of planning, briefing, organizing, and controlling

various decisions for the company to gain a competitive advantage (Solihin 2012). To support the results of strategic management analysis, Mimi Sehat needs to design brand identity and attractive visual communication. It can cover its objectives appropriately through various media to convey messages and ideas visually by managing graphic elements in shapes and images, font settings, color compositions, and layouts (Kusrianto 2007). This paper discusses designing a brand identity and visual communication based on the business and design strategy applied in Mimi Sehat.

2 RESEARCH METHODS

This study employed the observation method, interview, and documentation. The researchers used the observation method to observe Mimi Sehat's business as a case study object (Rohidi 2011). The next method was an interview to explore the thoughts, concepts, and personal experiences or views of the business owner (Soewardikoen 2019). The documentation method was used as a complement to observation and interview in qualitative research (Sugiyono 2013). The researchers carried out documentation by collecting data in images, photos, and text through a personal camera and the company documentation from Mimi Sehat.

During the study, reading some literature was intended to make the references more widespread and fill the frame of mind. With literature study, it can also strengthen the perspective and then put it in context (Soewardikoen 2019). A literature study was conducted on strategic management theory, promotion theory, and other visual communication theories.

After collecting primary and secondary data, further data analysis was carried out using management tools such as VRIO and value chain analysis for internal analysis of the company; PEST analysis and Porter's 5 Forces analysis for external analysis of the company; and TOWS matrix, Ansoff Matrix. After that, the formulation of design strategy in the form of innovation and branding reinforcement was adopted from Best (2010).

3 FINDINGS

Data obtained from observation shows that the consumers can already find packaged herbal drink products in supermarkets and e-commerce. Different packaging is used for *jamu*, some use glass bottles, and some still use plastic bottles. Some products that use glass accentuate their visual identity, such as displaying logos and other design elements with print techniques. Mimi Sehat products still use PET bottle type packaging with 300 ml and use sticker labels for a logo and additional information. The data obtained from the interview with the owner of Mimi Sehat, Wulandha, is that Mimi Sehat still lacks promotion and packaging design. The owner admits her limitations in distributing her products out of Cirebon because the products sent are often damaged in expeditions due to the reaction that occurs in the bottle at a specific temperature.

To identify the strengths and weaknesses in the internal business resources and processes owned by Mimi Sehat, VRIO (Value, Rareness, Imitability, Organization) framework analysis was chosen to determine what can be a source of sustainable competitive advantage (Saputra 2017). After conducting an in-depth analysis of the internal business, external analysis data was also needed to determine potential profits and business opportunities to reduce the risk of losses caused by threats. The analysis used was PEST analysis (Politics, Economics, Social, Technology) and Porter's 5 Forces. It can be concluded in PEST analysis in the culinary business, especially healthy drinks, the role of regulation in Indonesia can be a threat if Mimi Sehat still uses plastic packaging because law Republic of Indonesia (RI) No. 81 of 2012 mentioned that plastic is not easily decomposed by natural processes.

The following analysis was Porter's 5 Forces, intended to identify threats coming from five forces within an industry. The analysis concluded that Mimi Sehat is a business that new entrants can easily emulate because they can start this business with less capital, and the suppliers can also be found anywhere. But this business is unique; during the extensive sales of healthy juice as a drink, Mimi Sehat comes with local wisdom that is a traditional drink.

After analyzing the internal and external environment of Mimi Sehat, the next stage was to investigate the competitive level for the identification and evaluation of competitors to determine their strengths and weaknesses using the TOWS matrix. To know the business position of Mimi Sehat as compared to similar competitors, the researchers conducted market analysis by using Product Life Cycle analysis. Mimi Sehat is currently in the growth stage towards maturity. At this stage, the business has been accepted by the market, and production activity is increasing. At this stage, Mimi Sehat needs funds to promote marketing.

For the development of its business, Ansoff Matrix analysis was used to assess the company's growth through products and expansion of the market network. This matrix was used to create a competitive advantage by offering alternative strategies to achieve these goals (Wulandari et al. 2016). Mimi Sehat needs to create a competitive advantage by offering an alternative strategy to achieve its goal by choosing a Market Development strategy or market development. Mimi Sehat should develop a marketing strategy by evaluating the target market audience and increasing its market segmentation to sell exclusive and premium products for the enhancement of the image of herbal drinks in Indonesia. In addition, Mimi Sehat also needs to use product development and diversification strategies. In these strategies, Mimi Sehat should launch a new product with other variants of herbal drinks and other product lines of powdered herbal drink products. The new flavors in Mimi Sehat products are considering the increasing trend of healthy living in Indonesia and the widespread segmentation of Mimi Sehat gender. *Temulawak* and *beras kencur* variants are also commonly consumed by men and children. Mimi Sehat should launch herbal drink sachet products such as a brewed variant of *Bir Pletok* as it is still rarely produced in the form of a sachet. In addition, this product is also often consumed by men. This strategy is aligned with the expansion of segmentation that adds men as the target.

Following various internal, external, competitive, and market analysis stages, the next step was selecting a design strategy to implement the research into the visual media. Table 1 shows the results of the selection of business and design strategies.

Table 1. The business and design strategy.

No.	Data and Analysis	Business Strategy	Design Strategy	Visual Communication
1.	External Politic: Policies on foreign companies make business competition increasing.	*Focus Strategy*	*Branding*	● *Brand Identity* ● *Stationery*
	Internal Weakness: Do not have a strong brand i*dentity*			
2.	External Politics: Law RI No. 81 of 2012 on the use of products with packaging that is not easily decomposed by natural processes, including plastic.	*Market Penetration*	*Innovation*	Packaging design using glass material
	Internal Weakness: The price is not aligned with the quality.			
3.	External Technology: The rapid development of information technology and the number of people who use social media.	*Online Marketing*	*Media Promotion*	● E-commerce ● Digital promotion media
	Internal Weakness: Mimi Sehat does not have any promotional media either print or digital.			
4.	External Social: the rise of the healthy lifestyle campaign in Indonesia.	*Product Development and Diversification*	*Innovation*	● New variants of herbal drinks, ● New product type, ● Packaging Design
	Internal Weakness: only has one flavor/ variant.			

3.1 *Design concept and final artworks*

In designing the logo, Mimi Sehat uses illustrations of *sambiloto* leaf. The designer chose the leaf because it has many properties for human health. This plant is also known for its benefit to be processed into herbal drinks or medicine. Following the efforts of Mimi Sehat engaged in traditional herbal drinks, the plant was used as an element on the logo of Mimi Sehat. Moreover, the design also used *mega mendung* pattern as a supporting visual element of Mimi Sehat. This pattern was selected because it is a very well-known pattern from Cirebon, where Mimi Sehat products originate, and to raise the local culture of Indonesia to fit the visual concept of modern ethnic.

The messages are conveyed in the visual communication using clear and legible typography, such as Serif. The logo fonts used a combination of font type serif Bodoni 72 with *hana caraka*. The two fonts on the Mimi Sehat logo were intended to convey to the audience that this product comes from Cirebon Indonesia. In addition to typography, colors also play an important role in building brand image in visual communication. The paint used was gold, and its color derivatives to brown give a premium impression and create a premium image on its products. From the business and design strategy analysis, the design concept and brand identity, and visual communication outcome of Mimi Sehat, such as booths, stationery, uniforms, and shopping bags, are illustrated in Figure 1.

Figure 1.   Concept and design of brand identity and visual communication of Mimi Sehat.

4   CONCLUSION

Based on the observations and studies that have been conducted, there are several conclusions related to the object of research. First, the results of brand identity design and its implementation in visual communication such as booths, stationery, uniforms, and shopping bags can increase brand awareness in the Mimi Sehat business so that consumers can widely know it in Indonesia, especially in Cirebon. Moreover, the results of visual communication design were obtained from strategic management analysis tools such as new product lines and new packaging. Expanding its marketing by selling its products online through e-commerce and promotion through Instagram and Facebook is expected to increase the business growth and shape a positive brand image of Mimi Sehat.

Taken together, these results suggest that SMEs can use business and design strategies to build identity and visual communication that is appropriate to apply to their brand. However, this study is limited to the case of one small and medium-sized enterprise (SME) in the culinary sector that implements a business strategy and translates it into a design strategy. Further studies are interesting

to examine the extent of the effectiveness of implementing design strategies conducted by SMEs in improving their brand awareness.

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Distance learning and practical class during pandemic: An evaluation

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ABSTRACT: This study aims to evaluate a distance learning class that faces some challenges in its implementation during the COVID-19 pandemic. The object of this research is Basic Typography Class at Telkom University, which is a practical, experiment-based course carried out for one semester. The qualitative research method is used both in analyzing and collecting data. A survey was also conducted among students as a phenomenology approach. The result of this study shows that students experienced many obstacles in participating in online learning, but there were also benefits that they did not get from conventional face-to-face learning, such as flexible lesson schedules. The result also suggests that to be more effective, a university may apply blended learning so that students can benefit from both learning methods.

Keywords: online learning, distance learning, typography course, COVID-19

1 INTRODUCTION

During the COVID-19 pandemic, most educational institutions have been implementing distance learning as a precautionary measure to prevent the spread of the virus. Indonesia is no exception. As the Ministry of Education instructed, all universities in Indonesia must conduct distance learning. The mentioned distance learning is conducted mostly in the form of online meetings and the usage of LMS (Learning Management System). Distance learning itself is an effort to provide education for students who are geographically distant (Moore et al. 2011).

This learning method, however, faces some apparent challenges. Due to the sudden nature of the pandemic, many are unprepared. Universities must provide learning websites for both students and lecturers, which require more cost and operators. The operator needs a cost for training as well. To gain effective distant learning, the staff conveying instructions should be trained (Valentine 2002). Some students reported that they did not have the necessary tools and were unable to do specific assignments. Lecturers also had to adapt and remake almost all of their previously made teaching materials, resulting in excessive workload for all. This learning method also involves the student in making sense of lesson materials and shaping their own learning experiences (Al-Arimi 2014).

Despite these challenges, distance learning also serves as a motivation for all educators to adapt more in the digital era. With the imminent use of computers and handheld gadgets, such as smartphones, learning has no geographical boundary and is cost-efficient compared to conventional learning. Educators are also encouraged to develop skills related to technology, regardless of their studies. It even gives hints at personalized and more active, deeper learning (Traxler 2018).

This research aims to evaluate distance learning of basic typography classes at Telkom University. This study adapts Kirkpatrick Framework that was previously used by Chang and Chen (2014) in their research on the learning effectiveness of a blended learning environment.

2 RESEARCH METHODS

2.1 *Methods of data collecting*

Data collection method used in this paper combines field research and literature review. A questionnaire was given to selected course participants using Google Form on July 25, 2021, and there were 64 responses collected. The respondents were inquired to answer several questions regarding their opinions and learning experiences in typography class. The participants were students who had completed basic typography classes in the previous semester.

2.2 *Methods of analysis*

Variables used in questionnaires are adapted from Kirkpatrick four levels evaluation model (1998, 2006). Kirkpatrick uses a four-level measurement method to evaluate training outcomes, which has increasingly been used in the e-learning environment (Chang & Chen 2014). The outlines are as follows.

Table 1. Kirkpatrick's four-level evaluation method.

Level of learning method	Keyword	Description
Evaluation level 1	Reaction	Students' reaction to the course, what aspects they like and dislike
Evaluation level 2	Learning	Measuring students' improvement in skills after taking the course
Evaluation level 3	Impact	Evaluating the change of students' behavior in regard to the course, and whether they can apply what they have learnt
Evaluation level 4	Result	Effect or improvement in students' daily life or study

The keyword derived from each level of Kirkpatrick's learning evaluation is thus adjusted into a set of nine questions. Some questions were presented in essay format to get a more qualitative response.

3 RESULT AND DISCUSSION

This study uses the questionnaire results to evaluate distance learning of basic typography class. The evaluations are as follows:

3.1 *The Kirkpatrick evaluation level 1*

This step of the evaluation method measures students' reactions to the course program. This study defined questions tagged Q1, Q2, Q5, and Q6 in the questionnaire (see table 2) as evaluation level 1. On a scale of 5 (measured by very poor, poor, average, good, very good) 27 students out of 64 respondents answered they had a very good understanding in typography class, and 54.7% of the respondents said they had a good understanding. One student answered they had average understanding, while another student thought their understanding of the course was very poor (see Figure 1). Almost all participants (98, 4%) agreed that the material taught in the typography class was in line with their expectations (Q2), whereas 1.6% disagreed. Both Q5 and Q6 are presented in essay form to allow a qualitative assessment. Q5 investigates what they like the most about the typography course, while Q6 is about what aspect they disliked most.

To sum up Q5, most students said they had a new experience in basic typography class and the assignment of designing typefaces was the aspect they enjoyed the most during the learning process.

Table 2.   Questionnaire variables.

Question code	Question phrase	Purpose
Q1	How far do you understand the material presented in basic typography class? (In scale of 1 to 5)	Evaluation level 1
Q2	Is the material taught in basic typography class in line with your expectations?	Evaluation level 1
Q3	Did you get any new skills while studying in basic typography class?	Evaluation level 2
Q4	Could you apply what you learned in basic typography class to other things? (Example: applying basic typographic principles in your design process)	Evaluation level 3
Q5	What did you enjoy the most in basic typography class?	Evaluation level 1, identifying the most successful case in e-learning method
Q6	What did you dislike the most about Basic Typography class?	Evaluation level 1, identifying the most successful case in e-learning method
Q7	What benefits did you get from Basic Typography class?	Evaluation level 4
Q8	What problems did you encounter while learning basic typography?	Defining issues to improve future course
Q9	Which learning method do you think is more effective? (Online/traditional)	Getting insight of students' learning preference
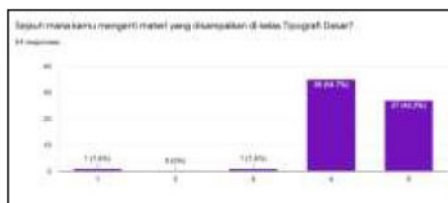
Figure 1.   Q1 of questionnaire.
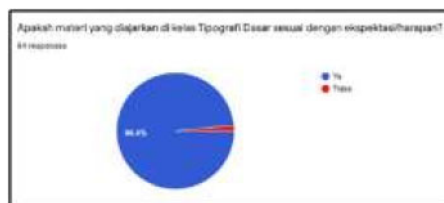
Figure 2.   Q2 of questionnaire.

They also liked the flexible schedule of online classes. However, in Q6 some of the participants stated that their most disliked aspect was how they had difficulties in understanding the lesson due to the course's online nature.

3.2 *The Kirkpatrick evaluation level 2*

Evaluation level 2 measures the improved skills and knowledge, or behavior change as a result of the learning. This is defined in Q3, which observes the respondents directly whether they gained new skills after completing the course or not. Sixty-two (62) students out of total respondents agreed that they had gained new knowledge in typography class, while 2 students (3.1%) disagreed. This result shows that most students have gained new skills and knowledge from what they learned in the typography course last semester.

3.3 *The Kirkpatrick evaluation level 3*

Level 3 evaluates the change of students' behavior, and whether they can apply what they have previously learned in typography class to daily life. This is defined in Q4 of the questionnaire. More than half of the students (93.8%) responded that they could, and have applied the things they learned in typography class to other aspects of life in the design context. Four (4) students answered that they could not and have not integrated the knowledge and skills learned in the course into daily life.

Figure 3.   Q3 of questionnaire.

Figure 4.   Q4 of questionnaire.

3.4   *The Kirkpatrick evaluation level 4*

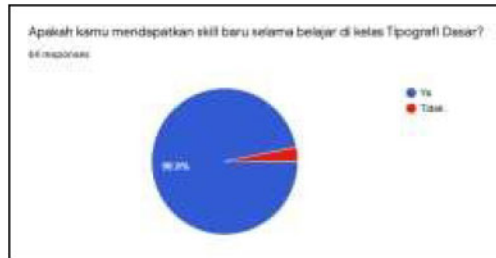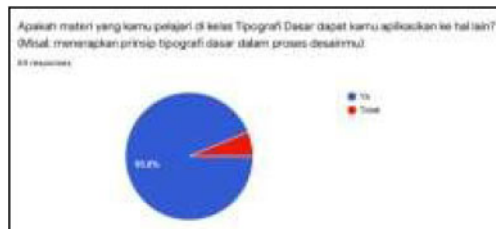Level 4 evaluates the effect or improvement in students' daily life or study before completing the course, which is defined in Q7. This question is also in essay form to accommodate the students' different opinions and results. Despite having a different impact, most students have gained positive effects and improvement in design and typography-related skill. Some of the notable answers related to evaluation level 4 are; 1) knowledge to use a proper typeface on different designs and cases, 2) designing own typeface, 3) font placement in a layout, 4) getting a perceptive insight in viewing design.

Participants were also asked to pick between online classes and traditional classes in Q9. This question aims to get some insights for future e-learning improvement. As much as 89.1% of respondents chose a traditional class, whereas 10.9% preferred an online class.

3.5   *Discussion*

From the results, it is assumed that both the quantitative and qualitative dimensions of this study show positive results. The positive evaluation shows that the distance learning of basic typography class is deemed effective. It also implies some benefits that students can only get in online courses, such as flexible lesson schedules. However, some also stated that they had difficulties in understanding the lesson due to its online nature. A solution to this might be implementing blended learning for future typography classes, thus students will gain benefit from both online and traditional classes, while still keeping its effectiveness.

4   CONCLUSION

This study uses Kirkpatrick's 4-level evaluation method to evaluate the online class of Basic Typography course. Kirkpatrick's model is to clarify the students' perception regarding the course outcomes; thus, it can be implemented in both qualitative and quantitative methods of this research. This study finds that most students; 1) give positive reactions to typography courses, 2) have

improved their skills and knowledge, 3) gain benefits from typography courses in their daily lives, and 4) get an overall positive impact following the completion of typography course. In further similar research, the advanced version of Kirkpatrick's model is required, and it includes more levels in an evaluation process to obtain detailed results.

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Customer-driven innovation vs older paradigms of customer-centered and customer-focused innovation, case study: K-Pop albums

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ABSTRACT: Over the past few years, streaming music platforms, such as Spotify, Apple Music, Joox, and Deezer, have started to emerge. This affects the sales of physical albums that are gradually becoming less exciting, or may even disappear in the next few years. Therefore, some innovation is needed in boosting the sales of music albums, as has been done by the K-Pop music industry. Therefore, this study examines in detail the process of innovation of K-Pop albums in each generation. This is a qualitative research with diachronic approach. Data is obtained through literature study and observation. The data obtained will be analyzed using the theory of Customer-driven Innovation vs the old paradigm of Customer-centered and Customer-focused Innovation. The results of this study are that it can be seen that the first generation of K-Pop albums is classified as Customer-focused Innovation, the second generation is classified as Customer-centered Innovation, and the third generation is classified as Customer-driven Innovation.

Keywords: customer needs, innovation process, K-Pop album

1   INTRODUCTION

Over the past few years in the world of music, streaming music platforms, such as Spotify, Joox, Deezer, and Apple Music, have emerged. This is supported by data obtained from the Recording Industry Association of America in 2016–2017 that streaming music platforms are growing very rapidly, contributing 43% to the music industry's total revenue as a whole while sales of physical albums only contributed 39% (Abdillah 2020). This affects the sales of physical albums, which is losing interest by consumers or may even disappear in the next few years. Therefore, innovation is needed in boosting music album sales, as has been done by the K-Pop music industry. In this study, K-Pop music was chosen because the K-Pop industry itself has now become global. Referring to the results of the Statista survey, the Korean music industry has set a new record by attracting more than 10.1 billion views within 24 hours for BTS's latest music video, "Dynamite". The fact that K-Pop groups keep setting new records proves that now K-Pop is popular in South Korea and Asia and has reached a global audience. This is reinforced by the results of the Statista survey that 37.5% of respondents stated that K-Pop was very popular in their country. So it becomes natural that now K-Pop in South Korea has become one of the sectors that also contribute to South Korean economy. Referring to data from Statista, in 2018, BTS, one of the largest K-Pop groups in South Korea, has been ranked sixth, contributing 0.3% to South Korea's Gross Domestic Product (GDP), with their reported income of USD 4.65 billion or around 65 trillion (Statista 2021). This phenomenon is interesting to study because it turns out that there are several innovations developed from the first, second, and third-generation K-Pop industries that are considered quite successful. Referring to the previous research entitled "Customer Driven Innovation, to be a Marketplace Leader, Let Your Customers Drive" by Kevin C. Desouza, Yukika Awazu, Sanjeev Jha, Caroline Dombrowski, Sridhar Papagari, Peter Baloh, and Jeffrey Y. Kim, who discuss how the process of innovation is. This study develops the theory to be applied to the case study that was raised, namely the K-Pop album. Product innovation continues to grow if made by a company for customers, but now a product innovation invites users to contribute or even the user himself acts as an innovation

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driver. Examine how innovations in K-Pop albums are from generation to generation so that the characteristics of innovation from each generation can be known. So now innovation is the result of a company's thinking and invites or even makes the customer itself the center of innovation.

2 RESEARCH METHODS

This research is included in the qualitative paradigm. Referring to the expression conveyed by Judistira K. Garna, which states that a qualitative approach is characterized by the aim of the research that seeks to understand symptoms in such a way that does not require quantification or because these symptoms are impossible to measure accurately (Afdjani H 2010). In addition, based on the case studies raised, this research is included in diachronic research, trying to analyze the evolution or changes in something from time to time, which allows assessing the occurrence of changes over time (Kurniawan 2020).

2.1 *Methods of data collection*

The data collection methods in this study are, first, a literature study, which aims to collect information relevant to the topic that is the object of research through books, articles, journals, and some literature on internet sites. Second, field studies were conducted through observing K-Pop albums of each generation through YouTube media.

2.2 *Methods of data analysis*

The data obtained were analyzed in two stages. First, the data was analysed by looking for samples of K-Pop albums in each generation to be used as case studies and comparisons of innovations that have been carried out. The selection of this case study is based on the K-Pop group that had the most influence on that generation and the number of albums that sold the most. Second, after obtaining case studies for each generation, they are analyzed using an art criticism approach from Edmund Burke Feldman, which consists of description, analysis, interpretation, and assessment (Feldman 1967), based on the theory of Customer-driven Innovation vs. older paradigms of Customer-centered and Customer-focused Innovation.

3 RESULT AND DISCUSSION

K-Pop music albums have their own uniqueness compared to albums in general, where the album not only contains a CD which is a collection of songs by the musician, but the music album is also equipped with a photo book containing photos of each member. This is also because K-Pop has a large number of well-known members, so this is a special attraction. To simplify the analysis carried out in this study, we take a case study of one music album in each generation to strengthen the development of innovations that have been carried out on today's K-Pop music albums. In the first-generation K-Pop industry using the case study of H.O.T's K-Pop album "Wolf and Sheep", in the second generation using Super Junior's K-Pop album "Mr. Simple", while the third generation used the BTS's K-Pop album "Butter". At this stage the approach is carried out through description and analysis, looking at albums in each generation and analyzing each state and album composition in each generation to be interpreted and assessed at the next stage.

3.1 *Analysis of first-generation K-Pop albums*

H.O.T, High Five of Teenagers, is a K-Pop group that debuted in 1996, formed by the agency SM Entertainment. The group consists of 5 members, namely Moon Hee-joon, Jang Woo-hyuk, Tony An, Kangta, and Lee Jae-won. The group H.O.T and their album "Wolf and Sheep" were chosen

as comparative case studies because in their generation H.O.T was known as the pioneer and trend of "Idol Group" in the Korean music industry. In addition, the second album, "Wolf and Sheep", managed to sell 1,500,000 copies and made it number 15 on the list of best-selling albums of all time in South Korea (Wu 2018). H.O.T.'s album "Wolf and Sheep" is an album with only a CD containing songs and also a lyric book. It is said to be a lyric book because the item is dominated by lyric writing when compared to photos of the H.O.T members, which looks small on each page. From these specifications, it can be seen that the first-generation album only communicates the template content of the album in general, which is still based on the main function of the album, such as a CD as a medium in conveying the superiority of their songs, wherein now the flow of Korean pop music has developed into a more modern era by incorporating elements of English lyrics. Then there is a lyric book, which also includes a photo concept of the members, this shows the advantage that the group consists of members who have good looks and are talented. This is in line with the target audience insight obtained through a survey conducted by Lee Soo-Man, the founder of the SM Entertainment agency, that it is necessary to know what teenagers want as their target audience in the first generation of K-Pop. They want a group with good-looking and attractive members who can sing and dance on stage. In addition, in the first generation, the K-Pop music industry had not yet penetrated the digital world and not yet reached foreign markets, so the album's existence has become the main medium, where musicians can publish their work and fans can enjoy music from their idols.

3.2 *Analysis of second-generation K-Pop albums*

Super Junior known as SUJU or SJ is a K-Pop group that debuted in 2005 under the SM Entertainment agency. The group consists of 13 members consisting of Leeteuk, Heechul, Han Geng, Yesung, Kangin, Shindong, Sungmin, Eunhyuk, Siwon, Donghae, Ryeowook, Kibum, and Kyuhyun who just joined in 2006. SUJU was chosen with the album "Mr. Simple" as a case study of the second generation of K-Pop albums because SUJU managed to get the "Korean Music Award" as the "King of Hallyu Wave" because of its contribution to the Hallyu Wave, which spread to various parts of the world. In addition, according to Gaon Chart at the end of December 2012, the album "Mr. Simple" also sold 543,623 copies domestically (Gaon 2011). Super Junior's album "Mr. Simple" began to develop the album concept. This is in line with the development of music, unlike in the first generation where music distribution only relied on physical CDs, in the second generation music distribution has gone digital, even on the album "Mr. Simple" there is a "Digital Download" version, besides fans can also access music through YouTube, which further enhances the glory of K-Pop. In this era, K-Pop music has made its way to the international market. So that many fans or fandoms began to appear, and other K-Pop groups also began appearing worldwide. These phenomena ultimately make album sales not only rely on CD specifications and photo albums but also demand that every K-Pop group has a strong concept, one of which is through the released albums. On the album "Mr. Simple" version A, fans are given the option to collect the album "Mr. Simple" with a cover photo of his idol member. Even in one album, "Mr. Simple" was released with two different concept album versions, although there is only one different title track on the tracklist. The existence of several versions in one album is increasingly becoming the main attraction and gives freedom and control to fans to choose the album they want or even supports fans to complete the collection of their idols. This is in line with the insight of the target audience on the second-generation K-Pop fandom wherein they are more dedicated to collecting albums, videos, and official merchandize than their idols. Therefore, the concept of albums in the second generation is more varied with the release of several versions in one album, in terms of specifications, not only CDs and photo albums but also photo cards with more diverse poses of the members.

3.3 *Analysis of third-generation K-Pop albums*

Bangtan Seonyondan or better known as BTS is a K-Pop group that debuted on June 12, 2013, under the auspices of the Big Hit Entertainment agency. This group consists of seven members,

namely RM, Jin, Suga, J-Hope, Jimin, Taehyung, and Jungkook. The choice of BTS and the album "Butter" is because BTS is a K-Pop group that has won several prestigious awards during 2020, such as Favorite Duo/Group and Favorite Social Artist at the 2020 American Music Awards, won #1 on the Billboard HOT 200, and many more awards (Zana 2020). In addition, the album "Butter" was chosen because it was based on Hanteo's calculations on June 16, 2021, which sold 1,975,364 copies within one week after its release. BTS's album "Butter" began to develop the album concept to the photo concept of the members and developed the specifications for the album. The concept of the album "Butter" consists of two versions, namely the peaches and cream versions, although in terms of the track list there is no difference, in each version there is a different photo concept, so this further strengthens the concept and message to be conveyed on the album. Likewise, the album specification does not only contain a CD, but also includes a photo book that only contains a collection of photos of the members. There are also lyric cards, instant photo cards, and folded message cards of one of the members, which were obtained randomly: photo stand, sticker, poster, and photo card box, which consist of two versions. In addition to this "Butter" album, BTS as a musician also invites fans to create their album covers by providing pictures or decorating them with stickers. This shows that in this era, albums not only convey product benefits but also dig deeper into the insights of the target audience and invite the target audience to participate in innovating in the albums that are made. In this era, thus, the function of the album has developed into a collection media for K-Pop fans, which is adjusted to the insight of the target audience and the interaction with the product.

4 CONCLUSION

Table 1. The development of K-Pop album innovation in every generation.

Generation of K-Pop	Innovation Type	Degree of Involvement	Types of Innovation to focus on
Generation 1 "Wolf and Sheep"	Customer-focused Innovation	Innovation for customer	Customer segmentation and customer analysis
Generation 2 "Mr. Simple"	Customer-centered Innovation	(Innovation with customer)	Communication with customer, customer interaction with organization
Generation 3 "Butter"	Customer-driven Innovation	(Innovation by customer)	Output interaction, interaction with product and services.

At this stage, the approach is carried out through interpretation and assessment, interpreting the findings from the previous stage and providing an assessment based on the theory of Customer-driven Innovation vs older paradigms of Customer-centered and Customer-focused Innovation. It refer to the innovation criteria table, the first-generation K-Pop album is classified as Customer-focused Innovation because innovation is still limited to being carried out by companies for fans (innovation for customers), considering that this era is an early era and as a pioneer of K-Pop music. So it becomes natural if the type of innovation carried out by the company is only focused and based on customer segmentation and customer analysis. Therefore, the resulting product is still limited to talking about the benefits of the product, who is the target audience, how is the target audience, so that the innovation results are still focused on the function of the CD as a liaison medium between musicians and their fans.

While the second generation of K-Pop albums is classified as Customer-centered Innovation, wherein innovation is carried out between companies and fans (innovation with customers), considering that in this era the K-Pop industry has headed to the international market and other competitors

have started to emerge so that innovation is not only based on customer segmentation and customer analysis but the company must also build communication with fans, fans can easily interact with the company. One of the interactions between the company and fans was through concerts, fan meetings, and fan signs. Moreover, the rapid development of the internet also had an enormous contribution to the world of communication, such that the insights of the target audience can be easily explored, and the resulting innovations can address the needs of their fans. Therefore, the resulting album innovation gives fans the freedom to choose an album based on several released versions. Likewise, the album specifications do not only contain CDs and song lyrics but also include concept photos and photo cards of each group member.

The third generation of K-Pop is growing more rapidly and is classified as Customer-driven Innovation, wherein innovation is carried out by fans (Innovation by customer). So that the innovations that are carried out focus on the interactions that fans make with products or services. This is in accordance with the current phenomenon wherein the communication process between companies, idols, and fans is getting easier with the existence of several supporting applications as a liaison between companies, idols, and fans. In the BTS case study, there are media such as Vlive, YouTube, Weverse, Weverse Shop. Therefore, the resulting album innovation is also developed to the specifications of the album and photo concept of the members that are presented in several versions. In addition, in this era, fans also have the opportunity to be able to make their album cover by decorating the album cover using illustrations or stickers included in the album. From this choice, it can be seen that the innovations carried out no longer only rely on interactions between companies and customers but more profoundly, namely output interactions, interactions with products and services. This is where it can be seen that the innovations made are carried out by the customer, where the customer is the driver of the innovation.

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Designing cirebonese 'Macan Ali' in three-dimensional form

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ABSTRACT: One of the symbols of the famous sultanate of Cirebon is "Macan Ali", but there the physical or three-dimensional form of this symbol still needs a touch of art. So, this study aims to revise the existing but not representative Macan Ali statue, to recreate it to impress the image that represents the glory of Cirebon in the past. This study uses a qualitative descriptive approach, with data collection techniques through literature study, observation, and documentation. The theory in analyzing the data is carried out by ethnographic theory and design methods with creative process theory through the stages, namely (1) Preparation, (2) Incubation, (3) Illumination, and (4) Verification. The final result of this research is the shape of the "Macan Ali" statue, in three-dimensional form.

Keywords: Macan Ali, Sultanate of Cirebon, transfiguration

1 INTRODUCTION

In 2020, Cirebon Regency and Cirebon City will enter the age of 649. From the colonial era, the sultanate of Cirebon underwent a change of name from the Sultanate to the Regency, Cirebon City. The symbol that becomes the identity of Cirebon itself is in the form of the Macan Ali flag. In the visual of the Macan Ali flag there are many philosophical values, such as the writings of Basmallah and Asmaul Husna, which symbolize the greatness of God. Two eight-sided stars symbolizing the Prophet Muhammad and Fatimah. Small and large lions and two crossed swords, symbolizing Imam Ali's Zulfikar Sword. Asadullah, which is the great lion or lion of God which is called the Macan Ali. Five holy men who symbolized the pillar of religion as a source of guidance. For the people of West Java, especially residents of Cirebon, the Macan Ali flag is already familiar. Nearly most people in the city of Cirebon know about the Macan Ali flag, both parents and teachers always tell the Macan Ali flag to children even if only briefly. As the times grew, the Macan Ali flag was not only told verbally. At present the Macan Ali flag has been widely adapted to various media, there are many media used in terms of the spread of Macans Ali flag generally in the form of paintings and glass calligraphy. In this millennial era, the calligraphy of the Macan Ali appears in several media, such as stickers, calendars and t-shirts. Macan Ali's calligraphy is printed on T-shirts, banners and billboards which are generally used in arts and cultural activities.

Aside from being printed, the Macan Ali flag was also transformed into a 3-dimensional figure, one of which was in the form of a statue in the Kasepuhan Palace, Cirebon. In this statue, it is clear that the image stylized in the Macans Ali flag is transformed into a 3-dimensional form (sculpture). But based on the observations of researchers, the transformation into a three-dimensional form does not describe the figure of a tiger, animal that should have a strong, impressive image of authority according to the philosophy that exists on the Macan Ali flag. For this reason, researchers try to make a stylized form of the figure of a tiger on the Macan Ali flag in the form of a figure that is even better than the existing one.

2 RESEARCH METHODS

This study will use a qualitative research method with an ethnographic model as a tool to analyze it. Quoting Emzir (2012: 18), ethnography itself is a science that discusses a nation where there is

a contemporary use of language. Meanwhile, the word ethnography itself comes from the Greek word 'ethos' which means ethnicity and 'graphos' which means something written. So, the meaning of ethnography can be interpreted as a writing about cultural groups. Meanwhile, according to Ary et al. (2010: 459) it is said that ethnography is an in-depth study of the natural behavior of a culture or all social groups in it. Another researcher, Creswell (2012: 462) says that the ethnographic method is a qualitative research procedure to describe, analyze, and interpret the elements of a cultural group. The elements are the behavior patterns of the people, a belief, and language that develops from time to time. This research itself focuses on cultural research where culture itself according to LeCompte et al. (in Creswell 2012: 462) is everything related to human behavior and beliefs. This includes language, rituals, economics, and political structures, stages of life, interactions, and communication styles so that the design method for the transformation of this kind of Ali figure will use the Wallas model where the creative process in the design will go through four stages, namely (1) Preparation, (2) Incubation, (3) Illumination, and (4) Verification.

3 Dimensional Transformation Process of the Macan Ali Symbol

Figure 1.   The initial process of making a Macan figure with clay.

   The image of the figure of Macan Ali is an ethnographic object, and will be made in accordance with the existing reality, and there will be a transformation from a stylized image to a realistic image according to the philosophy of the object of the image. In figure drawing there is a term, namely gesture drawing, which is drawing a living creature in a pose or style in motion such as walking, running, jumping, walking, looking away and so on. In the end, this design will bring up the character of the figure of Macan Ali that fits in with the philosophical values it contains. The design of the transformation of the object of the Macan Ali figure will also use one of the theories from Wallas, where this theory has until now been widely used by various creators as part of the creative process of creating a work. This theory was put forward in 1926 in a book entitled "The Art of Thought" which suggested that a creative process has four stages, namely (1) the initial stage or preparation, (2) the incubation stage, (3) the illumination stage, and the last stage. (4) stages to verify. With the following explanation; In the first stage, a creator will prepare himself to find and solve problems through learning in thinking, finding answers, then asking others who know better, and so on. In the second stage, the activities of searching and collecting data/information were not continued. Next in the 2nd stage; namely the incubation stage, is the stage where the individual tries to escape temporarily from the problem, in the sense that the individual is not thinking about the problem consciously, but keeps it in the preconscious nature. As revealed from various analyzes and reports of prominent artists and scientists, this stage has an important meaning where in the process of emergence of inspiration which is the starting point of a new discovery or creation that originally emerged from the preconscious nature. The 3rd stage is illumination; is the stage where an inward perspective emerges or an idea appears suddenly. This stage is when the emergence of a new subconscious inspiration or disturbance, which simultaneously enters the psychological process that initiates and follows the emergence of new inspiration or ideas. The last is the verification or evaluation stage, this stage is where the ideas that come from individuals or new creations must be tested against reality. This is where critical and convergent thinking is needed from the individual in responding to it. In other words, the process of divergence or a creative thought must also be followed by a process of convergence or critical thinking.

3 RESULT AND DISCUSSION

There are various ways of making object figures with various materials, from clay, cement to cast iron. In making this Macan Ali figure, the technique used is the grain technique, which is a technique for making sculptures from soft materials, such as clay, gypsum, or wax. The process itself is subtractive (reducing) or additive (adding) to certain parts. The process of making the Macan Ali figure starts from the raw material, namely clay, then it is made into a physical form and then made into a mold. The final process of making the statue uses silicone and ends with painting to perfect the figure of Macan Ali. The following is the manufacturing process which is described as follows:

Figure 2.   The initial process of making a Macan figure with clay (Source: Author).

The process of making a figure begins with making a sketch or a picture of what the model will look like. After the object image has been created, the next step is the process of making the mold by first preparing the materials. The next step is to make a mold from clay which is shaped like a Macan Ali figure on a 1:20 scale. This initial model or master mold is made of clay following the shape of the Macan Ali statue. The shape of the image is done carefully considering the source of the object comes from a two-dimensional image, so that if it is misinterpreted, the result will not be as expected. The materials used include Silicone Rubber type RTV-48, silicon catalyst as a hardener, and a mixing container for silicon with a silicon catalyst. In addition to stirring, used pieces of wood are used. Other tools include a mat to put the model on and gloves that are used to protect the skin from being exposed to silicone or silicone catalysts.

Figure 3.   The process of making a mold (Source: Author).

Furthermore, the mold material is mixed by stirring the catalyst which is poured into a container that already contains silicon. The dose used is 100:4 or 100:5 which means 1 silicon catalyst is equal to 25 or 20 silicon. Furthermore, the catalyst is stirred between the mixture of silicon and silicon catalyst until completely evenly distributed. After stirring until evenly distributed, the mixture of silicon and silicon catalyst is inserted into the mold. After hardening, the silicone is removed from the parent mold and then refined by filing or cutting parts of the mold pieces.

Figure 4.   Figure painting process (Source: Author).

The last step is to paint the figure with a coating that aims to protect the object to create the impression of luster and smoothness. This coating is also useful so that the figures can last a long time from corrosion or accidental damage such as scratches or other things. The painting technique itself uses a spray gun, where this technique can produce paint as a whole evenly. In addition, the spray gun technique allows objects to be painted to details such as pores or surfaces that cannot be achieved with a brush technique.

Figure 5.   Final results of the Macan Ali figure (Source: Author).

Lastly, above is the final result of a transfiguration study of the Macan Ali symbol from the image on the flag into a three-dimensional figure.

4   CONCLUSION

The making of the Macan Ali figure is done with a simple technique, namely starting from a lump of clay which is then formed into a three-dimensional shape. Furthermore, the clay that has formed this figure is then molded using silicone. Making silicone molds is easier than regular molds, because the process is not difficult and there is no need to bother to learn it. When finished, the print is then given a coating whose function is to protect the object and give an aesthetic impression. In summary, the process of making a figure with a silicone mold of the Macan Ali figure is expected to be a guide for anyone such as students, artists or ordinary people who want to make similar figures. Transforming a two-dimensional image into a three-dimensional shape, although it looks easy, in practice requires a high level of skill. There are many things that need to be considered in making figures from two-dimensional images such as volume, depth and proportional objects, considering the shape of two-dimensional images does not show these things.

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Interactive media as a promotion strategy for tourism destinations in Harau Valley

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ABSTRACT: COVID-19 has inflicted the tourism industry in Harau Valley significantly. The current pandemic results in a significantly declining number of its tourists. Although since 2017 the Department of Tourist, Youth, and Sport from Lima Puluh Kota district had implemented the massive conventional promotion activities, this attempt did not achieve the target number of visitors. This problem causes a significant issue for the local tourism manager. So, this qualitative research observed the strategy in promoting its tourism destination. Three instruments were applied: observation, interviews, and literature study. This study found that interactive media in the form of 360-degree angle application that enables viewers to look at the surrounding of Harau Valley demonstrates widespread and accessible information leading to a significant optimization potential for Harau Valley tourism after COVID-19. And also, interactive media will become one of the promotional strategies in the tourism industry in this digitalized era, especially in Harau Valley Area.

Keywords: Harau Valley, Destination Branding, 360-degree application, Interactive Media

1 INTRODUCTION

Indonesia is blessed with magnificent nature across the nation. Nature creates unlimited potential in tourism industries, including mountains, valleys, seas, beaches, lakes (Iwan Setiawan 2019). Although the government has managed several tourism destinations, many of them are underexposed for several reasons (Judisseno 2019). The notion of management is not solely about repairing and adding facilities; it includes the good promotions to generate a remarkable increase of profit to be allocated in this country's assets.

One of those underexposed tourism destinations is the Harau Valley tourism area, located in *Limapuluh Kota* Regency, West Sumatra. The destination is a nature reserve covering 270.5 ha, while its natural tourism park covers 27.5 ha in size. Cliff steeps and waterfalls dominate Harau Valley. Harau Valley consists of two areas, namely the *Aka Barayun* area and the *Sarasah Bunta* area. The estimated age of rocks in Harau Valley is approximately 30-40 million years old, and the average cliff is 100 meters in height.

The government has managed several interesting spots here, such as Ngalau Saribu, Cliffs of Goa, Echo, Panorama, Aka Barayun Waterfall. In contrast, private sectors operate other sites such as the European Village, Korean Village, and Japan Village. The destinations of existing spots, such as lodging and camping areas, will create a memorable tourist experience. This destination is massively potential to generate income for Indonesia; however, lack of public exposure from tourism objects is still a big problem that needs to be solved (Hasan 2015). Also, the COVID-19 pandemic has inflicted a financial constraint for the Harau Valley tourism industry due to the declining number of visiting

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tourists. Therefore, a new and urgent strategy in promotion was necessary to increase its exposure. And the critical approach that should be adapted to the New Normal Activity has been discussed in the previous research, New Normal Era Edisi II (Safari 2021). One mentioned promotional media is interactive media that contains information such as attractive photos and videos in a user-friendly mode. With a 360-degree feature that would accurately visualize destinations in Harau Valley, this media became a forecast for future tourists after the COVID-19 pandemic.

2 RESEARCH METHODS

The author implements a qualitative approach. Three instruments were used to obtain the data: interview, observation, and literature study. The interview was conducted with the Head of the Department of Culture, Youth, and Sport of Lima Puluh Kota district, Nopi Rita S.S. Observations were also made on the photos of tourism locations in the Harau Valley. The following sub-chapter will explain further explanation regarding the data collection.

2.1 *Methods of data collecting*

This study utilized interviews as a preliminary study to find investigation problems (Sugiyono 2018). Due to government regulation to meet officials during the pandemic, the sessions were conducted through Whatsapp calls. The respondent was Nopi Rita, S.S., the Head of Promotion and Tourism of the Youth and Sports Tourism Office of *Limapuluh Kota* Regency. In the interview, the researchers inquired several questions regarding facilities, attractions, and assets in Harau Valley Region and the media promoting the tourism destination. On the other hand, observation was employed to obtain the latest data by observing the conditions around the Harau Valley directly, both the atmosphere and the behaviour of visiting tourists in Harau Valley. The result was formed in photos of the panorama in the Harau Valley area. As a note, the researchers were still allowed to observe them during that time. The literature study was further after the researchers determined research topics and continued by conducting theoretical studies and references related to the research (Sugiyono 2018). In this research, the theories would be correlated to the findings.

3 RESULT AND DISCUSSION

3.1 *The Harau Valley*

The observation process determined which area in Harau Valley tourist spot has the full potential to attract tourists. The observational data for the research focus are panorama photos in the Harau Valley area, including its facilities, attractions, and assets. As a note, not all photos of those attractions could be taken due to local Covid-19 pandemic regulation. The Regional Government partly manages the Harau Valley area, and the community cares for the counterpart. The destination can be a suitable place for gathering with relatives. The facilities include two prayer rooms, two international-standard toilets, two regular toilets, four parking lots, one kid's playground, one treehouse, two food courts, and a homestay to support those activities. Harau Valley area is divided into the Aka Barayun area and the Sarasah Bunta area. The former area covers Goa Cliffs, Echo, Panorama, Aka Barayun waterfall; while the latter covers Sarasah Aia Luluih, Sarasah Bunta, Sarasah Murai and Sarasah Aia Angek.

According to Nopi Rita, S.S., the Harau Valley area sells its natural beauty where high cliffs and seven waterfalls dominate. Extreme sports become a hobby to be expressed here, rock climbing for instance. This place is famously known as the Indonesian Yosemite by rock climbers. Furthermore, Ngalau Saribu is one highly recommended spot to be visited. Its view presents fantastic natural scenery atop the cliff after forest exploration. To get to the ridge's peak, tourists need to walk

through a protected forest by entering a small cave during the journey. Another statement also implied that a declining number of tourists was spotted and did not achieve the target number. Surprisingly, the Harau Valley area manager stated that he recently launched promotional activities on several media such as brochures, DVDs, and tourist guide books in 2017. However, this action did not include social media promotion.

Hence, this research recognized considerable interest from domestic and foreign tourists. Notwithstanding the potential, travel restriction during the COVID-19 pandemic has imposed local tourism managers to pursue alternative promotion: virtual tourism. In designing the Harau Valley Area Promotion Strategy, the researchers compiled possible approaches to increase interest in visiting Harau Valley Area by creating interactive media.

As technology has been progressed rapidly in this digitalized era, several media can be applied in promotional activities. Interactive learning media is one suggested approach involving interaction between users and the media (Kotler et al. 2019). According to Surjono (2017), interactive learning multimedia combines text, images, videos, animations with user interactions. The researchers created an attractive display with a friendly User Interface design in the implementation. The site includes photos and information of the Harau Valley area: brief description, facilities, attractions, ticket prices, events held, and a 360° angle to visualize the surrounding in the spot.

3.2 *The design process*

The observation and interview data shows that there is quite a lot of interest from domestic and foreign tourists to visit this destination, but with limited activities. Tourism at this time makes virtual tourism an alternative promotion. In designing the Harau Valley Area Promotion Strategy, the authors develop strategies to increase interest in visiting the Harau Valley Region. These strategies include creating Interactive Media.

3.3 *The interactive media strategy*

The author uses the AISAS method in this interactive media, which consists of Attention, Interest, Search, Action, and Share (Moriarty & Sandra 2011). Following is a media strategy that has been compiled by the author based on the AISAS method:

First, Attention. The earliest stage is attracting the attention of potential tourists by using advertisements on Instagram social media, which can directly connect to the Google Playstore to download this application. The ad contains brief information about the Harau Valley Area and events. It is expected to attract the attention of potential tourists to visit the Harau Valley Area.

After running the Attention stage and getting attention, the next phase is the Interest stage, which already has a sense of interest in the information obtained from the Attention stage. The following media is a mobile application with a 360-degree feature that can provide users with a full view of the state of tourist attractions in Harau Valley.

Third, Search. After the Attention and Interest stages, the target audience becomes more interested and will seek more detailed information about the Harau Valley Area. The author creates official social media accounts and interactive media to find information related to the Harau Valley Area. Everything will be uploaded on official accounts and interactive media.

Fourth, Action. The Action stage is where the target audience visits the Harau Valley Area to continue the experience connected to the application. And the last part is Share. At this stage, the Target Audience uploads a photo or short vlog on Instagram, tells about the experience of using the 360-degree application, using a predetermined hashtag at a time determined by the organizer, and for those who are lucky will get a prize in the form of sponsored products.

3.4 *The design implementation*

After the concept mapping and design process, the implemented design formed an application with a 360-degree feature.

Picture 1.   Colour mood board for design concept.

Picture 2.   Media interactive design for Harau Valley mobile application.

Picture 3.   Video 360-degree feature for Harau Valley interactive media mobile application.

From the design implementation, it can be seen that the 360-degree feature can show the natural beauty of the Harau Valley. These mobile application users can seem to walk around the tourist attraction area, even if only from the mobile phone screen. The beautiful photos also help to build A captivating atmosphere that can make users interested in visiting Harau Valley in the future.

4   CONCLUSION

This research concludes that destination in Harau Valley Region holds untapped potential due to a lack of promotional activities, especially in digital media. The situation impacts the lower

percentage of visitor due to underachievement. In this digital literacy era, digital media and the internet can disseminate information to break geographical distance. This study aims to obtain promotional strategies and promote social media as a promotional strategy for the Harau Valley area. The plan expects an increasing number of future tourists after the COVID-19 pandemic.

The steps of identifying, formulating problems, and designing promotions were employed in this research. This study can be concluded that in the use of interactive media with 360-degree angle view, the interest of future tourists for the Harau Valley area would be heavily invested. The interest originates due to clear ideas stated in the User Interface. Interactive media for the Harau Valley area tourism destination promotional activities is expected to be developed afterwards, with a more polished prototyping process. Moreover, this promotion approach could be applied to the tourism industry in the future.

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DE Tjolomadoe – The heritage building with a new spirit

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ABSTRACT: De Tjolomadoe is a re-branding for the Colomadu sugar factory building, which Mangkunegoro IV built in 1861. However, since 1998 the Colomadu sugar factory has completely stopped. After 20 years of apparent idle, the factory was transformed into De Tjolomadoe. This research examines the transformation of the sugar industry building into a creative industry building. The present study uses the descriptive qualitative method. The result shows De Tjolomadoe, as a heritage building, comes with a new spirit, which is more contemporary. The building took a new function but retained its historical value. Moreover, the step taken by the manager is the adaptive reuse of the building. The original building is preserved or minimizes its architectural changes. The sugar factory's old machines are maintained but given another function, such as the museum's collection, a room's aesthetic elements, and as an element of a sense of place. This building transforms from a sugar factory into a creative industry that then becomes a cultural center and a tourist destination in Colomadu, Karanganyar (Solo Raya).

Keywords: adaptive reuse, creative industry, De Tjolomadoe, sugar factory

1   INTRODUCTION

The development of industrialization in Indonesia has begun the Dutch colonization around the mid-19th century AD. It has been gradually continue with steam engines from 1850 to 1930. Sugar became the prima donna of the colonial economy, even becoming the largest plantation product in the Dutch East Indies at that time. The trading commodities are of great economic value in Europe. While sugar cane plantations are found in East Java and Central Java (Inagurasi 2011:16; Knight 2014:15).

The owners of the sugar industry were among others: European entrepreneurs, Chinese, and Javanese nobles. Javanese nobleman named Kanjeng Gusti Pangeran Adipati Aryo (KGPAA) Mangkunegoro IV (1853-1881). He was the Prince of Pura Mangkunegaran, Surakarta (Ardhiati 2020:1; Inauguration 2011:20). He founded the Colomadu sugar factory (then called Suiker Fabriek Tjolomadoe) in 1861. The early architecture of the sugar factory was Indis style. In its development the sugar factory building was expanded in 1928 by Mangkunegoro VII (1916-1944). The façade of the new building was created in an Art Deco style. In addition to the expansion of the building, the factory space is also filled with new gigantic machines (Ardhiati 2018:139-141). And Colomadu sugar factory experienced success in the time of Mangkunegoro VII. The profits gained from this sugar industry business not only support Mangkunegaran Palace, but also can support the people of Solo Raya.

In 1946 the Colomadu sugar factory underwent a management transition from Mangkunegaran palace to the Government of the Republic of Indonesia. This is based on the Government Determination no. 16 of 1946 dated July 15, 1946. Until 1996 the sugar factory was managed by the government through PT Perkebunan Nusantara (PTPN) IX. However, in 1998 the Colomadu sugar factory was closed and no longer produced. This was due to the scarcity of raw materials at the time. And finally the factory building was abandoned for 20 years.

In 2017 the Colomadu sugar factory was revitalized by the Ministry of State-Owned Enterprises. The sugar factory was revived in a different function. The building is named De Tjolomadoe. And the strategy applied to the heritage building is adaptive reuse. Adaptive reuse is the transformation

of an unproductive building into a new functioning building and has a social and economic impact on its environment (Ardiathi 2018:100; Brooker 2017:216). This is a challenge in heritage building conservation activities. Where the demands are to maintain historical value but can also provide new functions. The historical aspect of the building and the cultural heritage environment is part of the quality that needs to be maintained and reinterpreted (Dameria, 2017:236; Martokusumo, 2021:5). Currently De Tjolomadoe presents as a museum and cultural centre of international standard. This study examines the change from sugar industry building to facilities for the development of creative industries in Solo Raya. And the application of adaptive reuse in the interior of the building.

2 RESEARCH METHODS

The research method uses qualitative research with descriptive analysis. Primary data is obtained on location. Primary data through observation and interviews. While secondary data is obtained from scientific journals, books, photos, and internet. The data obtained were compiled and analysed. Researchers analyse changes in interior functions, use of old materials, and utilization of factory machinery. And the last stage is drawn conclusions.

The research was conducted in De Tjolomadoe located at Adisucipto street no 1, Colomadu, Karanganyar. De Tjolomadoe has a footprint area of 6.4 hectares and a building area of 1.4 hectares. The building of the former Colomadu sugar factory, which was later revitalized by the Ministry of SOEs to De Tjolomadoe. De Tjolomadoe was inaugurated on March 24, 2018 by the President of the Republic of Indonesia, Joko Widodo.

3 RESULT AND DISCUSSION

Colomadu's former sugar factory building for 20 years of suspended animation. Through the instruction of the President of the Republic of Indonesia, the building was revived. President Jokowi appointed the Ministry of SOEs to carry out the revitalization of the historic building. The strategy applied is adaptive reuse. In addition, the building of the former Colomadu sugar factory is given a new brand (rebranding) namely 'De Tjolomadoe'. De Tjolomadoe was developed into a cultural arts venue for Solo Raya. Architecturally it still retains the grandeur of the factory building, but it is functionally transformed. Concept of changes to the outer area and function in the building.

Physical changes to the building still refer to Regulation on Cultural Heritage in Indonesia No. 11, in 2010. Article 83 states that cultural heritage buildings or structures can be adapted to meet current needs, but still maintain their original characteristics. One strategy in revitalizing heritage buildings is adaptive reuse. Where adaptive reuse is also related to sustainability issues.

The principles of adaptive reuse are: (1) activating buildings to be adaptive with new and sustainable functions, (2) responding to the surrounding environment and supporting socio-cultural contexts, (3) to create visual harmonization, and (4) to be accessible and have minimal environmental impact. The original building is preserved or minimizes its architectural changes. Changes in functions related to interior design. Change of function to suit current and future needs.
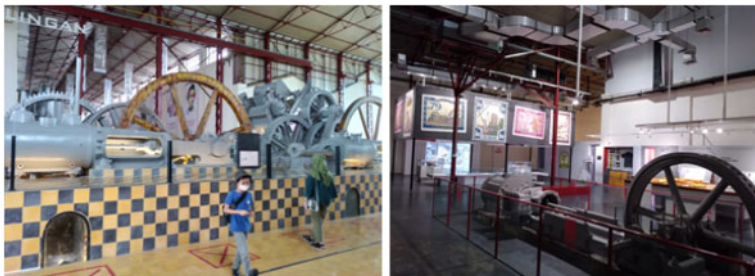

Figure 1. As a hall of fame museum machines as the main museum collection.
(Source: Laksitarini 2020).

Adaptive reuse is implemented to revive the building with new functions. It is no longer a sugar factory but a facility to support creative industries. New building structures and materials were added with consideration of safety factors and changes in interior functions. The interior design was changed to a museum, concert hall, multipurpose room, exhibition room, café and restaurants. Giant machines that have been damaged and incomplete are used as memorabillity, museum collections, and artwork. Changes in function as a form of solution for the sustainability of the building.

De Tjolomadoe as a new venue, a place of international culture. The concert hall with international standard and accommodates 3000 audiences. Changing the function of a factory into a concert hall poses a big challenge for architects and interior designers. As a concert hall requires high acoustics. For this reason, building treatment is needed by choosing new materials that are suitable for acoustics. So the Puteran Station room was chosen, where it used to be where the sugar crystals were separated from the drops. This room initially did not use many large machines. The room is now used for a concert hall, so treatment is needed on the floor, walls, and ceiling with acoustic materials.

Figure 2.   Concert hall – an international performance venue. (Source: Laksitarini 2020).

In adaptive reuse to create visual harmonization. The principle in changing the interior is a well-supported construction, original form, and maximum function. Visual harmony is not always related to interior style. In the interior design of De Tjolomadoe, it is more about the function of the room and the original form. Functions that support current activities. While authenticity does not eliminate its historical value. So that some interior elements such as the engine, the rest of the walls, and floor materials are still preserved. Old machines and materials combined with new materials. For example, in Besali café, furniture is combined with factory workshop equipment. Some kettles are maintained in the mini cafe area.

Adaptive reuse tries to minimize physical changes to the original building. The revitalization team started by reviewing the existing blueprint. They determine the buildings to be defended. The buildings include: (1) factory buildings, (2) large administrative office houses, (3) ancient gazebos, (4) ancient water towers, (5) generator houses, (6) Giri Sarkara hall, and (7) loco workshop. The additional buildings will be demolished. Additional buildings are buildings outside the main building, built during the era of ownership of PTP XIX and PTPN IX. This additional building covers the main building.

De Tjolomadoe building was restored to its original condition in 1929. And the machines of the former sugar factory are still being used. The new roles assigned to these machines include: as a supporting element for the sense of place, as artwork, museum collections, and furniture design.

Figure 3. Besali cafe – a place to eat with furniture design that utilizes the rest of loco workshop equipment. (Source: Laksitarini, 2020).

4 CONCLUSION

De Tjolomadoe is a historical building that still exists due to its unique value and architecture criteria. It transforms from a sugar factory that strongly focus on cultural and arts venue. The terms of historical buildings have been suspended, revived and productive buildings respectively. Adaptive reuse is a wise step taken by the revitalization implementation team. Where architecturally still retains its historical value, but functionally more accommodating creative industry activities. The existence of gigantic machines of former sugar factories is also maintained even become a visitor attraction. De Tjolomadoe as a heritage building that comes back with a new spirit.

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Are there gender differences in packaging design aesthetic response? (A case study of *Jamu* Houseblend Product Suwe Ora Jamu)

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ABSTRACT: Developments of small- and medium-sized enterprises (SMEs) of the *Jamu* industry in Jakarta—known as *Jamu Kekinian*, cannot be separated from the appearance of the packaging design. Packaging design not only serves as a protection but also adds aesthetic value to a product. One of the pioneers of *Jamu Kekinian* in Jakarta is Suwe Ora Jamu Houseblend that has been quite popular among the millennials since 2013. This study aims to determine the consumer aesthetic response of "*jamu kekinian*" based on its packaging design. The analysis method used a Semantic Differential Scale to measure the aesthetic response or packaging appearance based on visual evaluation, potential, and stimulative aesthetic factors. Based on a survey of 150 respondents, female consumers are more welcoming about adopting the appearance of Suwe Ora Jamu Houseblend product packaging than male consumers.

Keywords: gender, Jakarta, *Jamu Kekinian*, millennials, packaging design, semantics differential

1 INTRODUCTION

The development of SMEs (Micro, Small, and Medium Enterprises) in the herbal medicine industry in big cities is increasing. According to BPOM RI data in 2018, 751 traditional medicine production facilities were reported across Indonesia, and 626 were in the SMEs sector. This phenomenon can be seen from the enthusiasm of urban people who continue to prefer herbal medicine as an alternative to modern medicine by 58% (Andriati & Wahjudi 2016), wherein the largest concentration of consumers is found on the island of Java, reaching 60% in 2007 (Sadalia et al. 2017). In its development, many herbal SMEs' products are packaged in ready-to-drink bottles. In addition to packaging that is more in line with people's needs, the label design is also attractive. Kertajaya (2005), a marketing expert, concluded that the function of packaging is no longer as protection or a container but also as a promotional tool for the products. Referring to the Regulation Minister of Health Republic of Indonesia Number 006 the year 2012, SMEs herbal medicine products are included in UJR (*Usaha Jamu Racikan*) or UJG (*Usaha Jamu Gendongan*). Although it is still included in the *jamu gendong* category, this ready-to-drink bottled herbal product is considered more convenient by consumers because it is supported by a good packaging design. Now the Home Industry Herbal products that have been packaged in ready-to-drink bottles are popularly known as *Jamu Kekinian*. This transition phenomenon, among others, is triggered by the synergy between the healthy lifestyle of modern society, which is starting to increase with the progress of the SMEs herbal medicine industry. Reporting from Bella (2018), a recent study found health and fitness to be the second priority in millennial lives by 53%.

The method of selling herbal medicine by *jamu* peddlers does not fit target consumers with the lifestyle of modern society, which is all practical, fast, and dynamic at this time. The current functional packaging design makes it easier for consumers to consume herbal medicine anywhere.

Moreover, the label design on packaged *Jamu Kekinian* makes it easier for consumers to get product information. The ideal packaging design can communicate the attributes, benefits, values, culture, and identity of a product through a series of symbols to consumers (Klimchuk & Krasovec 2012). Several things can be done regarding creative strategies, namely by modifying certain aspects of the product, including color, shape, brand or identity, illustration, and typography (Prathama & Setianto 2016). By evaluating the visual elements of the packaging, graphic designers can decide how to create the actual packaging, where the ideal solution is practical and eye-catching (Gumulya & Onggo 2016). Packaging design can also stimulate the image to be processed through the consumer's cognitive response to aesthetics (Alizamar & Couto 2016). Aesthetics is closely related to the gender of consumers. This factor is important to study because consumers now consume both the product and its image. A good design must give a positive response without realizing it (Dameria 2014). One of the contemporary herbal products that people know in Jakarta comes from a home-based *jamu* company called Kedai Suwe Ora Jamu (SOJ). By launching a product under the name Jamu Houseblend SOJ, this herbal medicine company has become one of the pioneers that have remained consistent in its efforts to popularize the culture of drinking *jamu* among millennials since 2013.

Figure 1.   SOJ – Kunyit Asem packaging.

The SOJ brand was chosen in this case study because it is well known to the millennial generation in Jakarta. Since a good and attractive packaging design as a product communication strategy is essential, it is also necessary to know how the millennial consumer aesthetic responds to *Jamu Kekinian* packaging design based on gender. It is hoped that the results of this research can maximize the potential of suitable packaging designs for SMEs *jamu* companies.

2   RESEARCH METHODS

The questionnaire was distributed online to 150 respondents, including men and women. Questionnaires were distributed to respondents aged 25–45 years (adjusted to the SOJ target market) to collect specific data. According to Fishbein and Ajzen (1975:27) in Prihadi (2019), the semantic differential can measure an object's aesthetic response. In this study, the Semantic Differential Scale was used to measure the consumer's aesthetic response to the packaging design of the Jamu Houseblend SOJ product. Measurements will be carried out based on three factors (Wibawa 2021), namely:

1. Evaluative factors include quality assessment of the product packaging of Jamu Houseblend SOJ. The semantic stimuli used are easy–difficult, unique–common, and friendly–unfriendly.
2. Formal factors include the nature or form of product packaging for Jamu Houseblend SOJ. The semantic stimuli used are suitable–unsuitable, durable–fragile, and natural–unnatural.
3. Stimulative factors include activity or response based on the product packaging of Jamu Houseblend SOJ. The semantic stimuli used are traditional–modern, reusable–disposable, and not recycled waste.

The measurement parameters are based on two bipolar poles arranged in a continuum line. A more positive response indicator is located on the right line, and the negative response indicator is located on the left bar with 0 (zero) as the center of the axis.

Question: **What do you think about the herbal medicine packaging design in the pictures/photos?**								
	-3	**-2**	**-1**	**0**	**+1**	**+2**	**+3**	
difficult to use								easy to use
common design								unique design
unfriendly								friendly

Figure 2.   Semantic differential scale.

Furthermore, the results of the data obtained through the measurement of the Semantic Differential Scale (Carroll et al. 1959) will be calculated using the average calculation formula as follows:

$$\text{Mean Value} = \frac{((n1 \times -3) + (n2 \times -2) + (n3 \times -1) + (n4 \times 0) + (n5 \times 1) + (n6 \times 2) + (n7 \times 3))}{N}$$

(1)

where n1-7 = Respondent's answer; N = Total respondents

The calculation of the mean value will show the tendency of the aesthetic response of the subject in the study. The mean value will be presented in the graph to facilitate primary data analysis.

3   RESULT AND DISCUSSION

Following are the Semantic Differential Scale measurement results in measuring the aesthetic response of respondents to the packaging design of the *Jamu* Houseblend SOJ product. The blue line represents male respondents, and the red line represents female respondents.
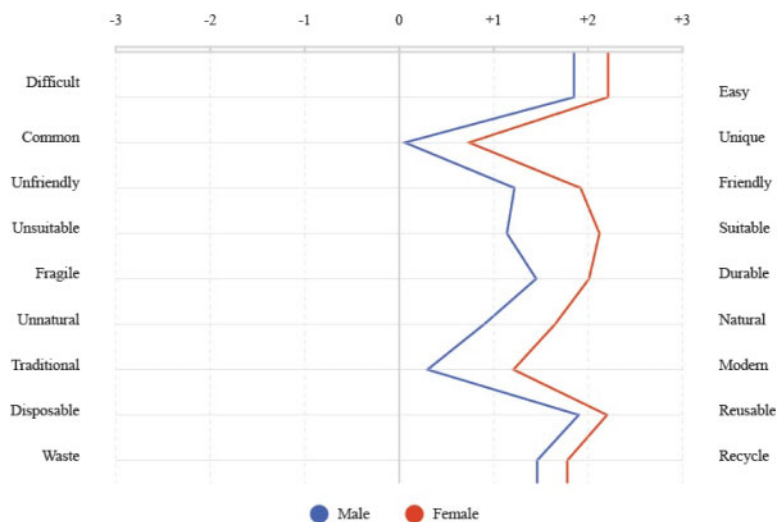

Figure 3.   The result calculation of the semantic differential scale.

3.1 Male respondents

The results of the questionnaire, which were measured using a Semantic Differential Scale, it was divided into three factors, namely:

- Evaluative factors at intervals Difficult to Use – Easy to Use, the average value was 1.85 points. The interval "Common Design – Unique Design" obtained an average value of 0.06 points. In the interval "Not Environmentally Friendly – Environmentally Friendly," the average value is 1.23 points.
- Formal factors at intervals Suitable – Unsuitable, the average value is 1.15 points. In the "Fragile – Durable" interval, the average value is 1.45 points. In the "Unnatural – Natural" interval, the mean value was 0.91 points.
- The stimulative factor in the "Traditional – Modern" interval obtained an average value of 0.31 points. In the Reusable – Disposable, the average value is 1.91 points. In "Recycle - Waste," the average score was 1.78 points.

3.2 Female respondents

The results of the questionnaire, which were measured using the Semantic Differential Scale, it was divided into three factors, namely:

- Evaluative Factors at intervals "Difficult to Use – Easy to Use," the average value was 2.21 points. The interval "Common Design – Unique Design" obtained an average value of 0.75 points. In the interval "Not Environmentally Friendly – Environmentally Friendly," the average value was 1.92 points.
- Formal factors at intervals "Suitable – Unsuitable," the average value was 2.12 points. In the "Fragile – Durable interval," the average value is 2.01 points. In the "Unnatural – Natural" interval, the mean value was 1.65 points.
- The stimulative factor in the "Traditional – Modern" interval obtained an average value of 1.21 points. In the "Reusable – Disposable" interval, the average value was 2.2 points. In the "Recycle – Waste," the average score was 1.78 points.

Based on the results of the description above, it can be seen that the aesthetic response of female consumers to the packaging design of Houseblend SOJ's *jamu* products is more favorable than the aesthetic response of male consumers. The results of this study are interesting how gender can affect the aesthetic response of consumers based on the packaging design it relates to previous research an object has a gendered tendency (Purhita 2017). The results of this research can be used as a reference for similar products to evaluate how potential consumers see their products. This is important to identify so that the packaging design concept can be more accurate and on target. Future research can discuss how modern *jamu* products are rated more positively by female consumers.

4 CONCLUSION

This research analysis uses the semantic differential method to determine if the aesthetic response of female consumers to *Jamu Kekinian* packaging design is considered more positive than male consumers. This method can be used as a reference strategy for promoting similar products based on a particular gender aesthetic response. This research is limited only to statistical aspects using the average calculation formula (1). For further analysis, qualitative methods are expected to describe how the design of *Jamu Kekinian* packaging is responded more positively by female consumers that provide comprehensive information for the study.

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Interrelated components: Environmental graphic design at Husein Sastranegara International Airport

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ABSTRACT: Environmental Graphic Design (EGD) in a building is an important element. One implementation of EGD is at international airports, which can help passengers get information and find directions. This study discusses the EGD at Husein Sastranegara International Airport, which was designed by Nusaè. It has been redesigned following the design of the airport building, which was renovated in 2015. This international airport is the gateway to West Java for both local and foreign tourists. Descriptive qualitative research method by analyzing EGD is applied to Husein Sastranegara International Airport with pyramid signage. The findings of this study are that EGD at international airports does not only prioritize aesthetics, but also considers legibility and readability based on the habits of people who visit a site. The benefits of this research can be an inspiration and reference for design disciplines in the design of EGD.

Keywords: Environmental Graphic Design, international airport, signage pyramid

1   INTRODUCTION

Signage is an aspect of finding a way to provide a sense of personal well-being and security in an unfamiliar environment (Angela 2019). In everyday life, signage has an important role in terms of showing the direction when people are on a recently visited site. With signage, humans can efficiently carry out their activities.

In the context of graphic design, signage is part of Environmental Graphic Design (EGD). EGD is the design of visual aspects related to wayfinding, identitying, and information communication and also shapes the audience's experience of a site (Hananto 2019). In its implementation, EGD is not only a decorative element but also has an important role as a medium of information, both as a directional sign and as an identity for a room. That is why EGD in a building cannot be underestimated.

Signage can help humans find the location they are looking for on a wide site. The same thing was also conveyed by Liong Jessica Angela who argued that signage was needed in public facilities in the interior, especially in large, spacious buildings with lots of space, such as airports, schools, malls, hospitals, museums, or galleries (2019). One implementation is at international airports, which can help passengers get information and find directions.

This study discusses the EGD at Husein Sastranegara International Airport, which was designed by Nusaè. Husein Sastranegara International Airport is one of the international airports in West Java. This international airport is located on Jalan Pajajaran, Bandung. In 2015, the Husein Sastranegara International Airport renovated and redesigned the domestic and international passenger terminal building. This international airport is the gateway to West Java for both local and foreign tourists. The airport manager involved Nusaè to design the EGD system. In a previous study, Nastiti (2021) discussed the role of the signage system in the interior elements of Husein Sastragnegara International Airport. Nastiti reveals the transformation of the design and describes the elements of the signage. Meanwhile, this study discusses how EGD can help passengers from abroad or who

are in a hurry to find their destination within the airport. By doing this research, it is hoped that it can be an inspiration and reference for design disciplines in designing EGD in public spaces.

2 RESEARCH METHODS

This study uses a qualitative approach with a literature review method. According to Creswell, the literature review can assist researchers in considering whether a topic is worth studying and provide insights into ways that researchers can limit the scope of research (2014). The literature review in this study was conducted on two literature mediums. The first medium is in the form of books and journals as sources of literature related to EGD theory. The second medium is in the form of literature sources from the internet related to information on Husein Sastranegara International Airport.

Descriptive analysis was used for this research. In the first stage, the data were analyzed using three components in the EGD to map what components of the EGD are contained in the Husein Sastranegara International Airport EGD. The next stage is to analyze using the theory of Four Critical Relationships from Skolos & Wedell (2011) to determine the relationship between type and image, and the last stage is the Signage Pyramid Method by Calori and Vanden-Eynden (2015) to dissect the interrelationships between information systems, graphics systems, and hardware systems used.

3 RESULT AND DISCUSSION

EGD is an aspect of graphic design that can be found on a site. EGD contains information related to a site, which can help humans identify a site, and contains directions to the site they are looking for. This is in line with the opinion of Calori and Vanden-Eynden who argue that EGD is a form of graphic communication that contains information in an environment (2015).

In the Spectrum of EGD Activity theory, Calori states that contemporary EGD activity involves the development of a systematic graphic communication system, closely related information, and has a visual unity for certain sites in the environment (2015). The site can be one building to another or integrate the building into a transportation network. It all requires complex and cohesive communication. In the EGD there are three different components and intersect each other as follows.
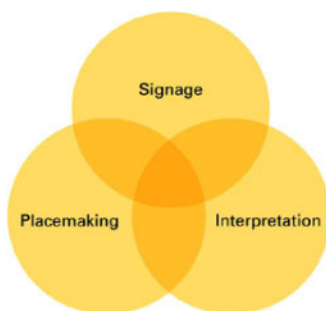

Figure 1. The three main components of EGD (Calori & Vanden-Eynden 2015).

The three main components of EGD consist of signage, placemaking, and interpretation. Signage and wayfinding directing and navigate people to the destination site. Interpretation helps people recognize a site by telling information about the site. While placemaking signifies a site through images or other identifying marks as a distinguishing feature of a site. These three components are integrated and support each other's information comprehensively to guide people in a site.

Signage has an important role in human life when they are in and interact with a site. Signage communicates through symbols, words, diagrams, and images. In general, signage is designed with graphic elements that are easily recognizable and have good legibility (Calori & Vanden-Eynden 2015). In its implementation at airports, signage is designed with different colors as symbols that have become a common consensus. For example, the blue color indicates general facilities/instructions, yellow color facilities/operational instructions, and red color indicates warnings and prohibitions. And it is also not uncommon for signage to be specially designed with styling as an identity that is integrated with airport branding.

Figure 2. Husein Sastranegara International Airport signage and wayfinding (a) and placemaking (b) (Nusaè 2017).

The EGD at Husein Sastranegara International Airport only consists of two components. Those components are signage and wayfinding, as well as placemaking. The two components at Husein Sastranegara International Airport are designed as directions to public facilities and operational facilities. Signage and wayfinding can be found on panels that float on the ceiling of the building, floor-based panels, and also on walls as shown in Figure 2 (a). While placemaking can be seen in the front area of the facility, either hanging on the wall or ceiling or printed directly on the wall as shown in Figure 2 (b).

3.1 *Four critical relationships*

As already explained, EGD is part of graphic design. Of course, EGD is closely related to graphic design elements, namely types and images. When types and images are placed on a design medium, they are still read as different entities but still interact with each other in different ways (Skolos & Wedell 2011). In their book, Skolos and Wedell describe the relationship between types and images in terms of the following four criteria. Separation, when types and images are designed on a medium but operate independently. Fusion, when types and images come together to form a single unit and interact and support each other. Fragmentation, when types and images are designed on one medium but interfere with each other. Inversion, when types and images swap places, types take on the nature of images and vice versa.

EGD of Husein Sastranegara International Airport has a minimalist and simple design. This can be seen from the choice of types, the visual styling of the pictogram, and the layout. Nusaè as the designer chose Neue Haas Grostesk as the default typography. The typography is a san serif category that has good legibility and readability as well as a rigid structure. The pictogram is modified by using a grid system to ensure its legibility. The visual composition and proportions of the signage are designed to be seen optimally for the intended user's line of sight and flow of movement. Types and writing on the EGD of Husein Sastranegara International Airport are included in the fusion criteria because the relationship between types and images has unity and supports each other for the meaning process.
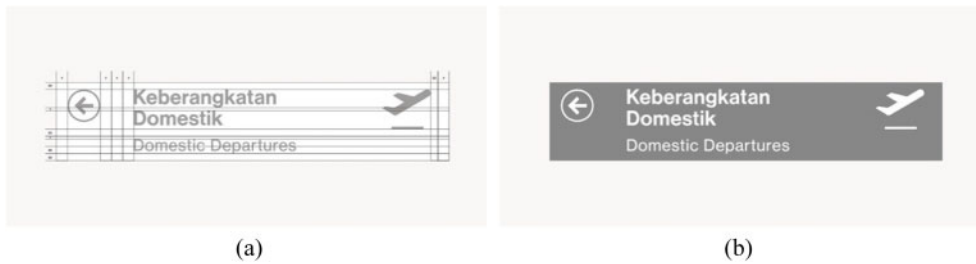
Figure 3.   Signage grid system, (a) signage design preview and (b) (Nusaè, 2017).
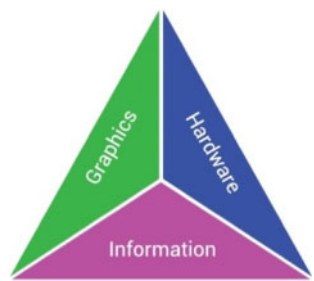
3.2   *Signage pyramid method*

Figure 4.   The three components of the Signage Pyramid model (Calori dan Vanden-Eynden 2015).

Media signage is usually a piece of hardware that contains information from an environment in graphical form. The main purpose of signage is to communicate information about an environment to users who are in that environment. According to Calori and Vanden-Eynden (2015), signage consists of the following three important interrelated components.

The Information Content System consists of the information conveyed on the sign, how the sign message is written, where the sign information is located, and how the message and the location of the various signs in the program relate to each other in a consistent and cohesive information network. Graphic System consists of two-dimensional graphic elements used to encode sign information, how the layout of the graphic elements is used so as to emphasize information and form a visual identity, and how graphics are applied to signs. Hardware System consists of the shape of the three-dimensional sign, the size of the sign, how the sign is installed or connected to other environmental objects, how the materials, coatings, finishing touches, and lighting techniques are used, and the stylistic relationship of the sign objects to each other and their surroundings.

Table 1.   Husein Sastranegara International Airport signage pyramid method description.

Signage Pyramid Method Components	Description
The Information Content System	Place name information using Bahasa and English
Graphic System	a. San serif typography b. Minimalist pictograms c. Blue, yellow, black, and red colors d. White space is dominant in the layout
Hardware System	Using aluminum composite panels, cutting stickers, and wall paint

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After analyzing the EGD at Husein Sastranegara International Airport with these theories, it can be concluded that:
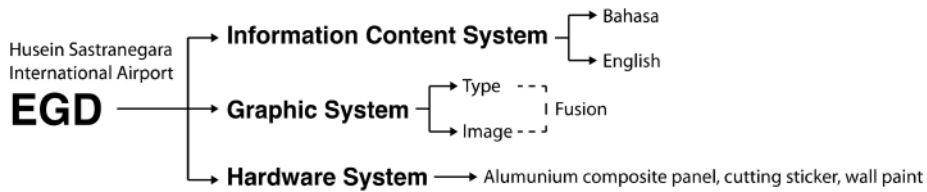

Figure 4.   Husein Sastranegara International Airport EGD analysis diagram.

Husein Sastranegara International Airport EGD uses two languages, Bahasa as the main language while English as secondary language. The EGD is designed with a fusion criteria graphic system, the types and images interact and support each other. It also uses a hardware system made from aluminium composite panels, cutting stickers, and wall paint with applicable signal colors according to international airport standards.

4   CONCLUSION

Husein Sastranegara International Airport EGD is designed very systematically with a fusion criteria graphic system. This can be seen in terms of the selection of graphic elements and layouts with a grid system that prioritizes legibility and readability, so that type and image interact with each other and are easily interpreted by passengers who are in a hurry or from other countries. Husein Sastranegara International Airport EGD uses a hardware system made from aluminum composite panels, cutting stickers, and wall paint with solid and firm colors. That way the Information Content System can be delivered clearly even though it is written in two different languages. With this research, it is hoped that environmental graphic designers will not only prioritize aesthetics, but also consider legibility and readability when implementing essential information on hardware systems based on the habits of people who visit a site. This study only observes and describes Husein Sastranegara International Airport EGD without discussing its interactions with passengers. Therefore, further research can examine the effectiveness and passenger perceptions of Husein Sastranegara International Airport EGD.

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Design at a strategic level: How Batik Fractal changes its business processes during the Covid-19 pandemic

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ABSTRACT: The Covid-19 pandemic has changed the paradigm and behavior of people in all fields, including the business sector. In order to survive, every company is required to be more adaptive and proactive in adjusting its business processes. Previous research has suggested that design can effectively improve business performance when used at a strategic level. This study examines how strategic design is applied to a company in response to emerging challenges and opportunities. Batik Fractal was chosen because it succeeded in changing its business model by using a strategic design. In contrast to previous studies that examined the strategy of SMEs during a pandemic with a focus on management science, this research was conducted with a design approach. This study uses a qualitative descriptive method with a case study approach. Primary data collection was done through observation and in-depth interviews. The results of this study can be used as a reference for the strategic design framework used by the company to survive during the COVID-19 pandemic.

Keywords: Batik Fractal, COVID-19, strategic design

1   INTRODUCTION

At the end of 2019, the world was shocked by the emergence of a new virus known as COVID-19. Entering March 2020, this virus was detected in Indonesia and soon spread quickly into a pandemic. This condition has a broad impact and has implications for all fields, especially the economic and social sectors (Pakpahan 2020; Susilawati et al. 2020). COVID-19 has changed the community's paradigm and behavior by the health protocols recommended by the government. The physical distancing policy limits how people interact with each other, including trading transaction activities between sellers and buyers.

Small and medium-sized entrepreneurs are feeling the economic impact of the COVID-19 pandemic. Based on data from the OECD (Organization for Economic Co-Operation and Development) in 2020, the pandemic has caused SMEs to reach a critical point with conditions worse than the previous world crisis. It is projected that the current crisis will risk reducing the resilience of SMEs by 50%. The Bank Indonesia survey (2021) stated that as many as 87.5 percent of SMEs were affected by the Covid-19 pandemic. The impact of the pandemic on SMEs is believed to be even greater, due to the difficulty of SMEs in overhauling their business models (Febrantara 2020).

In general, the decline in the performance of SMEs was triggered by many interrelated things. One of them is due to the decline in public demand for goods offered by SMEs. The community's priorities have changed for primary needs only so that SME products that are not urgent

are considered additional needs. The following cause changes in consumption patterns & consumer payment transactions that switch to a digital ecosystem. Most of the business processes of SMEs are carried out traditionally, and limited competence has prevented them from turning to digital. Only SMEs that are adaptive and connected to the digital ecosystem can survive. It was recorded that 12.5% of all SMEs could survive (BI 2021 Survey), even some of them showed an increase in income. One of the SMEs that can survive and adapt to the digital ecosystem is Batik Fractal.

Batik Fractal is a Small and Medium Enterprise that offers modern handmade batik with traditional art and technology approaches. Established in 2007, Batik Fractal is based in Bandung City. The uniqueness offered by Batik Fractal is the custom system offered, ranging from mere pattern designs to various end products such as uniforms, merchandise, and hampers. Since its inception, Batik Fractal has focused on implementing the B2B (business to business) business model, which means that it focuses on serving the company. Some of the clients are as follows: British Council, Google Indonesia, Twitter, Intel, Facebook, Mozilla Firefox, Grab, KAI, Garuda Indonesia Airlines, and so on.

As the pandemic escalates and physical distancing policies are tightened, more and more companies are minimizing their activities and prioritizing their spending. This causes a decrease in demand for Batik Fractal products, resulting in a decrease in turnover of up to 90%. Faced with a situation like this, the management felt the need to change its business model immediately. A special strategy is needed in order to be able to respond to the challenges faced as well as to seize the opportunities that arise.

Previous studies stated that design has more potential to drive business change, strengthen innovation, create customer experience, and add value (Mozota 2011). The use of design in Indonesia currently occurs at the functional and aesthetic levels, whereas design opportunities at the strategic level can provide more significant meaning. One way to bring the design to the strategic level of a company is through a strategic design. The strategic design process involves the interaction between design and business strategy. Brigitte Borza De Mozota (2003) states that design is related to the strategy formulation process by ensuring design involvement in the formation of corporate culture, seeking design innovation opportunities, and implementing corporate identity through design.

This study aims to explain the strategic design process on Batik Fractal as a solution to its business problems in dealing with the COVID-19 pandemic. The strategic design provides a holistic view so that the recommended design effectively solves business problems, not only providing an aesthetic function (Best 2015). This research is expected to be an example of how an SME can successfully implement a design that fits the challenges & opportunities during the COVID-19 pandemic.

2 RESEARCH METHODS

The approach used in this research is the descriptive qualitative method. Data collection is divided into three stages:

First stage (Step A), data were obtained by studying secondary data from scientific articles, reference books, and websites. At this stage, researchers identified the impact of the COVID-19 pandemic on Batik Fractal. Researchers also understand the design opportunities and challenges faced by Batik Fractal at the macro and industrial levels.

The second stage (Step B), data obtained through in-depth interviews with the management of Batik Fractal. At this stage, researchers can understand the business model and process of Batik Fractal. Researchers also identify strengths and weaknesses related to the company's business processes.

Third stage (Step C), the data is obtained by observing all the outputs of the previous design. At this stage, the researcher conducts an audit of the suitability & effectiveness of the design output with the company's strategy.

All data & analysis results obtained at each stage are taken into consideration for the development of the recommended design strategy.
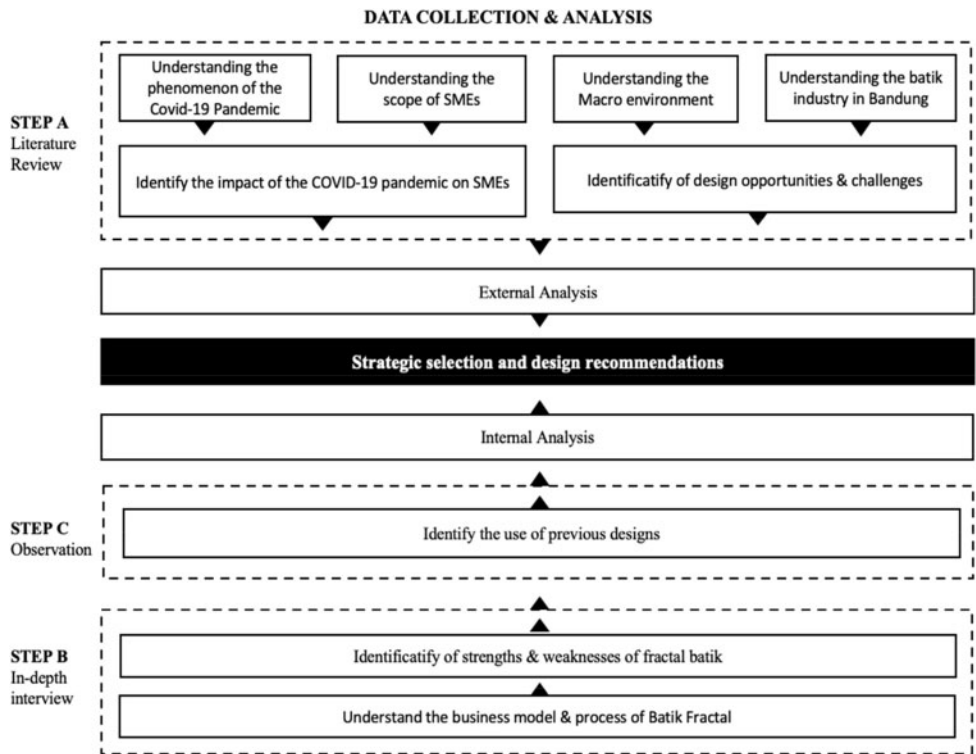

Figure 1.   Overview of the research design.

3   RESULT AND DISCUSSION

The whole process of the strategic design in Batik Fractal can be seen in Figure 2. The process (Step 1) begins with understanding the external environment to determine the impact of the pandemic on industries and companies by using PEST & Porter's 5 Forces Analysis. Internal analysis is carried out by identifying the company's resources, capabilities, competencies, and competitive advantages. In addition, the researcher audited all previous visual elements to identify discrepancies with the strategy. Mood board is done in order to get an understanding of the visual style according to the market. The external and internal analysis results will be identified as opportunities, challenges, strengths, and weaknesses of Batik Fractal (Step 2).

Based on the analysis results in Steps 1 and 2, it is recommended that Batik Fractal be more adaptive to current opportunities by changing its business (Step 3). Business models that initially focus on the B2B market must be developed for the B2C (Market Development) market. Batik Fractal must also change its business processes into a digital ecosystem in response to changes in consumer behavior. This strategy must be followed up with a strategy at the operational level. There are three recommended design solutions (Step 4): custom website as a new distribution channel, strengthening brand identity, and developing a brand communication strategy. The website contains features that meet the needs of the new target market, especially in terms of user interface & user experience. Users will get all the information needed as well as convenience in conducting transactions. The second design solution is done by strengthening the existing identity so that

new characters from Batik Fractal appear following the new image that the company wants to display. The final design solution is the development of a communication strategy to build engagement with new customers. Each design solution is translated to the associated media requirements (Step 5).
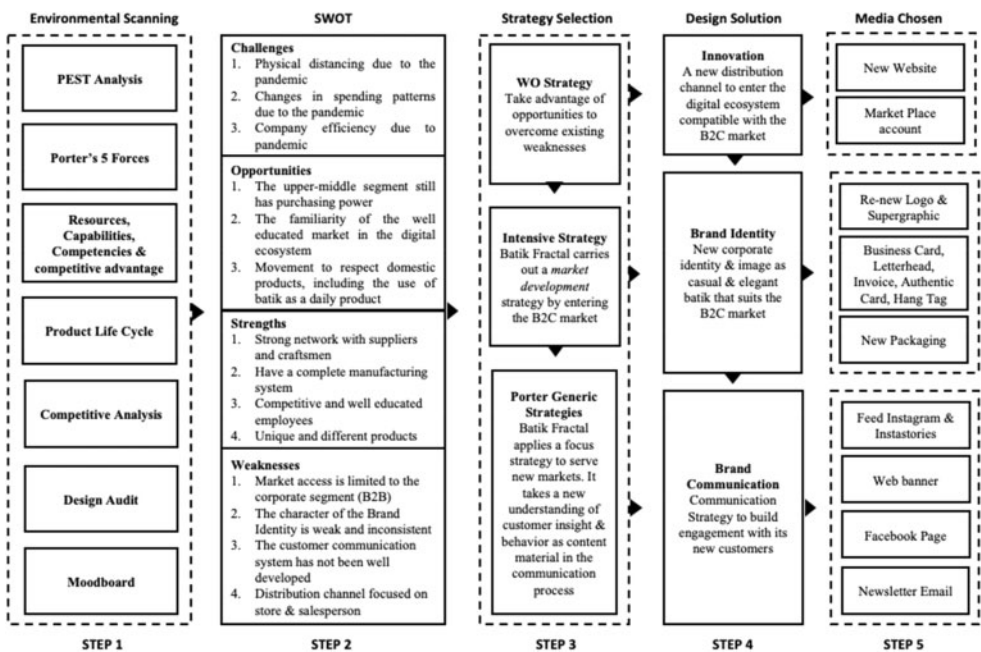

Figure 2. Overview of the strategic design process in Batik Fractal.

4 CONCLUSION

There have been many discussions about the strategy of SMEs in dealing with the pandemic, but the approach taken is based on business management theory and does not involve design. Many previous studies examine the application of Strategic Design in SMEs, but some have been carried out on large-scale companies and geographically do not occur in Indonesia. This research is expected to be an example of how an SME can successfully implement a strategic design following the challenges & opportunities during the COVID-19 pandemic.

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Segmentation analysis of user online travel agencies (OTAs) based on preference in Indonesia

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ABSTRACT: Indonesia's Online Travel Agencies (OTA) industry is expected to be the largest in Southeast Asia, with consumers having a wide range of options (OTAs). This study will examine how consumers of Online Travel Agencies (OTAs) are segmented based on their preferences and generates profiles of OTAs. The researchers employed descriptive research in this study. Purposive sampling is utilized, which is non-probability—a total sample of 392 respondents. Online questionnaires are used to collect data. In this study, two-step cluster analysis and conjoint analysis were used to analyze the data. The result shows that there are two types of segments of users of OTAs, namely Student and Worker. There are two aspects of promotion and membership among the 24 continuous variables that contribute considerably to present cluster configurations. Since there are no significant preference differences from OTAs users, companies may not need to target a particular set of customers based on their OTA preferences but instead focus on the ability to book many types of travel services in a single transaction.

Keywords: cluster analysis, conjoint, online travel agencies, two-step cluster, user preferences

1 INTRODUCTION

In recent years, the growing number of internet users in Indonesia has profoundly altered the course of events in various aspects, such as people's lifestyles, purchasing systems, and business growth, one of which is the growth of the e-commerce business. The e-commerce business that is currently proliferating in Indonesia is Online Travel Agencies (OTAs).

Online Travel Agencies (OTAs) are online travel information providers that help customers purchase travel tickets and other related conveniences. Indonesian tourism is currently being supported a lot by technological developments, one of which is the internet. Users can easily access a variety of information that stakeholders could use for the needs of those concerned with the purchase of tourism services besides experiencing changes in terms of service and to fulfill the requirements of consumers, every firm must adapt to the changes. The growth of the OTAs market in Indonesia was 5 billion USD, and in 2018, the value increased to 8.6 billion USD and is predicted to continue to grow until 2025 to reach 27 billion USD; Indonesia has the highest percentage growth compared to other countries as the OTA market in Indonesia will be the largest in Southeast Asia (Anandan et al. 2018).

As a travel aggregator, OTAs offer travel-related items such as flights, cruises, vacation packages, hotel rooms, and other services to potential passengers over the internet as Rezgo studied in 2019 (as cited in Talwar et al. 2020). Scholars have recently focused their attention on online travel services, notably OTAs, and several studies have been done worldwide. According to academics, reserving hotel rooms over the internet has grown increasingly (Denizci Guillet et al. 2020). Because mobile apps are simple to download and use, these online agencies are now shifting their business model from web-based services to smartphone apps (Dwikesumasari & Ervianty 2017).

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1.1 *Market segmentation*

Market segmentation includes classifying the market for a product in a certain way which is beneficial for implementing marketing activities (Adisaputro 2010). Market segmentation divides the market into several parts, which contain groups of consumers whose needs and wants are the same (Kotler & Keller 2016). According to Kotler and Keller (2016), effective market segmentation is to have five critical criteria, namely, (a) Measurable size, purchasing power, and segment profile. (b) A substantial segment should be of a large homogeneous size so that it deserves a special marketing program. (c) Accessible segments can be reached and served effectively (d) Differentiable segments can conceptually be segregated and provide existing responses to different elements and marketing mix programs. (e) Effective actionable programs can formulate actionable programs to attract and serve these segments.

1.2 *Online travel agencies (OTAs)*

Online travel agencies (OTAs) are companies with websites that allow customers to order a variety of travel-related services directly over the Internet, OTAs are travel aggregators who interface with prospective travelers via the Internet to sell travel-related products such as holiday packages, cruises, flights, hotel rooms, and others (Talwar et al. 2020). In the 1990s, online travel agencies (OTAs) were born. OTAs are firms that offer items from a variety of vendors (Chivandi 2020) OTAs have an important role to introduce customers to hotels (Chang et al. 2019).

1.3 *Framework of study*

This study is divided into three, namely demographics, behavior, and preferences. The segmentation in this study uses two variables, namely categorical variables, and continuous variables. Categorical variables are demographics and behavior to determine group differences or characteristics of users, while continuous variables are preferences to determine consumer interests and attitudes in considering product attributes in a product choice. The sub-variable preference indicators in the research used are Ease of Use & Booking Flexibility, Security, Design Presentation of The Website & Speed of The Website, Useful Relevant Content, Ability to Book All Service in One Transaction and Sorting Option (Kim et al. 2007). While sub variable demographic research has indicators such as gender, past education, occupation, income, age, status, and income. While the sub-indicator is in the form of usage status. Figure 1 is an overview of the framework.
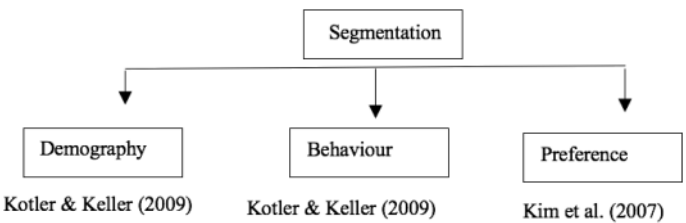

Figure 1.   Framework.

2   RESEARCH METHODS

The method of data analysis in this study uses two-step cluster analysis and conjoint analysis. The results of this segmentation analysis are based on 2 groups of users of Online Travel Agencies (OTAs). The cluster analysis techniques examine techniques to establish sub-groups that mean individuals or artifacts. In particular, the goal is to classify a sample of entities (individuals or objects) based on entity similarities into a small number of mutually exclusive classes (Hair et al.

2010). Conjoin analysis is a method of quantitative analysis that is used in market research to evaluate customer expectations for a combination of a product that gives great importance to the advantages they feel or may feel to influence them in the selection process of the product to be purchased (Indrawati 2015). This section will analyze the data that has been obtained from the primary data. Distribution of questionnaires to 400 respondents, users of Online Travel Agencies (OTA) respondent profiles listed in Table 1. The research data were analyzed using applications such as Microsoft Excel 2015 and SPSS Statistics 13.0.

Table 1. Profile of respondents.

Profile	Description	Total	Profile	Description	Total
Gender	Male	45%	Education	SMP	0%
	Female	55%		SMA/SMK	42%
Age (years old)	17–20	6%		Diploma	18%
	21–30	69%		S1	35%
	31–40	24%		S2	5%
	>50	1%	Monthly Earnings (in thousand rupiahs)	<2.000	14%
Job	Student	46%		2.000–5.000	53%
	Private Employees	23%		5.000–10.000	20%
	Government Employees	11%		10.00–15.000	10%
	Entrepreneur	17%		>15.000	3%
	Housewife	3%	Daily Internet Usage Duration	<1 hour	2%
Education	SMP	0%		1–5 hours	42%
	SMA/SMK	42%		5–9 hours	41%
	Diploma	18%			
	S1	35%		>9 hours	15%
	S2	5%			

3 RESULT AND DISCUSSION

Based on Table 2, in the cluster analysis in this study, the grouping of the number of clusters carried out on respondents using Online Travel Agencies (OTAs) is 392 respondents divided into 2 groups. With the translation of cluster 1 as many as 241 respondents with a percentage of 61.3% and cluster 2 as many as 151 respondents with a percentage of 38.5%.

Table 2. Cluster distribution.

Cluster	N	%
Cluster 1	241	61.3%
Cluster 2	151	38.5%
Total	392	100%

Based on the results of cluster analysis, which is formed into two groups, in this section, the frequency distribution of Online Travel Agencies (OTAs) users will be explained based on categorical variables in each cluster formed. In Cluster 1, the categorical variables that contributed to the formation of this cluster were occupation, latest education, age, monthly income, and experience in using OTAs. The dominant occupation is student or university student, the most recent dominant education is SMA / SMK, the dominant age is 21 to 30 years, monthly income is Rp. 2,000,000 to Rp. 5,000,000. None of the continuous variables have a significant negative or positive effect on Online Travel Agencies (OTAs). So that continuous variables do not contribute to the formation of this cluster.

Table 3. Student user.

No	Characteristics
1	The dominant occupation is student or college student
2	The last dominant education is SMA / SMK
3	Dominant age 21–30 years
4	Income per month is Rp 2,000,000–Rp 5,000,000
5	Experience in using OTAs several months

The level of interest in Cluster 1 is choosing the ability to book all travel services in one transaction, selecting hotels & trains, choosing design and speed of the website with interesting features, predominantly choosing ease of use and booking flexibility in the form of rescheduling, choosing, sorting options by booking based on accommodation, predominantly choosing useful and relevant content in the form of travel guides, finding low fares in the form of promotions, and choosing security in terms of transaction security.

Table 4. Worker user.

No	Characteristics
1	The dominant occupation is private employees
2	The last dominant education is Bachelor
3	Dominant age 31–40 years
4	Income per month is Rp 2.000.000–Rp 5,000,000
5	Long-time using the Internet in a day 1–5 hours

Cluster 2: Categorical variables that contribute to the formation of this cluster are occupation, education, age, monthly income, length of time of internet usage in a day. The dominant occupations are private employees, the most recent education is with a bachelor's degree, the dominant age is 31 to 40 years, monthly income of Rp. 2,000,000 to Rp. 5,000,000 and the length of internet usage in a day are 1 to 5 hours. In cluster 2, two continuous variables have a significant negative and positive effect, such as promotion has a negative effect and membership has a positive effect.

The level of interest preference in Cluster 2 ability to book all travel services in one transaction, selecting hotels & tourist attractions, choosing ease of use and booking flexibility in the form of rescheduling, predominantly choosing design and speed of the website, choosing security in terms of transaction, finding low fares in the form of promotions by ordering based on accommodation, predominantly choosing useful and relevant content in the form of travel guides.

4 CONCLUSIONS

In this segmentation research based on user preferences of Online Travel Agencies (OTAs), two clusters were formed, namely Student User and Worker User. In Cluster 1, only categorical variables contribute, while in Cluster 2, there are continuous variables that have a significant effect, namely promotion and membership. OTAs companies can provide options for users to be able to order all services in one transaction, this is to make ordering easier, seeing the overall value of the two clusters is the ability to book all travel service in one transaction.

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From paper to screen: The cognitive apprenticeship method in drawing lesson for university students

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ABSTRACT: During the COVID-19 pandemic, the transition of teaching and learning activities to the online system has been impacting higher-level education. This challenge also happened in courses that require practice and direct interaction, such as drawing lessons. Both lecturers and students experience challenges in delivering and understanding the materials. This study uses a qualitative method of visual research by observing online class activities for one semester in the Advanced Drawing Lesson at DKV Telkom University. The surveys were also conducted on the lecturer and 12 students of the drawing course. A literature study supported to map the challenges experienced in the learning process. From this mapping, the authors can evaluate learning approaches and explore alternative solutions from existing experiences. The authors find out that lecturers have problems in delivering material, and students need a tutorial and assistance system that is more feasible and personal. One of the various approaches conducted is the cognitive apprenticeship method which was established as solution to teaching and learning activities.

Keywords: Drawing Course Learning, Online Learning, Cognitive Apprenticeship Method, Covid-19 Pandemic

1 INTRODUCTION

The transition from physical supervision to online learning usually disrupts the assistance process in drawing lectures, and both lecturers and students experience difficulties. For lecturers, one of the most challenging things to do in teaching drawing lessons in distance classes is having the physical experience of making the art itself, such as feeling the difference between various drawing mediums and working with the actual materials. There are also so many different technologies that both students and lecturers are expected to use, which makes it difficult to keep everybody on the same page. Teachers must also develop strategies for students to actively participate and build their knowledge in online environments (Song et al. 2021). Several teaching approaches that utilize physical classrooms into virtual classrooms are also carried out at DKV Telkom University, such as using Google Classroom or other learning management systems (LMS) such as Moodle. Lecturers are also asked to record teaching content in video tutorials, which students share and watch through the teaching platform. Furthermore, based on the video tutorial, students make assignments based on the lecturer's examples. However, in terms of assessment and grading the student progress, it is virtually impossible to do effectively as in-person assessments by the lecturer. Thus, this research was conducted to find what teaching strategies for drawing lessons can effectively transfer the assistance process through the virtual class. Moreover, the kind of teaching approach required to support the successful delivery of the material is assessed.

2 RESEARCH METHODS

This study uses a qualitative approach, with data analysis obtained from visual observations and in-depth interviews. Observational data from this study were taken from lecture activities led by the author, Advanced Drawing Lesson in Telkom University's DK-44-INTL class with 12 participating

students was carried out in the even semester of 2020-2021. In this lecture, 14 meetings consisted of seven asynchronous assistance in the virtual class platform and seven synchronous assistance through the Google Meet platform. In the context of teaching studio courses, observations are made by perceiving learning activities in class (Longley & Longley 2017), starting with the lecturer delivering teaching materials, then observing the reactions made by students in the assistance process, either synchronously or asynchronously. In the synchronous classroom assistant observation, students also turned on a live connected camera that directly shoots their drawing paper so that the lecturer could see their drawing process. After that, to evaluate and compare the teaching techniques that had been carried out in one semester, structured interviews were also conducted with students of class DKK-44-INTL. All teaching activities carried out by the author are based on the stages of Cognitive Apprenticeship (Wang 2019), hence the author could see the challenges and potential solutions of each stage from pedagogical knowledge of design.

3 RESULT AND DISCUSSION

Observational data regarding the challenges faced in the Advanced Drawing lesson was obtained by comparing two implementations from the cognitive apprenticeship method, specifically the asynchronous assistance in LMS and the synchronous assistance using Google Meet and Iriun Webcam.

3.1 *Advanced drawing lesson at telkom university*

The Advanced Drawing Lesson at DKV Telkom University aims to provide the ability to understand the principles and aspects of form through observing the anatomy, objects, and environment of humans and animals, using various media and techniques to practice the concepts of space, balance, and perspective drawings. Lessons material is divided into 14 class meetings, with assessments in quizzes, assignments, and exams. This course requires a one-on-one approach between lecturers and students because each student usually has a different starting point and drawing ability.

3.2 *Limitations and problems during the online learning*

According to Albert and Wolf (1991), drawing is the basis of the visual arts. Even abstract work benefits significantly from basic drawing skills. The key to successful drawing is practicing one small concept, developing and understanding various drawing media and their unique characteristics. This understanding concept is implemented in a lecture study plan that guides students to draw lessons for one semester to achieve predetermined learning outcomes. Meanwhile, the changes and gaps occur in drawing lessons when an assessment must be carried out in online learning. According to Barber (2003), drawing shapes and dimensions requires precision. When this process is digitized into a photo or scanned image and then evaluated on a device screen, the tactile sensation and concept of proportion tend to diminish. Lecturers can only assess what is seen on the screen, and students can only understand the tutorials they watch without seeing the real object. Based on the author's observations as a lecturer, it is difficult to assess student understanding during online lectures due to the lack of direct feedback and gaps in virtual communication.

3.3 *Cognitive apprenticeship method in online learning*

Based on the statement from Collins et al. in Wang (2019), the Cognitive Apprenticeship approach begins with situated cognitive theory, where knowledge skills require real situations to be learned, and skills learned must also be used in real situations. According to Wang (2019), to complete these provisions, in an ideal learning environment, cognitive apprenticeship teaching methods include these stages: Modelling, Coaching, Scaffolding And Fading, Articulation, Reflection, and Exploration. The title "Structuring and Scaffolding in Online Course" (Acquaro 2020) shows potential in online learning but not specifically in drawing lessons. Acquaro used a blog-based learning framework, where students uploaded all progress through the blog. Learning activities were assessed from interactions on blog posts and comments on forums. Furthermore, the author

compared the most appropriate way of assistance for drawing classes through the following discussions from these points.

3.3.1 *Asynchronous assistance in drawing lesson through virtual classroom platform*

According to Khan in M. Wang et al. (2021), online learning can happen both in a synchronous or asynchronous format. The synchronous format requires fixed time and fixed place similar to traditional offline learning; the latter is relatively flexible on timing and allows self-paced learning. This opinion is also approved by Acquaro (2020), where the framework also does not determine the times and amount of communication required during the operation of the class. In addition, the implementation of this asynchronous lecture through the cognitive apprenticeship method also occurs in drawing lectures taught by the author. This asynchronous stage had an assistance period of 3–7 days for each stage. Of course, this was longer than the online or offline synchronous stages, which only occurs in one place and time and could not be repeated. This activity was carried out in seven meetings before the mid-test.

Table 1. Stages of cognitive apprenticeship in online asynchronous lectures.

No	Stages	Activities	Advantages	Disadvantages
1	Modelling (Concretizing the concept of the instructor's lesson)	Tutorial Video in LMS	Video with bigger resolution Repeatable learning content	Delayed feedbacks Requiring independent learnings
2	Coaching (Observing the students during operation)	Assignment submission in LMS	More flexible time for students	Students tend to submit the assignment over time.
3	Scaffolding (Assisting the students)	Assistance guide sketch in LMS followed by final work submission	Giving guidance in revision	The digital sketch or assistance through photos could not capture the difference between various art mediums.

3.3.2 *Synchronous assistance in drawing lesson with google meet and iriun webcam installment*

This synchronous assistance activity through Google Meet live tutorial was carried out in seven meetings after the mid-test. As explained in the previous sub-chapter, asynchronous assistance provides flexibility in terms of time but is not suitable for lecturers and students who want quick feedback. The synchronous assistance that the author had done was made as similar as possible to an offline class, where its application with the cognitive apprentice method is explained as follows:

Table 2. Stages of cognitive apprenticeship in online synchronous lectures.

No	Stages	Activity	Advantages	Disadvantages
1	Modelling	Live tutorial while students observed in Google Meet	Real-time step-by-step directions	Live streaming videos were usually of lower quality than recorded videos uploaded to LMS
2	Coaching	Live streaming in each student's webcam showing how they did their assignment	Real-time step-by-step coaching that could be closely monitored	The live streaming quality depended on Internet connectivity.
3	Scaffolding	Live digital sketch from the lecturer to be the revision guidance, while giving direct feedback	Giving clearer guidance in revision	The digital sketch or assistance through photos could not capture the difference between various art mediums (i.e., the coloring technique using watercolors, etc.)

Comparison between asynchronous and synchronous assistance will be explained further in the next sub-chapter.

3.4 *Discussion: Comparison between asynchronous with synchronous assistance*

The following is a comparison of the asynchronous method tested by Acquaro (2020) and the assistance methods specified for the drawing lesson that the author had carried out.

Table 3. Comparison of cognitive apprenticeship methods in online synchronous lectures.

No	Stages	Asynchronous assistance in previous research	Asynchronous Assistance in Drawing Lesson	Synchronous Assistance in Drawing Lesson
1	Modelling	The session began in an email link to every week's topic and assignment—repeatable learning content and flexibility in learning time.	The session began with learning topics and assignments in LMS. Repeatable learning content and flexibility in learning time	The session began with the link for real-time tutorials and directions in Google Meet, then directed to assignment in LMS.
2	Coaching	Self-paced independent study through blog posts and forum comments	Self-paced independent study through assignment submissions	Real-time step-by-step that could be closely monitored
3	Scaffolding	Feedbacks through comments on student's blog posts.	Feedbacks by written comments and sketches as guidance.	Real-time comments and feedback.

From this comparison, we can see that the asynchronous method has the advantage of a more flexible task execution time. The synchronous method has the advantage of real-time feedback. From the author's observation, the synchronous assistance has the real-time step-by-step that can be closely monitored through live assistance in Google Meet. The communication gap that has been received through asynchronous assistance can be solved through direct feedback. The author, as a lecturer, can do the live observation through the camera that is highlighted on the drawing paper. Students can observe directly how the lecturer gives examples of how to draw. Furthermore, the stages of reflection, articulation, and exploration will be explained in the results of interviews and surveys to students in the next sub-chapter.

3.5 *Student's evaluation*

After the lecture session, interviews were given to the 12 students of DK-44-INTL who took this class. Questions are determined based on the stages of the cognitive apprenticeship method. Then, from the results of interviews with students, the authors found interesting points that can lead us to recommendations:

1) With a direct revision immediately delivered during lecture hours, students can immediately revise. It is different when asynchronous assistance via LMS or WhatsApp takes longer for feedback. However, the most noticeable drawback of this synchronous assistance method is that the internet connection significantly affects studying effectiveness.
2) Students can immediately find out the potential from their respective works, including those of their classmates. By knowing the potential of each other's work, some students are motivated to explore their drawing skills so that they become even better.

4 CONCLUSION

The authors evaluated the efforts to adapt the teaching and learning process and explore alternative solutions from existing experiences from mapping and observation. From the study results, it

appears that it is needed for virtual classrooms to be situated as similar as possible to offline classrooms. Moreover, it was found that students will understand faster because they get direct feedback through this synchronous cognitive apprenticeship method. Some factors such as tactile sensations may not be shown so much in this method, and other factors such as internet connection, sometimes affect the effectiveness of lectures. Nevertheless, other drawing lesson lecturers may use these teaching and learning method explorations to add collaboration in their online course development in how lectures should be run in a better approach.

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Textile craft as children activity to increase perceiving and drawing literacy ability

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ABSTRACT: The level of children's literacy in Indonesia is currently on a red note, as the country ranks in the bottom 10 among other countries. Basic literacy is not only a matter of reading and writing but also skills to observe and describe. This study explores craft activities more deeply in children aged 3–6 years for the improvement of children's fundamental literacy skills. The research was carried out by studying literature related to basic literacy, especially, perceiving and drawing, observing children's activities in several creative communities, including *Familia Kreativa* and *Rumah Lebah*. This research shows that textile craft is rarely applied in children's activities and can be used in craft literacy activities. Textile is inseparable from two elements, namely material and technique. The materials used are natural and artificial, or waste materials; the methods used are the surface and the structure technique as the basis of textile making. With several activity options presented in this research, it is hoped that they can contribute ideas in children's activities to improve basic literacy skills to increase the ability to think creatively and imaginatively.

Keywords: children, craft, drawing, literacy, perceiving, textile

1 INTRODUCTION

Literacy ability is necessary for children to fulfill the learning development process (Fajriyah 2018). The literacy ability of Indonesian children is below the world average. According to the Ministry of Education and Culture's data survey results in 2019, seven out of ten students in Indonesia at the age of 15 have low literacy skills (Balitbang 2019). This low literacy ability is due to lack of the application of basic learning concepts (reading, writing, arithmetic). Reading, writing, and counting has been taught conventionally to directly introduce symbols and principles of composing words and counting (Fajriyah 2018). Before the children are ready to read, write, and count, the basis for sensory readiness should be stimulated with various activities, especially in early childhood (Zati 2018).

In the early childhood phase, especially at 3–6 years, children experience increased cognitive, psychosocial, and physical motor skills. Literacy skills can already be introduced at that age, where parents, teachers, and the surrounding environment are the closest sources of literacy knowledge. According to Praha Declaration in 2003, there are four basic literacy in human development steps: Reading and Writing, Speaking and Listening, Counting and Calculating, and Perceiving and Drawing (Faizah 2021).

As the chart shows, people can improve their ability on basic literacy with some activities mentioned above. In Indonesia, the focus of improvement is on reading and writing and counting and calculating. As Faizah (2021) mentions in her speech, our education system and daily life faces the lack of awareness to increase the perceiving and drawing ability. However, the perceiving and drawing ability is a determinant of child development. Therefore, this ability should be a part of parents' and teachers' concerns, and craft can serve as an activity that can help on such improvements.

Craft is implied for design and fabrication processes in which only hand-controlled machines are used, and the action is based on making items by hand (Gardner 1990 in Pöllänen 2015). In crafts, one interacts with tools, makes objects, and by manipulating tools and materials, creates a meaningful connection with the environment (Veeber et al. 2015). There are two main parts of craft; the technique and the material. Textile is one material that could be used for crafting. Textile

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Figure 1. Basic literacy chart.

craft is divided into surface and structure techniques. Craft is important in the education system because it enhances motor or cognitive experiences that affect developmental plasticity across the lifespan (Veeber et al. 2015). This research was based on observing some of the craft techniques on the textile materials at home. Thus, evaluatuion and recommendation of the craft learning modules are required with basic craft techniques.

2 RESEARCH METHODS

Qualitative method was employed in the study. Literature was studied for the collection of information of the craft-literacy from some sources: books and journals. Followed by this, observation was carried out from some education organizations that provide module learning for members, Familia Kreativa and Rumah Lebah is the observing object.

2.1 Literature study

The first data collection method was a literature study of basic literacy, craft, and children learning modules from books and journals.

2.2 Observation

The observation was done by observing two education organizations which are Familia Kreativa and Rumah Lebah. Those two organizations are running their program to facilitate parents for educating their children at home. Later, a learning module that has been produced at that organization has been observed.

2.3 Interview
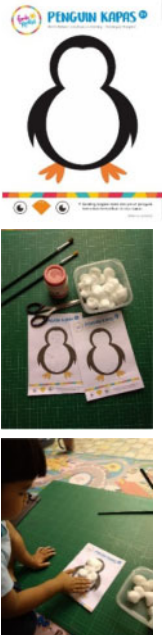
This stage was done with the interview of the expert of education literacy, Dr. Dewi Utama Faizah, as the founder of Ayo Membaca Indonesia (AMIND).The interview included validation of the issues and needs of parents and children in this pandemic situation and gaining some information about craft literacy in other countries.

3 RESULT

3.1 *Children and parents activities in pandemic*

As pandemics hit people around the world, it was also affecting the Indonesian education system. Indonesian students are practicing school from home with an online system, and parents become the facilitator for their children. It creates a phenomenon of homeschooling, in which some parents, especially those who have children at an early age, decide to drop the children from school and teach their children at home (Tanjung 2020). While parents chose to homeschool as an option, some non-profit education and the homeschooling movement are increasing. They help parents to enhance their ability to facilitate children learning. Familia Kreativa and Rumah Lebah are organizations that support homeschooling activities.

Table 1.   Learning module kit comparation.

Organization	Learning Module Examples	Material and Technique
Familia Kreativa		Material: Paper, paintbrush, others stationery kit. Technique: coloring, cutting, and sticking.
Rumah Lebah		Material: Paper, paintbrush, others stationery kit. Technique: coloring, cutting, and sticking.

Table 1. Continued.

Organization	Learning Module Examples	Material and Technique

The table above shows that the first printable module (series) is one of the primary parents' support materials at home. Secondly, the method to learn is 'do it yourself, and parents are guided to pratice some steps to encourage the children to learn. Then, art kits such as glue and other stationery as tools, and paper, cotton, pipe cleaner, and threads are supporting materials. Finally, crafting is the main part of the activities to improve motor skills and stimulate children's senses. These activities are included for constructive learning and multisensory stimulus.

3.2 *Craft activities to improve perceiving and drawing children ability*

Dr. Dewi Utama Faizah, as Ayo Membaca Indonesia (AMIND) founder and literacy expert, said that Indonesian children's ability to read is on a low level compared to other countries such as Japan. Since early childhood, Japan has *enikki* as their drawing culture to improve the children's sense of visual and motoric to prepare the ability to read. In this pandemic situation, parents should facilitate their children's never-ending learning, and craft literacy is the way to improve children's abilities of perceiving and drawing. Faizah (2021) said that all media provided in nature and home are the best material for children to learn.

4 DISCUSSION

The level of children's literacy in Indonesia is currently on a red note, as it ranks among the bottom 10. Basic literacy is not only a matter of reading and writing but also skills to observe and describe. The ability to perceive and draw is also essential for children to increase their level of literacy. Art and craft become activities suit to stimulus perceiving and drawing potency. In this pandemic situation, when some early childhood homeschool, parents usually find it hard to find learning activities for their children. Some parents and kids communities have been developing kits for children's activities. From observation found that materials used for kit activities mostly use paper printed. From a craft textile point of view, home materials such as waste fabric and yarn are potential materials for children. In addition, craft methods such as basic weaving (structure technique) and stamping (surface technique) could become alternatives to add to children's home activities in home learning. The learning kit theme can also develop to local wisdom, such as woven textiles from Sumatra or *jumputan* tie-dye from Kalimantan. Besides material and technique, craft has do-it-yourself (DIY) spirit that could not be separated from its activities. The DIY spirit becomes part of children learning process to appreciate process and results.

5 CONCLUSION

Education in pandemics has been one big issue in Indonesia, especially for early childhood education. Learn from home become parents full responsibility, because schools are closed due to the covid19. Some parents of early childhood children decide to take education responsibilities, teach their children at home, or even do the homeschooling firm project. Based on the observation from two organizations Familia Kreativa and Rumah Lebah, who help the parent to facilitate the

homeschooling process, those are using printable learning module as their guide to parents, 'do it yourself' project as the main method, and art kit such as glue, and others stationary as tools, and paper, cotton, pipe cleaner, and threads as supporting materials. However, textile materials such as fabric and yarn are rarely used in their activities. As craft is one of the important methods to fulfill children's basic literacy abilities, and textile is one craft material. It is vital for parent support organizations such as Familia Kreativa and Rumah Lebah also to provide textile material and textile techniques to their DIY project to expand the variety of learning modules. This research suggests some waste fabric and waste yarn and structure activities such as basic weaving to become a learning module. This research aims to recommend parents and support parents' education communities to create a new learning method.

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Redefine past for the future: Designing brand identity of museum Kota Bandung

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ABSTRACT: Uncovering city museums is an idea to measure the sense of local pride towards heritage. Being aware of the condition, Bandung city's government had opened Museum Kota Bandung in 2018. However, as the newest museum in town, the management already faces several challenges, such as introducing the venue and attracting new visitors. Despite its convenient location, the survey indicates that Museum Kota Bandung still lacks public recognition, and the number of visitors kept on decreasing. The struggle worsened when the pandemic hit in 2020, and the regulation closed the building temporarily to unforeseen future. It is believed that designing brand identity for Museum Kota Bandung would help to portray the museum so that communities may perceive the historical journey of Bandung as a design city. Using qualitative methodology through several approaches such as interviews, questionnaires, and observations—this paper aims to reveal the creative process of designing brand identity for Museum Kota Bandung during the pandemic. Furthermore, AISAS as a communication strategy is used to evaluate the results, which consists of a logo, visual assets, and media strategy. The brand identity could be applied later by museum management and promoted through digital platforms before reopening.

Keywords: Museum Kota Bandung, City Museum, Brand Identity, Logo, Heritage

1 INTRODUCTION

When the COVID-19 pandemic occurred, the global trend of traveling was significantly collapsing. The World Tourism Organization or UNWTO (2021) mentioned 2020 as the worst year in tourism history, where the percentage of international tourist arrivals drop to 85% below 2019 levels. It indicates that Indonesia is not excluded, where the government is barely focusing on developing cultural tourism besides the natural and artificial destination up to three years ahead (Kemenparekraf 2020). Hence, the museum became a fascinating issue to discover how cultural tourism adapts to the pandemic crisis.

According to the statistics, West Java ranks 4th as the province with the highest number of museums in Indonesia with 41 institutions (Databoks 2020). While estimated 15 museums are located in Bandung alone, the newest one—Museum Kota Bandung (MKB) or Bandung City Museum was officially opened in October 2018. The brand-new museum received a well public enthusiast for several months, but it started to decline just before the pandemic was announced. Since then, the government has instructed the management to close the building for general visitors and left MKB unnoticed. From questionnaires and interviews conducted through online platforms in 2020, it is perceived that 53.2% of 85 participants from around Bandung never heard about the city museum, and 73.4% never explore the place. The lack of information is followed with heedless responses where samples claimed were not even interested to pay a visit. Those findings indicate some communication problems between the museum and its target audience which need to be solved before the pandemic ends.

It is effortless to reach MKB since the property is located in the heart of the city. Placed at a well-preserved heritage site that used to be a pre-school building in the 1920s, it displays the stories of Bandung from various aspects such as social, cultural, and economical points of view.

By the virtue of free entry, the visitors could experience an insightful historical experience through the museum tour. The majority of the museum collection consisted of visual assets exhibited with bright, beautiful, and modern installation to make the room feel more spacious. Through the display of visual narration, the MKB intends to educate the tourist about every part of history that constructed the face of Bandung for decades because the primary purpose and challenge of MKB are similar to the other museum in recent days: to build a significant learning environment for everyone (Falk & Dierking 2016).
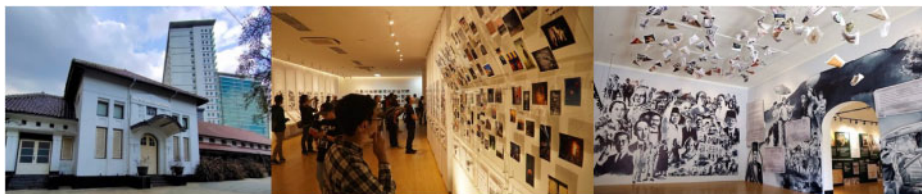
Figure 1.   Museum kota bandung.
Source: Kifli 2020.

The first concern that occurred through visual observation is when the management does not operate any website or the other information/promotion media except Instagram. The only way for people to find its latest news is by following the Instagram account of the museum, where the contents are inconsistent, poorly designed, and somewhat confusing. With a total of 1.906 followers and 333 posts, the last ten post on the Instagram of MBK gained less than or equal to ten average likes on each (Museumkotabandung 2021). At the same time, 97.5% of 85 participants from the previous questionnaire agreed that the lack of promotion media would negatively impact the visiting decision. Thus, the current brand identity—including the museum logo, has failed to deliver the message from the museum to its audience. Thus, this result reveals two significant problems from MKB: 1) Museum Kota Bandung requires to promote itself for being the official city museum that represents Bandung as the creative city (UNESCO 2015); 2) Yet, to convey the idea, message, and personality of the creative city museum, it is pretty necessary to design a brand identity which is absent in MKB today as the brand identity is not merely a fundamental to enhance the brand recognition of any particular product, but constructing the differentiation from competitors (Jain 2017).

2   RESEARCH METHODS

Since there is no former design or writing that has addressed the brand identity and promotion media of MKB, this research aims to design both topics. To discover the patterns and forms of variables during the design process in this qualitative research (Cropley 2019), several instruments are combined; surveys, questionnaires, interviews, and observation. While most data were collected from participants through the online platform, the knowledge about MKB was gathered in the building site. The analysis result was mapped and redefined by AISAS (Attention, Interest, Search, Action, Share) wherein the problems related to brand identity and promotion media are successfully identified. Originated from Dentsu Agency Japan, AISAS also helps verify the creative output to ensure that the design had answered the research objective. It will engage the active conversation between the museum and the people because the conventional approach is no longer enough to raise the brand recognition of MKB. AISAS can accommodate the urge to catch the attention, followed by real action (Sugiyama & Andree 2010) such as visiting the museum, especially after the pandemic.

3   RESULT AND DISCUSSION

With its strengths, MKB has the potential to emerge as an alternative icon for Bandung city. The building owns many Instagram-able spots, a great ambiance, bright lighting, and a cafe. With

tremendous historical assets, the thematic display could be upgraded to adapt to the latest trend or consumer needs. The generations of digital natives, such as Generation Z, who dominated the Bandung population in 2020 (Maulana 2021), tend to visit the museum that tells stories with a modern approach (Nurullah 2021). This generation is confident to choose any product/service based on their self-preferences (Furika & Rachmawati 2021). It includes finding reliable information sources to complete their sense of identity. In the creative process, the communication message and integrated media are designed to cater to that behavior. In addition, in industry 4.0—technology plays an essential part for every public institution like museums. For years, most famous museums have used high technology to digitalize their collection and drive engagement with visitors. This pattern keeps growing because people realize that technology has broken the limitation of the physical world during the pandemic (Walls 2020).

During the regular weekends, it is rare to find Bandung free from the crowds of tourists. The other well-known museums, namely Museum Geologi and Museum Gedung Sate, were full of visitors. Instead of a competitor, the latter becomes the design reference of MKB's brand identity. The visual attribute of Museum Gedung Sate is considered sophisticated, distinctive, and simply easy to understand. Like the companies, a brand will be a valuable asset for the museum that helps its management embrace their historical value and maintain a particular reputation (Wheeler 2017).

Figure 2.   Logo, visual key, and billboard design of museum Kota Bandung.
Source: Kifli (2020).

The brand identity of MKB has inspired the creativity that is symbolized by three geometric shapes shown in Figure 2. When merged as initial of Museum Kota Bandung, those shapes embodied a playful angle and novelty in discerning the museum's image. It is supported with the contrasting touch by infusing cream, yellow pastel with dark indigo on each shape. The logo influenced the design of visual attributes, especially the key visual and layout composition used on various promotion media of MBK. The fonts with clean anatomy, Made GoodTime Grotesk, and Century Gothic are applied to establish the headline's readability and body copy.

Figure 3.   Logo, visual key, and billboard design of museum Kota Bandung.
Source: Kifli (2020).

For communication message, a tagline "*Museum Kota Bandung: Menjelajahi Sejarah, Memaknai Cerita, Merangkai Peristiwa*" is created to nourish the brand personality. In this context, the

feature of the Indonesian language used is strong enough to trigger the reader's memories. The insight was inspired by the interview result with a historical walking tour in Bandung. It reveals if the participants, in general, were amazed by many uncovered stories from places that they have been through for years. It is easier to appreciate the places if people have recognized the stories behind them. Tagline—as the most memorable element next to visualization (Do 2019) is meant to reinforce the feeling and mind of the target audience about this experience.

Figure 4.   Poster, instagram filter, and brochures as integrated promotion media.
Source: Kifli (2020).

The media were selected by considering many factors, for example, consumer habits, budget, media characteristics, coverage, etc. (Kertamukti 2017). Now the visuals and the content writing for MBK are implemented on the promotion media arranged with the AISAS method. To grab the attention, primarily by conventional media: posters, brochures, and billboards. OOH (Out of Home) media is commonly used to reach public awareness with broader coverage without distracting their activities (Ilhamsyah 2021). To attract consumer interest: the museum can use the digital platform in Instagram content (feeds and stories with interactive filter), YouTube, Facebook, and free merchandise. In the next step, viewers can start to search for completed information on the museum website. A virtual tour is also provided so the website visitor can explore the museum as an action and share their experience which could be shared through social media.

4   CONCLUSION

To summarise, Bandung now has an official city museum to commemorate its long history of becoming a creative world city. Yet, the management faces obstacles to introducing the museum to the public due to the lack of information media and promotion activities. Two years after the museum opening, the visits already started to decline, and the situation was getting worse with the outbreak of the pandemic. This research has initiated two quick solutions for the MKB by designing brand identity and promotion media, which could be applied during the hiatus. The designed visual communication of Museum Kota Bandung is focused on how to emphasize the journey of Bandung as a creative city. While brand identity can attract more recognition, mixed media promotion will help position museum brands in the mind of people. Hence, further research may focus on learning the other aspects of the brand of Museum Kota Bandung, particularly for a brand story or copywriting.

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Cyberpunk 2021: Social field in Indonesian crypto art market

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ABSTRACT: Crypto art is a relatively new market for digital art. This art has become a new way of
art investment and collection and has gained prominence in early 2021, although it started in 2014.
Crypto art consists of static or animated images in digital form, which change the dematerialization
tendency of conceptual art. In Indonesia, crypto art market does not seem to get enough attention
despite its benefit in economic sustainability. Local artists, collectors, and galleries could obtain
global market and solicitude, which can lead to economic sustainability in the local art world.
The previous study regarding crypto art discussed viewpoints of the crypto art although it is not
specified in the certain state as every artist, collector, and gallery in a certain country might have
different approaches concerning visual characteristics. Not many studies have ever been conducted
on this topic. This research aims to give a more specified approach in mapping Indonesian crypto
art actors in their social field to give a holistic and comprehensive overview of the local crypto
art social field. The method employed is qualitative research and validation is carried out through
inquiries such as interviews, observation, and visual samples. The result of this study is that artists
supported other artists to enter the crypto art market, and a prominent gallery supported local artists
to enter the crypto art market even though it is still processed through curation. Local collector still
is not connected to local artists. Local actors that are engaged in the current crypto art market are
working individually and the strongest support is received from artists themselves.

Keywords: Crypto art, Social field, Digital art, Digital market, NFT

1   INTRODUCTION

The creative economy in Indonesia has many subsectors, which contributed to the development of
the Indonesian economy. According to Indonesian Creative Economy Agency (Bekraf), Indonesia
has 16 subsectors (Bekraf 2019) dominated by culinary which accounted for 68.40%, fashion which
accounted for 19.55%, and crafts which accounted for 10.36%. Thus, it can be concluded that the
creative economy in Indonesia is dominated by tangible commodities. The art subsector in Indonesia
only gained 0.23% for fine art and 0.01% for graphic design and associated fields. Even though
the data is not showing whether it is in the digital or physical form, it still lacks economic gain.
This marginalized other actors who engage in their respective fields. Digital art is one fragment
of fine art, which is not recorded clearly in terms of its economic gain. However, recently there
is a relatively new market that could be the expanding field of digital artists namely, non-fungible
tokens (NFT) also commonly known as crypto art. The crypto art world opens possibilities to the
economic development of digital artists. Crypto art is a relatively new market for digital art. This
art has become a new way of art investment and collection and has gained prominence in early
2021, although it started in 2014 (Dash 2021). Crypto art consists of static or animated images
in digital form which changes the dematerialization tendency of conceptual art. Some styles in
crypto art market are cyberpunk inspired by popular culture such as Blade Runner, which became
one of the many prominent characteristics in the crypto art market and inspired for the title of this
study. In Indonesia, crypto art market does not seem to get enough attention despite its benefit
in economic sustainability. The possibilities of economic improvement may extend at global scale

market-leading opportunities to build a broad network. However, it needs support and collaboration from local actors that are engaged in crypto art world. As a milestone, the possibilities of economic development can be initiated through local actors' networks such as artists, collectors, and galleries. The mapping of actors' networks can foster nation representatives without overlapping the context of the art. In addition to that it can open the gate of local actors' collaboration for greater advancement.

A previous study on crypto art shows an overview and characteristics of the art and focused on the substance of the art itself (Franceschet et al. 2019), however, the study doesn't discuss actors involved in the market. This study on the other hand aims to give a different approach to crypto art with the social field perspective. Another study conducted discusses the system, which runs in the crypto art ecosystem, the study gives the approach in the tendency of the technical system, which integrated with NFT world (Wang et al. 2021), however the social context is yet to be discussed. Another study discusses the transaction trends within the network of collectors and artists, and discusses the mapping endeavor of the crypto art market (Nadini et al. 2021). It resulted in pop culture references as a visual style in the crypto art market, including video game items, however, the social actors are yet to be discussed especially in a certain region, still this study holds an important reference. The output of this study is mapping the Indonesian crypto art social field with the validation through actors who are engaged in the crypto art market. The recommendation of the crypto art network is expected to be formulated through this study to open the economic development opportunities for actors who are engaged in marginalized creative industries in Indonesia especially digital artists.

2 RESEARCH METHODS

2.1 Methods of data collecting

Qualitative approach is the method employed. Since it's a relatively new field of study in terms of specific topics towards crypto art, the qualitative study is the most suitable to ascertain and theorize prominent issues (Jamshed 2014). The validation was obtained through inquiries such as interviews with the actors who are engaged in crypto art, and observation through visual data obtained online since the market is fully digital and distribution is practiced through the internet. The result of two of these inquiries will take the role of primary data. The interviewee of this study will be an Indonesian digital artist Angga Tanama who is already engaged in the crypto art market. The second interviewee is Muhammad Fatwa Arief a representative of Indonesian NFTs collector who is also an active employee of Indodax a cryptocurrency company based in Indonesia. The observation will be conducted through the Refinable page of Rachgaix an Indonesian gallery that is engaged in selling crypto art made by Indonesian artists.

2.2 Methods of analysis

The collected data will be analyzed based on the theory pioneered by Pierre Bourdieu and discussed by Yasraf Amir Piliang in his recent works Medan Kreativitas as the field of creativity. The concept of the theory is still based on Bourdieu's field of cultural production. According to Piliang, this field is where actors express, disseminate, produce, and appreciate ideas; a structured space wherein the interaction of other actors occurs (Piliang 2018). Every actor has capital ranging from symbolic capital (non-material capital, social status, prestige, class), economic capital (material capital, such as money, properties, and other possessions), and cultural capital (pertains to ideology, language, knowledge, and education). Each of these capitals is being distributed as ideas to different actors giving them legitimation of their role in a certain field. There are four fields in the creativity arena namely: the field of expression, where ideas begin to emerge, field of production where ideas become reality and are being implemented, the field of dissemination where ideas are being distributed, whether it is in a tangible or an intangible form, and field of appreciation where creative works are being appreciated or consumed. The four fields of creativity are synergy, if one field is left empty and creative activity is not conducted by any actors it is going to affect other fields and

create discrepancies. Therefore, the four fields should be well balanced and each actor from each field should cooperate to maintain the ecosystem.

The obtained data will be analyzed based on the four fields of creativity to understand the interaction of actors of different fields. However, it should be noted that the scope of the analysis is limited to Indonesian social field to maintain the scope of the purpose of this study, although the economic objective is tapping the global scale market.

3   RESULT AND DISCUSSION

This section contains the results of data obtained through interview and observation validation. As previously discussed, there will be four sections of results from the obtained data and the result of the analysis. The interviews in this study were conducted online in July 2021 through WhatsApp mobile application. The observation was conducted through two websites of an Indonesian gallery that is engaged in the crypto art market.

3.1   *Interview with Angga Tanama*

Angga Tanama is an Indonesian digital artist who started entering the NFT market in 2020. He entered the market through the invitation from Makersplace, a prominent curated website that sells and displays crypto art. The representative from Makerplace saw Angga's works from his Behance page (also one of the most prominent platforms to display portfolio) subsequently Angga was invited to sell his works in the form of NFT and he accepted their invitation. At this time crypto art was relatively new for Angga, and he proceeded with the selling while studying the market of NFTs. One of the many reasons many artists precluded NFTs is the gas fee which is an amount of money that had to be paid to the marketplace parties in the currency of crypto to upload (in this term "minting") a certain amount of work. The minting process is when an artwork is being converted into NFT, which still requires human resources. In Angga's case, through the invitation from Markersplace, the gas fee was being covered by them therefore it motivated Angga to try to enter the market. According to Angga, the NFT market is not always active; there are certain times that it gets stagnant. Angga stated that there are very few Indonesian artists who have started entering the NFT market, and those who have started still face difficulties in selling their works. Several Indonesian digital artists also support each other, there is also a small community that contains Indonesian artists where they share their recent works, buy each other works, recommend each other to potential collectors, and help by paying a certain amount of money for a gas fee. Thus, the digital artists' community is solid and supportive. Direct support from collectors and galleries was not available for Angga. This means that support was extended only from the artists' community. Angga admitted that in terms of economical income, NFTs sales are supporting and prospected, however not all artists made constant sales, as previously discussed several of them even experienced difficulties in selling their works, but a single sale can certainly support their financial situation.

3.2   *Interview with Muhammad Fatwa Arief*

Muhammad Fatwa Arief also known as Fato is one of few Indonesian NFTs collectors. Fato is also an active employee of Indodax an Indonesian crypto company. Fato has been engaged with the crypto market for a few years and also has been a presenter in a crypto-related event. From the perspective of Fato as a collector, there is a potential investment opportunity in NFTs and thus he started collecting NFTs from the beginning. However, Fato was also very fond of art and this was the second reason for his market entry. Fato admitted that there are very few Indonesian artists that he encountered in the NFTs marketplace that he ever visited, which also matched with the statement from Angga. This means that many Indonesian artists have not entered the market as stated in Angga's interview, this is due to the exorbitant amount of money for gas fees, difficulties, and uncertainties in selling their works in a relatively new market. For Fato, he never joined

certain local communities pertaining to NFTs, however, he admitted that there was an interaction between artists and collectors before they made the transaction but it wasn't clearly stated whether it was between locals or domestic. The tendency of Fato's collecting activity is fairly traditional, considering the value of art with the potential of monetizing (Sgourev 2018).

3.3 *Observation of Rachgaix*

Rachgaix is a relatively new Indonesian gallery that recently entered the crypto art market. Rachgaix held several online events related to crypto art. With recent activity from their Instagram account, they introduced several newcomer, Indonesian artists, however, on their Rarible page these new-comer artists' artworks haven't been displayed on sale yet. Initially, artists who contracted with Rachgaix were relatively well-established artists of Indonesia, such as Addy Debil, Adi Dharma, and Eldwin Pradipta. This could be one milestone to connect the artists and the collector in the NFTs market. Several characteristics found in Rachgaix's artists are pop culture visual style and 2D and 3D animations (in form of GIF format), several works that have been sold in Rarible assert so. Below are several visual samples obtained from Rachgaix's Rarible page, these samples are of artworks that are sold.

Figure 1.   (a) Addy Debil's space sweetie 2018; (b) Triadi Guntur's after historytopia 1 (Keberanian menjadi cakrawala); (c) Rudi Kurnia's elemental mother.
Source: Rarible.com/rachgalx.

From the visual samples, three characteristics of artworks that haves been sold include, (a) the lowbrow visual styled, which is commonly seen in magazines, posters, comic books, and graffiti, (b) the flat animated image which contains several seconds of graphic movement, (c) the 3D constructed works, which contains animated three-dimensional objects in several seconds. Although there are several artworks, these artworks represented the characteristics of the Indonesian digital artists who are engaged in NFTs market. Rachgaix connects artists to the market through the curation process, each artwork contains a description of the works which connects the potential collectors with the artists. Galleries have curation capabilities, they have human resources to support this, on the other hand artists who are not associated with galleries do not possess this capability. The description is rather short and plain with an emphasis on the aesthetic. However, this raises the question if curatorial texts are required by art collectors, these traits of art are still adapting the mechanism of physical art exhibition and transaction, the study pertaining to the traits of NFT collectors is needed.

3.4 *Analysis*

Looking at the field of creativity, each of these fields contains agents/actors that are related to their social construction with their ability (Yudha 2013), these abilities can be broken down into their capital, economic, symbolic, and cultural capital. As observed from the obtained data (interview with Angga Tanama and observation of Rachgaix), Indonesian artists have cultural capital, which is reflected through their ability to create art, and economic capital which is reflected through the devices and tools they use to produce the art. To put that into the perspective of the field of

creativity, the field of expression, and the field of production in the Indonesian crypto art ecosystem is already fulfilled, the actors are quite active to create art based on their respective ideas. The field of dissemination still lacks supports as only few actors supported the field due to lack of actors in the field of appreciation. Local collectors are not connected with the local artists due to the difficulties of local artists in entering the market. There are very few galleries that can represent Indonesian digital artists. Galleries can be an actor in the field of dissemination, however, if the actors in this field lack it will lead to discrepancies between all of the fields of creativity. The strongest support at the moment is from the artists themselves, however, it is still inadequate. Based on this one study case, a local collector still has not found Indonesian NFTs in various markets, despite of one prominent Indonesian gallery that is engaged in the market. A robust platform to gather all actors in an Indonesian crypto art market is needed to connect all the actors so that the field of expression, production, dissemination, and most importantly, the field of appreciation is fulfilled.

4   CONCLUSION

Artists, galleries, and collectors in this study case have not connected to each other, which makes the social field imbalanced, while the four fields of creativity must be cohesive and synergic. There is still an activity in the field of expression, dissemination, and production for digital artists in Indonesia, however the field of appreciation is not developed. The support from the artist's community in this case study is more solid and robust, as this community acts in the field of expression and production. Galleries should act in the field of dissemination and appreciation, publish the works from local artists and appreciate in the form of purchase. Collectors should act in the field of appreciation as these conduct the transaction through purchase and trades. For Indonesian actors (artists, galleries, and collectors), this is another option to enter the market and gain financial freedom as an artist and/or gallery in global scale market, although the social field shares many similarities in the conventional art market, the chance of access to the market for artists, collectors, and galleries is broader. In addition, the chance to obtain global solicitude is more open for artists. A specific strategy for entering the right market for further research is required for crypto art market with different characteristics, and more interview samples. Ultimately, is there any possibility of artist gentrification? Another problem is that will the actors in this social field support each other? Meaning that Indonesian collectors collect Indonesian art, local galleries publish local artists, and sellers sell local artists' products. But at the same time, since the market is on a global scale, will there still be nationality representation? Will the substance of the art itself be representative enough? Future research pertaining to this problem must be conducted. Ultimately, the NFT market has different traits in terms of market, it might not represent certain nations with regards to the substance of art because the market tends to be a universal market and eliminates boundaries of nations and race.

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Tools to create a creative fashion product in Bandung

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ABSTRACT: Creativity in Bandung has become the main factor of current economic growth. The characteristics of products in Bandung represent hybrid, novelty, and highlight aesthetic values. Nevertheless, designing a creative product is not easy. Through this research, the author tries to analyze the creative design methods that designers have implemented for the people of Bandung. The author collected the data through literature study, observation, and interviews. The study results conclude that the Observe Imitate Modification design method can help create innovative design products and represent the characteristics of creative products. This method is more commonly known as an *Amati Tiru Modifikasi* (ATM) or observing imitation of modification. In addition, Bandung creative products are considered part of the city's cultural identity, plural, fluid, and changing, which is temporary. Therefore, this research is expected to lead designers and creative industry actors to design creative products in Bandung or other cities.

Keywords: ATM, creative product, creative economy

1 INTRODUCTION

Bandung, the capital city of West Java, is one of the metropolitan cities in Indonesia (Yujin 2017) and has been declared a Creative City since 2015 (Hasanah & Nugroho 2016). The choice of Bandung as a Creative City cannot be separated from the potential that Bandung has, namely Places, People, and Ideas (Aritenang 2013), which of these three strengths started the birth of the creative economy in Bandung, through the presence of various local fashion brands in the 1990s (Irawati 2011). A *creative economy* is an economic activity that develops in urban areas based on ideas, science, and technology poured into a product that becomes a variety of traded commodities. Creative economy products are considered cultural products with hybrid, novelty, and aesthetic values (Rajab 2014).

The phenomenon of the growth of a local fashion brand in Bandung has been adapted by other cities in Indonesia (Irawati 2011), such as Yogyakarta, Bali, Jakarta, and other cities (Candrawati & Ekomadyo 2016). This development is in line with Pearson's (1998) statement, which says that Bandung compared to other cities in Indonesia, its creative economy is closely related to the creativity of its people. In contrast to Yogyakarta, known as the center of traditional culture, Bali with its religious-based culture, and Jakarta with its commercial culture (Soemardi & Radjawali 2004).

The development of local fashion brands in Indonesia coincided with the economic crisis that hit Indonesia in 1998. When the economy was down, local fashion brands in Bandung managed to survive and become a real example of entrepreneurial success for small-medium enterprises that are mostly young people. Seeing this success, based on research results, 72.9% of the Indonesian population agrees that being an entrepreneur is a good career choice, especially for young people (Maryunani 2019). The current population of Bandung, which is dominated by 60% of young people, further strengthens the potential for developing creative products. However, as we know, creative products are considered part of a plural, fluid, and changing city identity because of their temporary nature (Rajab 2014). Often, designers or creative economy actors experience confusion

in designing creative products. Through this research, the author will discuss the product design methods of two young Bandung designers who have implemented creative product characteristics in their products. It is expected that designers and creative economy actors in Bandung or other cities are able to apply the design methods that can show the characters of creative products to be the basis for further creative product development.

2 RESEARCH METHODS

The author used qualitative research methods with data collection methods through literature studies, observations, and in-depth interviews in 2019–2020. Literature studies refer to journals, books, and articles. In addition, the author also observed and interviewed two designers who focus on designing creative products for the people of Bandung. The observation and interview process included the data collection stage, the data analysis process, and the textile exploration process carried out by both. Based on the results of observations and interviews also the results of the study of literature data, the authors then analyzed and concluded the design method carried out and its relation to the characteristics of creative products.

3 RESULT AND DISCUSSION

In this study, the author observed and interviewed two designers who focused on designing creative products for the people of Bandung, namely Shaffira Dewi Setiawardhani and Deffrieza Andara Agriaputri. The creative products produced by the two designers could represent the characteristics of creative products, namely hybrid, novelty, and aesthetics. The definitions of the three characteristics are described in more detail as follows hybrid namely, changing, modifying, updating, or mixing other cultural components; novelty is the value of novelty offered; and aesthetics is the value of beauty offered (Rajab 2014).

Based on interviews, the two designers used the creative product design method, Observing Imitation of Modification design method or known as an *Amati Tiru Modifikasi* (ATM). Many designers quite commonly do this method to answer the needs of people's lifestyle products. *Amati Tiru Modifikasi* (ATM) is a method that refers to the principles of Ki Hajar Dewantara (Indonesian education leader), namely Tri-N (Niteni, Nirokke, Nambahi). Niteni comes from the Javanese word '*titen*', which is the ability to recognize and find meaning (nature, characteristic, procedure, truth) by observing and comparing objects. Nirokke is a more in-depth process than Niteni, an imitation process done to understand the differences and similarities better. The last is Nambahi, which is the stage of carrying out developments such as adding, subtracting, changing, or processing something that has been imitated previously with the ultimate goal of innovating (Wijayanto 2019). *Amati Tiru Modifikasi* (ATM) method is able to represent the characteristics of creative products well. In more detail, the authors describe it in Figure 1.
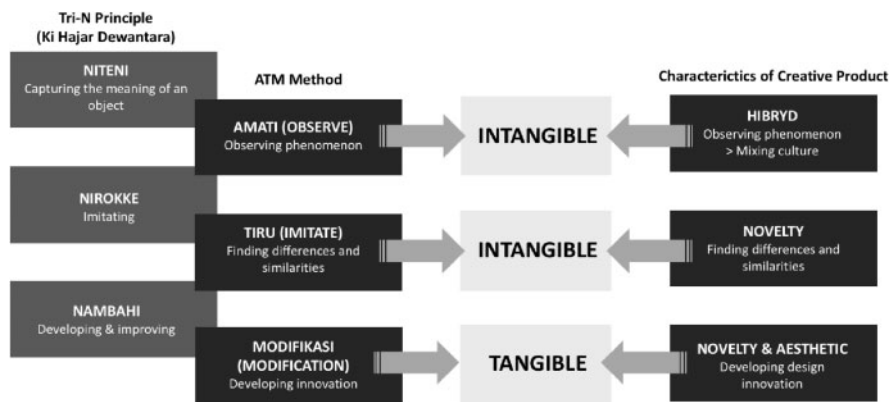

Figure 1.   Comparison of *Amati Tiru Modifikasi* (ATM) applications and the characteristic of creative product.

- *Amati* – Hybrid

  The two designers observed the phenomenon that occurred, the development of a local fashion brand that was popular at the time, Suku Home. The Suku Home is a local leisure wear brand from Australia. This phenomenon is in line with the statement that the people of Bandung have historically been influenced by colonial (Rajab 2014) and western (Western Europe and the United States) cultures (Yujin 2017). Although Australia is not geographically located in Europe or the United States, Australia is a British Commonwealth country.

- *Tiru* – Novelty

  The value of the novelty offered is reflected in the themes, which are different from the themes offered by the Suku Home.

- *Modifikasi* – Novelty & Aesthetic

  The value of aesthetic is reflected in the results of the exploration of textile techniques that represent the theme while at the same time offering a new design processing (novelty).
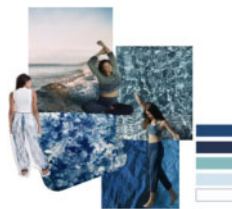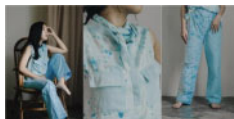
A more detailed explanation of the relationship between the *Amati Tiru Modifikasi* (ATM) method and the characteristics of creative products is present in the Table 1:

Table 1. Table comparison of *Amati Tiru Modifikasi* (ATM) applications and the characteristic of creative product of each designer.

		Shaffira Dewi S.	Deffrieza Andara A.
Amati – Hybrid	Capturing a developing phenomenon in society	**Local Culture:** The growing trend of healthy food in the city of Bandung generated the concept of mindfulness product design. Shaffira Dewi S. responded to this mindfulness concept by developing leisurewear products, while Deffrieza Andara A. responded by developing yoga sportswear products. **Western Culture:** Both were inspired by a local fashion brand that was popular at the time, namely Suku Home, a local fashion brand from Australia that focused on developing leisurewear with natural <u>materials and applying tie-dye</u> techniques.	
Tiru – Novelty	Studying the developing phenomena, analyzing their differences and similarities, then translating them into new themes	The theme is "laarimaar kee shaanti" the Hindi word for "calmness of Larimar." Larimar rock comes from India, and India is also known for its belief in spiritual energies, including those from rocks.	The theme is ocean water. Shapes such as textures caused by ocean water can be created through the tie-dye technique. The color of the ocean water, which tends to be cold, such as dark blue, which is graded, has a close meaning related to calm and peaceful nuances. The atmosphere of the ocean water also provides a sense of relaxation, inspiring a sense of calm and serenity that is in harmony with the goals of yoga.

Table 1. Continued.

		Shaffira Dewi S.	Deffrieza Andara A.
Modifikasi – **Novelty & Aesthetic**	Providing novelty on textile themes and techniques applied to products	 (Setiawardhani 2020)	 (Agriaputri & Bastaman, 2020)

4 CONCLUSION

- *Amati Tiru Modifikasi* (ATM) method can help design creative products that have characteristics of hybrid, novelty, and aesthetic.
- The hybrid aspect is related to the determination of inspiration. The hybrid aspect will depend on where the fashion brand or designer lives or where the fashion brand or designer will market their products. In this study, two designers come from and live in Bandung, so the element of mixing with Western culture is closely related to the character of Bandung's culture itself.
- To develop the novelty aspect, a designer could determine the theme so that the mixing of cultures can be translated better.
- The hybrid aspect is intangible. The novelty aspect can be intangible or tangible because it translates inspiration into something more tangible, such as color, the composition of motifs, textures, and shapes (aesthetic aspect).
- Another essential thing that determines the creative product design stage is the analytical ability of designers required to quickly analyze city changes (temporary) and to read upcoming trends. Thus, the product design refers to a particular era and cultural location that is currently the centre of public attention.

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Introducing studio-oriented learning environment (SOLE) module in the school of creative industries, Telkom University

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ABSTRACT: Learning Model studio has the main features of first-hand experience or learning by doing. This article reports the initial results of the exploratory research related to student-centered learning (SCL) in Industrial Product Design studio education in the School of Creative Industries, Telkom University. SCL is defined as an approach to empowering students in their learning. Although studies on the adaptability of this concept in education have increased, there are few studies conducted for the benefits of product design education from a studio design perspective. This article defines SCL as an approach to increase student independence in the learning curve, especially in decisions making related to design subjects using a summative and formative method. It aims to experiment with the SOLE (studio-oriented learning environment) model learning that reshapes lecturing and peer review inspired by a theory developed in University Putra Malaya (UPM). The results of the research are the assessment of knowledge of the supervisor, supervisor attitudes, and the studio administration systems are good category. The study will benefit educators in the product design field to help students to build unique background skills. Further, it lets students generate learning opportunities and reconstruct knowledge dynamically in an open-ended learning environment to implement a design studio.

Keywords: Studio Design, SOLE, Student-center Learning, virtual Learning

1 INTRODUCTION

The Design subject of creative industries school is the fundamental study for every student, especially for the Industrial Product Design, Interior Design, and Visual Communication Design departments. The basic and core Design Subject are specific study procedure that needs a unique process to progress ideation in design development scope. As the main course in creative industries school, the design studio can essentially relate to student-centered learning (SCL) features. Design studio subjects explore design creativity in processing essential design components such as points, lines, planes, and spaces. According to Lee & Hannafin (2016), SCL characteristics suit complex learning processes and project-based learning. Furthermore, the education concept development in design studios continuously grows to adapt the education necessities these days, especially the education development process in the post-pandemic era.

There are several challenges in carrying out design studio learning activities to keep related to SCL. First, the effectiveness of conservative design studio classroom learning that challenges the passion of student learning activities. Second, the COVID-19 pandemic in 2020 caused all learning in universities to be carried out virtually (Kompas 2020). These two challenges have challenged researchers to develop online studio class learning effectiveness during the Covid-19 pandemic. As a Design Study Program, there are several compulsories, studio-based design courses. Before

the COVID-19 attacked, all basic design and drawing classes were held in the studio under the supervision of the course lecturers. Even the learning carried out in the study alone still has many obstacles, for example, the activeness and enthusiasm of students in working on their design projects. They are now coupled with learning through virtual methods.

To pursue the studio-oriented framework within the studio design course virtually in the post-pandemic era, the author was stimulated by the SOLE model introduced by Zairul (2018). The Studio-Oriented Learning Environment (SOLE) was developed in his design & architecture studio class, University Putra Malaysia (UPM). He enhanced the SCL strategy by Keller (2010) that focuses on supporting the elevation of responsiveness, confidence, relevance, and satisfaction of each student. The distinctive method development is to enhance the SCL development relate to peer review that brings peer feedback spotlight concerning assessment practices with two different assessment categories; formative and summative. This previous research on the SOLE model showed that the SOLE model could enhance the learning and teaching process in the studio-based module. This module established a more organized involvement and peer feedback activity to ease some of the burdens that many lecturers in design studios have to challenge these days. It also enables students to look at the design process from its meta-level to be more collaborative by supporting other students' ideas with their peer-review and feedback to develop each other's understanding.

This research purpose is an unorthodox design studio framework called SOLE module implied in University Putra Malaysia by Zairul (2018). This method was applied in the design studio of the school of creative industries, especially in the industrial product design department. This alternative method involves lecturing, sharing, and assessing with the self-regulatory theory by Greene and Azevedo (2007). The lecturers facilitated the studio project, starting from the research, focus group discussion and presentation approach. The SOLE model design studio presents as teaching guide-lines to assist the lectures in generating a self-taught learning environment. The author completes the discussion remain and the future research possibility in studio-based design courses virtually.

2 RESEARCH METHODS

Action research drives the lecturer researcher to know the intricate operational details in Telkom University, Indonesia. The author implied the SOLE module in the design studio, primarily intro-ductory basic design course, and first-year industrial product design students at Telkom University. The author chose first-year students to anticipate that newcomers are mostly less mature and less participate in any discussion and focus group discussion than final year students. It is an opportu-nity to develop the first-year students to establish their collaboration and motivation to support each other from the beginning by giving the peer assessment; hence this method will be more potent if the application succeeds.

Action research goal is to enrich teaching practice that positively impacts virtual class in the post-pandemic; according to Mills (2003), the action research is expected to bring an educational environment that assists students to be better learners. Hence, this action research methods use the Kemmis and McTaggart (2000) approach to aim its core purpose.
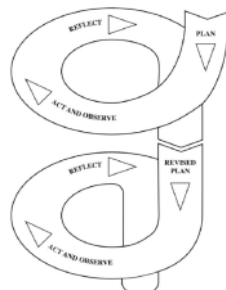

Figure 1.   Action research cycle (Kemmis & McTaggart 2000).

This method uses two plan-act-observe-reflect cycles to collect self-reflective enquiry undertaken by students in studio environmental learning to improve the rationality of the author educational practices. Furthermore, it also enhances the student understanding of the implementation of the courses by virtual learning.

3 RESULT AND DISCUSSION

According to Zairul (2018), the SOLE is module Inspired by three main inspirations; the REAL model by Grabinger and Dunlap (1995), self-determination theory by Deci and Ryan (2008), and OLSit framework by Lee and Hannafin (2016). The most important part of the SOLE module is to emphasize peer review to be a fully utilized aspect of engagement and support to establish a more holistic studio experience. The observation results that lecturing and assessment are the main elements.

Lecturing

Lecturing and sharing are one of important parts in SCL framework. In the SOLE model, the learning tutor is not authoritarian. The tutor ensures the student's progress in engagement and satisfaction through lively facilitation. The tutor has various roles, from probing student understanding, encouraging critical reflection to challenge the students to elevate their skill levels. It suits Hannafin et al.'s (2014) opinion that there are common misconceptions in SCL-student performance and SCL implementation study. Students should study independently to fulfil their needs. Peer and individual tutorials and external reading take a big part in this role. However, the activation of this lecturing is triggered by the facilitator, such as a lectures series. All the activities were conducted virtually, by Zoom meeting and Google Meet applications.
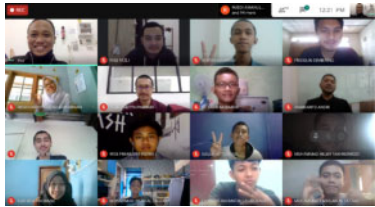
Figure 2.   Online class lecturer series (source: author).

Assessment

As the author mentioned above, peer assessment is described as one of the essential assessments in the SOLE model. The SOLE framework development can be seen as the figure below showing us the relationship between peer review, input lectures, individual tutorials, facilitator guidance, and the external reading within the observation period. Even this method has raised the reliability of students' assessment and grading, and the SOLE module effectiveness is relatively high to increase the tutor productivities. Hence, the lecturer should establish the assessment toolkit to assist the student in performing the peer review.

Figure 3.   SOLE module (Zairul 2018).

Students can become a facilitator to share their skill and knowledge from each other during the observation period. Furthermore, they also can become a tutor for their peer review through the design development process. To increase their capacity in facilitating and tutoring their peers, students should enrich their knowledge with external reading outside primary reference. External reading can be found on book references, recent studies and publications, and other engaged media such as YouTube channels. They have the freedom to gain knowledge with external reading.

The rationale of SOLE Module in Design Studio

The SOLE module conducted in UPM Malaysia 2018 successfully performed a positive impact on the architectural design studio. It fully inspired the author to imply this module to design studio, creativity class for freshmen students. The author can show the effectiveness SOLE Module with the grading activity during the process and the final grade for each student further observation period.

Table 1. Student understanding improvement (source: author).

Grade	Category	Cycle I		Cycle II		Development	
		Students	Percentage	Students	Percentage	Students	Percentage
81–100	Excellent	4	16%	15	60%	+11	44%
71–80	Very good	5	20%	5	20%	–	–
61–70	Good	8	32%	4	16%	−4	−16%
56–60	Pass	5	20%	1	4 %	−4	−16%
0–55	Fail	3	12%	0	0%	−3	−12%

According to Table 1, the author shows that the student's understanding drastically increases from cycle I to cycle II. Students with excellent grades rapidly grow 60% from 16%. This approach that mainly peers feedback and assessment in the SOLE module is one of the most effective ways to enhance their understanding. Some students said that they had no idea what their peers were doing. Now they understand by peer-review from each other.

4 CONCLUSION

Based on the conducted action research by the author through action research methods (Kemmis & McTaggart 2000), the conclusions are:

1. The SOLE module that was first introduced in the architecture design studio, University Putra Malaya, in 2018, also can work well on the design studio, industrial design study. The author put this module on introductory to basic drawing class to raise student engagement and understanding through the peer assessment module.
2. The peer assessment module, including individual tutorials, external reading material, peer-facilitator, and input lecture series, can increase student understanding. These indicators can be the percentage and has increased in the students with excellent grades 16% in the first cycle, then increased to 60% in the second cycle. It rose significantly to 44%. Thus, the SOLE module works well in the design studio class.
3. By understanding the use of the SOLE module method in the teaching and learning process in design studio class, lecturers are expected to motivate students to improve their skills through peer assessment. Lectures should activate students' enthusiasm throughout creative and fun learning, especially during virtual classes in the post-pandemic era.

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Textured cards as learning media to identify numbers using tactile methods

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ABSTRACT: Numeracy skills for children are one of the indicators of cognitive development aspects that can determine their readiness in the learning stages. Through numeracy skills, children can begin to know the world around them in simple mathematical concepts. They can also learn to think logically, systematically, such as identifying numbers, pronouncing symbols, counting numbers, as well as other values. These skills can also improve their knowledge and confidence. The Ministry of National Education (2007) states that children's numeracy skills aim to make children know the basics of numerical concept so that children are mentally prepared to take numeracy lessons at the next level in elementary school. This research shows the process of designing a prototype number recognition card that aims to help children learn to identify numbers using various senses, especially the tactile sense of touch. Through observations, literature studies, interviews, and the design process, this research seeks to explore new forms of learning cards that can be used in an easy way and can engage children's memory in the long term. Furthermore, the results of this design research are expected to produce a card design that can be used by children with special needs.

Keywords: Children, textured cards, tactile, numeracy skills

1 INTRODUCTION

Early age is an important golden period for a child to be able to develop various aspects of his abilities, including motor, language, cognitive, social, emotional, and moral abilities (Nasution 2020). The development of these abilities has progressed very rapidly so that it requires guidance to be able to develop optimally. One aspect that needs to be considered is cognitive development, in which there are logical abilities that are important to develop as well as other aspects because they can be a provision in living children's lives in the future.

For early childhood, the ability to recognize numbers and number concepts known as numeracy skills is one part of developing cognitive abilities that need to be fostered in an integrated manner, both by parents and teachers so that their potential can develop optimally. Aryanita (2015) mentions that related to the tasks of child development listed in Government Regulation no. 58 that there are cognitive abilities in children aged 4–5 years that must be developed including general and scientific abilities, recognizing the concept of shape, color, size, pattern, concept of numbers, symbols of numbers and letters. Regarding numbers, Mayke in Rokhadi (2019) states that numbers are symbols. Learning numbers from concrete objects needs to be given before children learn numbers, because numbers are abstract while children are easier to learn through concrete objects. Children's learning process to have numeracy skills grows with their age development, in which there are processes, stages, and exercises that must be repeated often. Triharso said that children's numeracy skills are symbolic abilities, which means the ability to present objects and events into concrete symbols (Zarqiah et al. 2014). At the age of 4–5 years, this learning process should be done gradually and continuously, beginning with learning to count which can be done by singing or playing (Komariah 2018).

One method that can be used in learning is the multisensory method, which is a teaching method that involves stimulation of all sensory or child senses, such as sight, hearing, tactile senses and movements better known by the VAKT method (visual, auditory, kinesthetic, and tactile). Variations of activities that involve sensory activities such as seeing (visual), listening (auditory), writing (kinesthetic) and touching (tactile) are expected to make it easier for children to understand the material, especially about the concept of numbers (Marienzi 2021). Children need to have these numeracy skills gradually, because in the process of learning to recognize these numbers there are several things that must be learned which are the basis of mathematical abilities (Almira et al. 2017) like knowing numbers; recognize numbers that represent objects; mention the word that represents the symbol of the number; know the sequence of numbers and the quantities they represent.

Some of the obstacles experienced by children in learning numeracy skills, for example, mentioning quantities that do not match numbers, writing numbers in reverse, incorrectly sorting numbers or jumping around, and several other obstacles. To overcome these obstacles, many teachers and researchers try to teach using various methods that optimize the various sensory senses of children, such as storytelling methods, storytelling with puppets, making songs, using number-learning cards and so on. In addition, there are also many digital applications for learning numeracy skills on devices that made to help children independently or with parental guidance.

Among the methods that have been made and from previous research, not many have led to the involvement of four sensory children, therefore this research was carried out to develop and complement previous similar studies. This study aims to create learning cards that help children optimize the process of learning numeracy skills that can stimulate and involve the four senses, visual, auditory, kinaesthetic, and tactile.

In general, the purpose of this research is to find out the characteristics of card shapes, visualization of content and touch materials that can be used on learning cards, with the aim of making teaching aids for learning to recognize numbers using tactile methods. Number learning cards that are currently widely used and sold have several variations in shapes, sizes, and colors. These cards are printed and issued by several publishers in Indonesia such as Elex Media Komputindo, Konsep Global Media, Educa Studio, etc. Physically, this card is square and printed on glossy laminated art paper using various colors.

Figure 1. Number study card issued by Konsep Global Media and Educa Studio.

The number learning cards that exist generally display numbers, objects that represent numbers and words that stating these numbers. The appearance of this card can help three sensory aspects, the first is the visual aspect when the child looks at the card, the second is the audio aspect when the child recites and reads numbers and the third is the kinesthetic aspect when the child tries to imitate and trace numbers with his fingers, or when the child tries to write it again on a paper. When referring to the VAKT method, there is one aspect that is less explored, which is the tactile aspect, where the children's sense of touch is not stimulated.

Tactile ability is one of the cognitive developments related to texture, such as smooth-rough, thick-thin, and hot-cold objects around children (Rahayu et al. 2015). Through this tactile ability, children are expected to be able to better understand the learning process by optimizing all their senses, in the end children are able to strengthen their memory of the learning process that has been experienced.

2 RESEARCH METHODS

The research method used is descriptive qualitative method with several ways of data collection including literature study, observation, interview, and design process.

2.1 *Literature study*

Literature study was conducted to obtain references on how children learn about numeracy skills, then also about the forms and ways of using existing learning cards. This literature data will be the main basis in the identification and design process.

2.2 *Observations*

Observations are made by direct observation of how these number learning cards are used, both independently by children, and when used with parental guidance. In addition to being used in learning, the observation process also assessed how these learning cards were treated, starting from being taken out of the packaging box, to being used and put back in the box.

2.3 *Interview*

Interviews were conducted with psychologists and child education practitioners. In this interview information was obtained in the form of guidance on how to teach numeracy skills to children. The principle of teaching children about numeracy skills is to introduce them concretely with real objects as the quantity that are matched with numbers, then children are taught to mention the name and recognize its shape.

2.4 *Design process*

This design process goes through three main stages, pre-production, production and post-production. At the pre-production stage, all aspects, both in the form of data analysis and references, are collected to be used as materials in the creation process. The next step is to create a mind map and create a moodboard. In this process, key words, examples of illustrations and card models that can be adapted are obtained. Examples of visualizations that can be used as references are pictures of animals and basic shapes that are easily understood by children.

Next is the production step, where it's time to determine the shape and size of the card, determine the content, design the illustration content, letters, layout, and package it into a final art work file. Once ready, the file is then printed into a dummy and then given a textured laminate and perfected in shape and cut.

The last process, post-production is the evaluation process of the quality of the paper material, the color of the print, the quality of the laminated texture and the evaluation of the design in general.

3 RESULT AND DISCUSSION

The two main things used in developing this card are how children can optimize all their sensors in learning numeracy skills, and second is how children can use this card comprehensively, such as being able to recognize and match quantities and its numbers in one medium.

The final form of the card that has gone through the design process is a multicolored folding card which has a size of 9 × 26 cm when it is open, and becomes 9 × 13 cm when it is folded. In this form, there are four sides of the card that contain four visualizations; the first is the visualization of numbers, such as 1, 2, 3, and so on, which have arrows as a reference for how to write. The second side is the name of the number, such as 'one', 'two', 'three', and so on. Followed by the third and fourth sides, respectively, are pictures of animals that show the amount of quantity, and pictures of circles in various sizes which also show the quantity.

Figure 2.   Four-sided number learning card design.

On the side of the card that shows the numbers there is a rough textured laminate that allows children to feel and simulate writing the numbers by tracing them using their fingers. Likewise, on the side that shows the number of numbers represented by pictures of circles, this side is given a rough texture that can also be touched.

Figure 3.   Folding design and rugged texture to stimulate the sense of touch.

After the dummy card is finished, there is a trial process on several children aged 4–5 years who are accompanied by their parents in using it. When using this card, parents are given instructions and how to use it first so that when guiding children, they can use it better. The responses obtained were quite different, but on average, parents and children were attracted by the rough texture found in the circle and number symbols, they touched and rubbed it repeatedly to feel the sensation.

4   CONCLUSION

Learning numeracy skills can be started with simple things, and can also be started by using tools, such as textured cards that consist of four sides. The existence of this textured card complements the function of the existing number learning cards, especially with the presence of a texture that can be touched so that it can provide sensation and stimulation to the child's sense of touch.

This card is expected to help children's development tasks more easily and optimally in the process of learning numeracy skills. With the novelty of the texture, this card is also easy to use in matching between quantities and numbers. Recommendations for further research are to develop more varied alternative textures with various card forms. In addition, further research can also lead to the technique and process of producing this textured card so that it can be made in large quantities.

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