



# IDEALOGY

## JOURNAL

**Editor-in-Chief**

Ishak Ramli

Assoc. Prof. Dr Muhammad Abdul Aziz Ab Gani

**Managing Editor**

Nurul Shima Taharudin

Muhammad Redza Rosman

Haslinda Md Nazri

Nizar Nazrin

**Editor**

Professor Dr Shahrman Zainal Abidin

Dr Sheikh Mehedi Hasan

Professor Dr Anis Sujana

Professor Dr Tjeptjep Rohendi Rohidi

Assoc. Prof. Dr Sophiya Umar

Asst. Prof. Dr. Abdul Jalil Nars Hazaea

# **IDEALOGY JOURNAL**

Volume 7, Issue 1, 2022

Published: 1 April 2022

Published by:  
©UiTM Press

e-ISSN 2550-214X

**MUHAMAD ABDUL AZIZ AB GANI, ISHAK RAMLI,  
NURUL SHIMA TAHARUDDIN, HASLINDA MD NAZRI,  
MUHAMMAD REDZA ROSMAN, NIZAR NAZRIN**

## IDEALOGY JOURNAL INFORMATION

### INTRODUCTION

Idealogy Journal is a biannual journal, published by UiTM Press, Universiti Teknologi MARA, MALAYSIA. IDEALOGY is a combination of the words IDEA and LOGY whereby the word IDEA refers to any activity or action that can lead to change. On the other hand, the word LOGY refers to the understanding towards a certain group or thought, that is often related to the creation of the idea itself. So, IDEALOGY is a platform for those who have ideas to share in journal form. The IDEALOGY Journal is spearheaded by the Faculty of Art & Design, Universiti Teknologi MARA (Perak), however the scope and theme applied were broadened to cover Arts & Social Science. This journal is purely academic and peer reviewed (double-blind review) platform. It caters to original articles, review paper, artwork review and appreciation, exhibition review and appreciation, and book reviews on diverse topics relating to arts, design, and social science. This journal is intended to provide an avenue for researchers and academics from all persuasions and traditions to share and discuss differing views, new ideas, theories, research outcomes, and socio-cultural and socio-political issues that impact on the philosophical growth in the contemporary events.

### VISION

To elevate the standard of Academic writing, especially for ASEAN countries to be recognized in the eyes of the world

### MISSION

To produce academia with world recognized writing quality  
To combine with selected ASEAN countries in producing academic articles

### PUBLICATION HISTORY

Published various field of arts and social sciences' studies since 2016 onwards.

### PUBLICATION FREQUENCY

Biannual Frequency: Two (2) issues per year (April and September)

### e-ISSN

2550-214X

### COPYRIGHT NOTICE

UiTM Press (The Publisher) has agreed to publish the undersigned author's paper in Idealogy Journal. the agreement is contingent upon the fulfilment of a number of requirements listed below.

1. The undersigned author warrants that the paper entitled below is original, that it is not in any way libellous or unlawful in malaysia, that it does not infringe any copyright or other proprietary right. The undersigned hereby represents and warrants that he/she is the author of the paper, except for material that is clearly identified as to its original source, with permission notices from the copyright owners where required. The undersigned represents that he/she has the power and authority to sign and execute this agreement.
2. The undersigned author warrants that the paper entitled below has not been published elsewhere, and also it will not be submitted anywhere else for publication prior to acceptance/rejection by this journal.
3. By submitting the paper entitled below, the undersigned author agrees to transfer the rights to publish and distribute the paper in an international e-journal (entitled above) to publisher.
4. The undersigned author agrees to make a reasonable effort to conform to publisher's submission guidelines and to liaise with the editor to ensure that the requirements of these guidelines are met to a reasonable degree.
5. The corresponding author signs for and accepts responsibility for releasing this material on behalf of any and all coauthors. This agreement is to be signed by at least one of the authors who has obtained the assent of the co-author(s) where applicable. After submission of this agreement signed by the corresponding author, changes of authorship or in the order of the authors listed will not be accepted.

### COMMITTEE ON PUBLICATION ETHICS

This is an Open Access article distributed under the terms of the Creative Commons Attribution – Non Commercial – No Derivatives License (<http://creativecommons.org/licenses/by-nc-nd/4.0/>), which permits non-commercial re-use, distribution, and reproduction in any medium, provided the original work is properly cited, and is not altered, transformed, or built upon in any way. This journal also followed to the principles of The Committee On Publication Ethics (COPE) [www.publicationethics.org](http://www.publicationethics.org)

### REPRINTS AND PERMISSIONS

All research articles published in Idealogy Journal are made available and publicly accessible via the internet without any restrictions or payment to be made by the user. Pdf versions of all research articles are available freely for download by any reader who intent to download it.

### DISCLAIMER

The authors, editors, and publisher will not accept any legal responsibility for any errors or omissions that may have been made in this publication. The publisher makes no warranty, express or implied, with respect to the material contained herein.

## EDITORIAL AND REVIEWER TEAM

### JOURNAL ADVISOR

Associate Professor Sr Dr Md Yusof Hamid *PMP AMP*  
(Rector, Universiti Teknologi MARA, Perak Branch, Malaysia)

### EDITOR-IN-CHIEF

Associate Professor Dr Muhamad Abdul Aziz Ab Gani  
(Universiti Teknologi MARA, Perak Branch, Malaysia)  
Ishak Ramli  
(Universiti Teknologi MARA, Perak Branch, Malaysia)

### MANAGING EDITOR

**Article Refereeing Process & Authenticity**  
Nurul Shima Taharudin  
(Universiti Teknologi MARA, Perak Branch, Malaysia)

**Record for Acquisition, Refereeing Process, & Notification**  
Haslinda Md Nazri  
(Universiti Teknologi MARA, Perak Branch, Malaysia)

### COPY EDITOR

**Format & Copyediting**  
Muhammad Redza Rosman  
(Universiti Teknologi MARA, Perak Branch, Malaysia)

**Visibility, Promotion, DOI, OJS Record, and Archiving**  
Nizar Nazrin  
(Universiti Teknologi MARA, Perak Branch, Malaysia)

### EDITOR

#### Malaysia

Professor Dr Shahanum Md Shah  
(School of Music Conservatory, College of Creative  
Arts, Universiti Teknologi MARA, MALAYSIA)

Professor Dr Shahrizan Zainal Abidin  
(School of Design, College of Creative Arts, Universiti  
Teknologi MARA, MALAYSIA)

Professor Dr Dzul Haimi Md Zain  
(School of Fine Art, College of Creative Arts,  
Universiti Teknologi MARA, MALAYSIA)

#### Bangladesh

Dr Sheikh Mehedi Hasan  
(Jatiya Kabi Kazi Nazrul Islam University, BANGLADESH)

#### Indonesia

Professor Dr Anis Sujana  
(Institut Seni Budaya Indonesia, INDONESIA)

Professor Dr Tjetjep Rohendi Rohidi  
(School of Visual Communication, Faculty of Computer Science,  
Universitas Dian Nuswantoro (UDINUS), Semarang, INDONESIA)

## TABLE OF CONTENTS

<b>EDITORIAL</b>	
Idealogy Journal Information	III
Editorial And Reviewer Board	IV
<b>Muqaddimah of Idea: The Reflection from the New Perspective</b>	V
<i>Muhamad Abdul Aziz Ab Gani, Ishak Ramli</i>	
<b>Idea of Arts and Social Science: An Introduction</b>	VI
<i>Muhamad Abdul Aziz Ab Gani, Ishak Ramli, Mohammad Hafiz Yahaya, Nurul Shima Taharuddin, Haslinda Md Nazri, Muhammad Redza Rosman, Nizar Nazrin</i>	
<b>ORIGINAL ARTICLE</b>	
<b>Personal Branding On Instagram: Visual Framing Analysis on the West Java Governor Candidates Online Campaign</b>	1-7
<i>Darfi Rizkavirwan, Edo Tirtadarma</i>	
<b>The Perception of Malaysian Youth Towards Indonesian Modest Fashion</b>	8-14
<i>Husna Saaidin, Suriati Saidan, Wan Nadhra Ixora Wan Kamarulbaharin, Shaheela Abu Bakar</i>	
<b>Designing Development for Rice Agricultural Community in Delanggu Subdistrict, Klaten Regency, Indonesia: Enhancements based on Regional Cultural and Natural Potentials Studies</b>	15-24
<i>Pandu Purwandaru, Lira Anindita Utami, Deny Ardianto, Sayid Mataram</i>	
<b>Study of Symbol for the Kasunanan Surakarta Palace through the Spradley Ethnography Approach</b>	25-30
<i>IF Bambang Sulistyono, A. Purwasito, Wardo, TS Pitana</i>	
<b>Muslimah Design Trends through the Role of Fashion Forecasting</b>	31-40
<i>Suriati Saidan, Husna Saaidin, Wan Nadhra Ixora Wan Kamarulbaharin, Norzaleha Zainun, Mohd Hafnidzam Adzmi</i>	
<b>The Development of Bacterial Cellulose Biomaterials Using the Material Design-Driven Approach for Packaging Industry</b>	41-59
<i>Fadzli Irwan Bahrudin, Liew Yong Kian, Zati Hazira Ismail</i>	
<b>An Investigation into Safe Printmaking Methods. With Etching Without Acid, for Art &amp; Design for Higher Education Institutions in Pakistan</b>	60-70
<i>Fazal Ellahi Khan &amp; Nigel Power</i>	
<b>Identifying the Teaching Aid Effect That Parents Use to Enhance Reading Skill of Their Children</b>	71-79
<i>Muhammad Syazwan bin Mohamad Sharil, Supervisor: Norhayati binti Che Daud, Dr. Haszlin binti Shahrudin</i>	
<b>A Study on Wayfinding System in National Museum Kuala Lumpur</b>	80-84
<i>Muhammad Fikri bin Saidi Othman, Nur Fatin Athirah Binti Mohd Narawai &amp; Muhammad Salehuddin Zakaria</i>	
<b>A Mediamorphosis on the Book of Yaseen</b>	85-88
<i>Zamzami Almakki</i>	
<b>REVIEW ARTICLE</b>	
<b>The Aesthetics of Contemporary Arabic Calligraphy in Duaa Alashari Painting: The Story of Love</b>	89-93
<b><i>Estetika Kaligrafi Arab Kontemporari dalam Lukisan Duaa Alashari: Kisah Cinta</i></b>	
<i>Duaa Mohammed Alashari</i>	
<b>Unravelling Discarded Second-Hand Winter Knitwear into Reusable Recycled Material</b>	94-99
<i>Wan Nadhra Ixora Binti Wan kamarulbaharin, Suriati Saidan, Husna Saaidin, Muhammad Hisyam Zakaria</i>	

## **Idea of Arts and Social Science: An Introduction**

Muhamad Abdul Aziz Ab Gani<sup>1</sup>, Ishak Ramli<sup>2</sup>, Mohammad Hafiz Yahaya<sup>3</sup>,  
Nurul Shima Taharuddin<sup>4</sup>, Haslinda Md Nazri<sup>5</sup>, Muhammad Redza Rosman<sup>6</sup>, Nizar Nazrin<sup>7</sup>  
<sup>1,2,3,4,5,6,7</sup>Universiti Teknologi MARA, Perak Branch, Seri Iskandar Campus, 32610 Seri  
Iskandar, Perak, MALAYSIA  
aziz354@uitm.edu.my<sup>1</sup>, ishak991@uitm.edu.my<sup>2</sup>, hafizyahaya@uitm.edu.my<sup>3</sup>,  
nurul026@uitm.edu.my<sup>4</sup>, hasli550@uitm.edu.my<sup>5</sup>, redza508@uitm.edu.my<sup>6</sup>,  
nizarnazrin@uitm.edu.my<sup>7</sup>

Published: 1 April 2022

We are very pleased that IDEALOGY JOURNAL is presenting its 1<sup>st</sup> issue of the 7<sup>th</sup> volume. We are also very excited that the journal has been attracting papers from a variety of advanced and emerging countries such as Indonesia, Pakistan, Saudi Arabia, Bangladesh, etc. The variety of submissions from such countries will help the aimed global initiatives of the journal.

We are also delighted that the researchers from the Arts and Social Science fields demonstrate an interest to share their research with the readers of this journal. This issue of Idealogy Journal contains 12 outstanding articles which shed light on contemporary research questions in arts and social science fields.

All the 12 papers of this issue studies the are discussing about culture, art, design, technology, creativity and art & design innovation. There is also discussion about art, design and culture in various area. In this issue, most of the articles are discussing on the topic of arts and the social science. In social science it is very important to have a combination of different discipline to ensure the survival of knowledge. By combining knowledge from different fields, it could produce new innovations that could lead to solutions to many important problems or issues. Hence Idealogy Journal is a platform for many fields of knowledge to share research findings as well as literatures.

As we were aware at the first issue, a journal needs commitment, not only from editors but also from editorial board and the contributors. Without the support of our editorial board, we would not dare to start and continue. Special thanks, also go to the contributors of the journal for their trust, patience, and timely revisions. We continue welcome article submissions in all fields of arts and social sciences.

## **Muqaddimah of Idea: The Reflection from the New Perspective**

Muhamad Abdul Aziz Ab Gani<sup>1</sup>, Ishak Ramli<sup>2</sup>

<sup>1,2</sup>Universiti Teknologi MARA, Perak Branch, Seri Iskandar Campus, 32610 Seri Iskandar,  
Perak, MALAYSIA

aziz354@uitm.edu.my<sup>1</sup>, ishak991@uitm.edu.my<sup>2</sup>

We would like to present, with great pleasure, the seventh volume of a scholarly journal of arts and social science. This journal is devoted to the gamut of arts and social science issues, from theoretical aspects to application-dependent studies and the validation of emerging technologies in arts. This journal was envisioned and founded to represent the growing needs of arts and social science as an emerging and increasingly vital field. Its mission is to become a voice of the arts and social science community, addressing researchers and practitioners in areas ranging from arts to applied arts, from design to technology in design, from humanity to social science, presenting verifiable arts methods, findings, and solutions.

Transactions on arts focuses on original high-quality research in the realm of social science in parallel and distributed environments, encompassing facilitation of the theoretical foundations and the applications of arts to massive daily life. The Journal is intended as a forum for practitioners and researchers to share arts techniques and solutions in the area, to identify new issues and to shape future directions for research. In this issue, most of the articles are discussing on the topic of arts and the social science. In social science it is very important to have a combination of different discipline to ensure the survival of knowledge. By combining knowledge from different fields, it could produce new innovation that could lead to solutions to many important problems or issues. Hence, Ideology Journal is a platform for many fields of knowledge to share research findings as well as literatures.

**Associate Professor Dr Muhamad Abdul Aziz Ab Gani**

**Ishak Ramli**

Chief Editors

Ideology Journal

idealogyjournal@gmail.com

# Personal Branding on Instagram: Visual Framing Analysis on the West Java Governor Candidates Online Campaign

\*Darfi Rizkavirwan<sup>1</sup>, Edo Tirtadarma<sup>2</sup>

<sup>1,2</sup>Visual Communication Design, Art & Design Faculty, INDONESIA

Institutional e-mail: [darfi@umn.ac.id](mailto:darfi@umn.ac.id)<sup>1</sup>, [edo.tirtadarma@umn.ac.id](mailto:edo.tirtadarma@umn.ac.id)<sup>2</sup>

Author's email: [\\*darfi@umn.ac.id](mailto:darfi@umn.ac.id)

\*Corresponding author

Received: 20 November 2021, Accepted: 25 March 2022, Published: 1 April 2022

## ABSTRACT

*In 2018, it was one of the most important years in Indonesia, all Indonesian people celebrate the moment of the election, in every aspect. They can choose Governor, Mayor, and Regent. One of the areas that participate in this moment, is West Java. This area is one of the most important and crucial in the election process because West Java has the highest votes compare to other area in Indonesia. West Java run the election for choosing the Governor position in 2018, and this become a unique point of interest because West Java has unique candidate, and becomes magnet to the people in that area that participate in the election event. One other consideration why this event becomes more interesting because west java has an important role in Indonesian Government, because this area has the largest population. Apart from political lobbying behaviour, and political interference, each Governor candidate that runs in this election event, should has a unique set of strategic communication in their goals to rise their awareness and electability in front of the west java's audience. To get a better result in electability variable, they should have a good personal branding to communicate the positive value to their supporters and the audience. According to Montoya, personal branding can set or help the audience build a perspective to someone combine with a organic storytelling and the perspective was built naturally inside the mind of the audience (2002;27). One of many ways to build perception is to framing they self with the image that they want to deliver in front of the people so they can have achieved the political campaign goals. visual framing is crucial when it comes to managing key audiences' impressions, gaining legitimacy and securing competitive positioning (Meyer et al., 2013). One of the platforms to help achieve a good visual framing is through social media, Instagram. Instagram as one of the most popular media in Indonesia, hold major key role in moulding a good perception and perspective in people's mind about each candidate in West Java Governor Election. With this framing and analysis content approach in each Instagram Visual, as the results is the themes about visual framing that want to be communicated as part of strategic communication personal branding from four candidate West Java Governor election, such as Ridwan Kamil, Sudrajat, Deddy Mizwar and Tubagus Hasanuddin*

**Keywords:** Personal Branding, Political Branding, Visual Framing



eISSN: 2550-214X © 2022. The Authors. Published for Ideology Journal by UiTM Press. This is an Open Access article distributed under the terms of the Creative Commons Attribution-NonCommercial-NoDerivatives License (<http://creativecommons.org/licenses/by-nc-nd/4.0/>), which permits non-commercial re-use, distribution, and reproduction in any medium, provided the original work is properly cited, and is not altered, transformed, or built upon in any way.

## 1. OVERVIEW

The competition map for the election of the 2018–2013 West Java Governor candidates can be said to be crucial in mapping the national and presidential elections since the West Java region is the largest voter base in Indonesia. In the 2018 election, there were four new candidates who had never served as governor. Due to the tight competition to win the hearts of potential voters, candidate branding is crucial



in addition to the presentation of information on the programs to be offered to prospective voters. Thus, the personal branding of a governor candidate needs to be communicated from the beginning so that the candidate is easily recognized, trusted, liked, and accepted by prospective voters.

In the process of building personal branding, establishing a brand identity is the initial step in packaging emotional added value offered to prospective voters. In their campaign, the four candidates, i.e., Ridwan Kamil, Deddy Mizwar, Sudrajat, and TB Hasanuddin, were competing to form their identity in the eyes of prospective voters through visual communication display, such as photos and images, in the media as part of their personal branding. Online media, especially Instagram social media, is one of the important platforms for campaign communication utilized by every candidate since this platform is accessed by the majority of voters in Indonesia aged 17-35.

## 1.1 Research Questions

From the visual posts in Instagram feeds, the emerging visual identification of each candidate can be revealed and the personal branding of each candidate is formed and perceived by voters. From the explanation above, the research questions are:

1. What brand identity that Ridwan Kamil, Deddy Mizwar, Sudrajat, and TB Hasanuddin want to convey through the visual display of Instagram feeds during the campaign period from 12 February to 24 June 2018?
2. What personal branding that Ridwan Kamil, Deddy Mizwar, Sudrajat, and TB Hasanuddin want to establish in the 2018–2023 West Java Governor election campaign?

## 1.2 Research Objectives

The research objectives to be achieved are:

1. Finding out the tendency of brand identity used and personal branding conveyed by each candidate through the visual tendency of Instagram feeds uploaded during the campaign.
2. Become a reference for further research and development of personal branding for politicians.

## 2. THEORITICAL REVIEWS

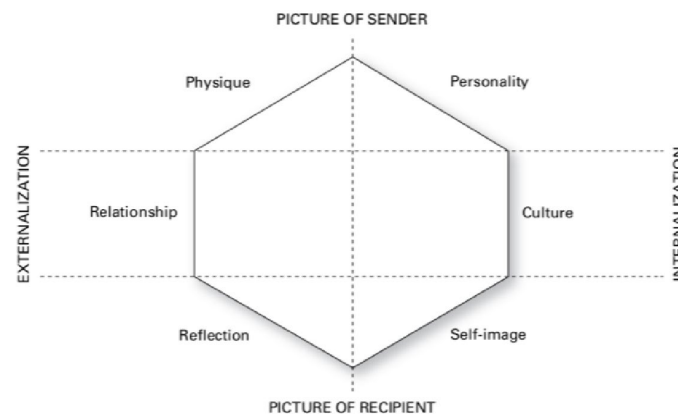
### 2.1 Personal Branding

In political campaign, establishing reputation and image through personal branding is crucial in addition to party. In the context of online media, online personal branding in politics is used to promote the qualifications and uniqueness of politicians to individual voters through social media (Kaputa, 2005). Furthermore, online personal branding can be defined as *“how someone presents oneself and how this self-representation becomes the digital footprint that characterizes that person”* (Lampel & Bhalla, 2007, p. 441). Branding activities are not only producing names, but also producing visuals through advertisements. They aim to build the presence and uniqueness of the candidates and attract customers (Aaker & Fournier, 1995; Escalas, 2004).

### 2.2 Brand Identity

Brand identity is crucial to build awareness since it creates emotional added value for public (Balmer, 2012; de Chernatony, 1999; Goodyear, 1996; Melin, 2002). A good brand identity will be able to bring out one's uniqueness and characteristics as well as distinguish him/her from other competitors (Balmer & Stotvig, 1997; de Chernatony, 1999; Kapferer, 2012; Melin, 2002). A distinct, unique and clear brand identity is the basis of all communication activities including political campaign. In elaborating the

concept of brand identity, Kapferer (2012) describes a hexagonal Brand identity Prism including six factors, namely Physique, Personality, Relationship, Culture, Reflection, and Self Image.



**Figure 1: The Brand Identity Prism**  
(Source: Kapferer, 2012)

## 2.3 Visual Framing

Visual is an effective framing tool since it is able to be captured faster than text and requires very little cognitive ability. According to Hertog and McLeod (2011), the power of visual framing has symbolic messages originating from the use of myths and metaphors that become a narrative. Additionally, these messages also carry “excess meaning” related to groups of ideas and thoughts, so they become shared meanings that can be accepted by public. Visual framing analysis was used as an operational tool for categorizing/classifying data into a brand identity framework.

## 3. METHODS

To find out the personal branding of each West Java Governor candidate through the visual display of Instagram feeds, the author conducted the research in four stages. The first stage began with collecting data from the visual display of Instagram feeds. Then, it continued with data processing in the form of categorization and mapping, followed by analysis using brand identity prism as the operational tool. Finally, it is followed by the results and conclusions related to personal branding

## 4. ANALYSIS & RESULTS

### 4.1 Ridwan Kamil, a Creative and Romantic Politician

There were 744 posts in February 12<sup>nd</sup> to June 24<sup>th</sup> period with various topics ranging from campaign activities, communication with public, visit, his passion in design, architecture and soccer, his wife, family, and his own activities as a speaker. Ridwan Kamil’s Brand Identity Prism based on the uniqueness and emotional added value of his Instagram feeds is:

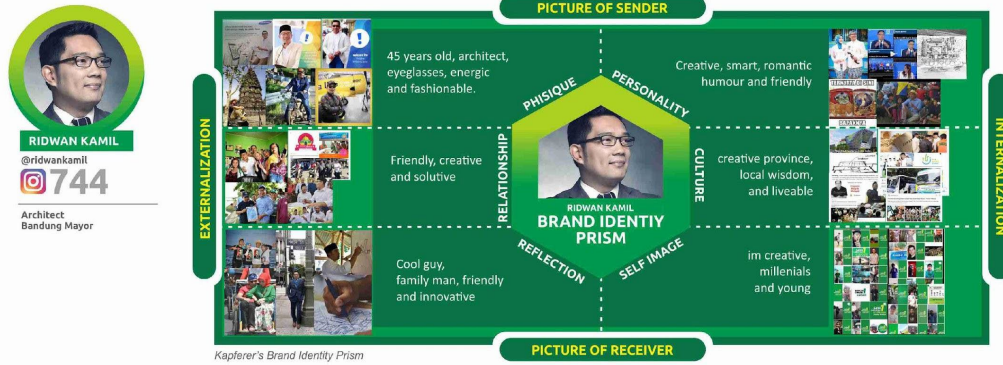


Figure 2: Ridwan Kamil Brand Identity Prism

From the Physique Aspect, Ridwan Kamil is always presented as a bespectacled, young figure; a creative worker, especially in the field of architects; an energetic person who wears casual and fashionable outfit. From the Personality Aspect, he is always presented as a creative (in posts of his design sketches), smart (in various posts of him as a speaker at prestigious activities), romantic (in various posts related to his wife’s praises or humor), humorous (in various humorous posts), and friendly (in various posts of interactions with people to self-pictures) figure. From the Relationship Aspect, he is always presented as a friendly (in posts of interactions with people), creative (in posts related to his ideas in images), and knowledgeable (in posts related to planning for solutions that have been and will be implemented) figure. From the Culture Aspect, he is always presented as a figure who is able to make West Java as a province that is creative, loyal to regional values in terms of culture and religion, and comfortable for its people. From the Reflection Aspect, based on his posts, the audiences would perceive Ridwan Kamil as a “cool” person, family man, someone who is very friendly to anyone and figure who puts innovation in his work. From the Self Image Aspect, based on his posts, the audience consider themselves as ‘present’, creative, and young supporters.

## 4.2 Deddy Mizwar, A Nationalist and Father Figure

There were 130 posts in February 12<sup>nd</sup> to June 24<sup>th</sup> period with various topics ranging from campaign activities, communication with public, visit, consolidation with community organization/community, family, and religion. Deddy Mizwar’s Brand Identity Prism based on the uniqueness and emotional added value of his Instagram feeds is:

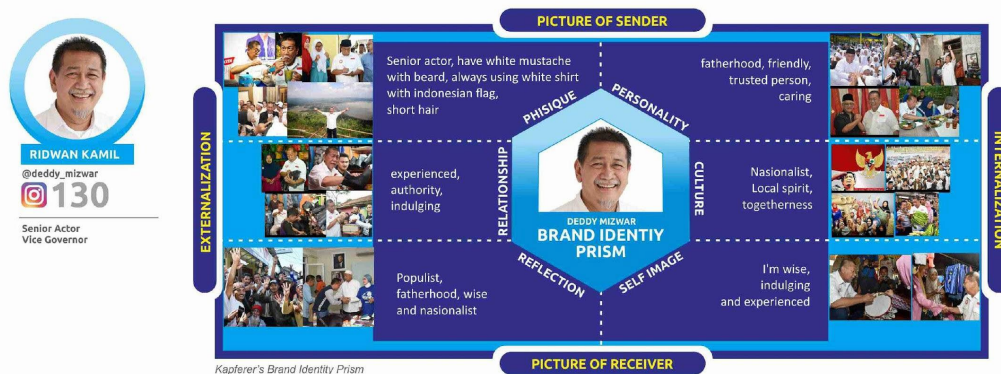


Figure 3: Deddy Mizwar Brand Identity

From the Physique Aspect, Deddy Mizwar is a senior actor in Indonesian film who is recognized by his white beard and short hair. He wears a white shirt with a red and white flag most of the time, and always smile in every campaign activity. From the Personality Aspect, Deddy Mizwar is presented as

a friendly, caring, trustworthy, and fatherly figure. This could be seen in posts showing his friendly and protective gestures when he participates in meetings and interacts with people. From the Relationship Aspect, Deddy Mizwar wants to be presented as a figure who is protective, open, and experienced in managing regional problems (in posts related to his personal interactions with people). From the Culture Aspect, Deddy Mizwar wants to be presented as a figure who makes West Java as a province holding the nationalism value based on its region and mutual cooperation (in posts with all public elements, regional community, Indonesian flag, Pancasila emblem). From the Reflection Aspect, based on his posts, the audiences would perceive Deddy Mizwar as a populist, wise, fatherly, and nationalist leader figure. From the Self Image Aspect, based on his posts, the audience consider themselves as experienced, wise, and protective supporters.

### 4.3 Sudrajat, A Loyal and Religious

There were 41 posts in February 12<sup>nd</sup> to June 24<sup>th</sup> period with various topics ranging from campaign activities, communication with public, visit, consolidation with community organization/community, and religion. Sudrajat’s Brand Identity Prism based on the uniqueness and emotional added value of his Instagram feeds was:



**Figure 4: Sudrajat Brand Identity Prism**

From the Physique Aspect, Sudrajat is a military veteran who served as a major general in the army. He always wears a rimless cap and a white safari shirt and do the bro/homie handshake. From the Personality Aspect, Sudrajat is presented as a religious (in posts of activities with Islamic figures and leaders), communicative (in posts of visit and consolidation activities), and loyal (in posts with supporting party leaders and seniors in the military) figure. From the Relationship Aspect, Sudrajat wants to be presented as an Islamic leader who embraces people from all walks of life. From the Culture Aspect, Sudrajat wants to be presented as the leader of West Java who is Islamic (in posts of religious or Islamic-related activities), caring about public elements (in posts related to Sudrajat’s interactions with people), and trustworthy (in posts of him with religious leaders). From the Reflection Aspect, based on his posts, the audiences would perceive Sudrajat as a leader who is Islamic (in posts of his visual appearance wearing a rimless cap), friendly (in posts of his interactions with people), as well as tough and loyal (in posts that show his closeness with military-based party leaders). From the Self Image Aspect, based on his posts, the audience consider themselves as supporters who are tough and care about Islamic values

### 4.4 TB. Hasanuddin, A Public Speaker and Bold Person

There were 135 posts in February 12<sup>nd</sup> to June 24<sup>th</sup> period with various topics ranging from campaign activities, party consolidation, communication with public, and public speaking activities.

TB Hasanuddin's Brand Identity Prism based on the uniqueness and emotional added value of his Instagram feeds was:

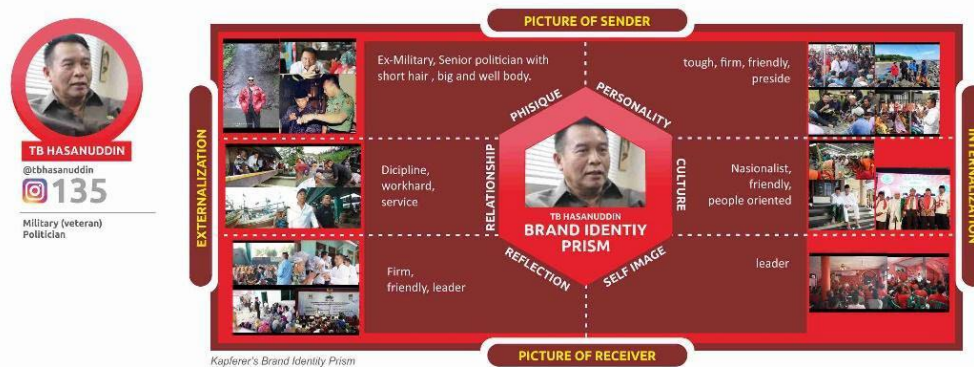


Figure 5: TB Hasanuddin Brand Identity Prism

From the Physique Aspect, similar to Sudrajat, TB Hasanuddin is also a military veteran who served as a major general in the army. He is short haired and wears a white shirt (similar to President Jokowi) most of the time. From the Personality Aspect, TB Hasanuddin is presented as a strong/resilient, leading (in posts of activities where he leads a group and interacts with people), and friendly (in posts of his interactions with people) figure. From the Relationship Aspect, TB Hasanuddin wants to be presented as a leader who is discipline, hardworking, and serving (in posts of industrial center activities and him helping people). From the Culture Aspect, TB Hasanuddin wants to be presented as a West Java leader figure who is nationalist (in posts of national activities and red and white symbol), friendly (in posts with public elements), and prioritizing public interests. From the Reflection Aspect, based on his posts, the audience would perceive TB Hasanuddin as a leader who is decisive (in posts of his appearance), friendly (in posts of his interactions with people), and voicing public interests (in posts of public speaking activities). From the Self Image Aspect, based on his posts, the audience consider themselves as supporters who are always close and voicing mutual interests.

## 5. CONCLUSION AND FINDINGS

From the explanation of brand identity prism through the visual feeds of each candidate, several conclusions related to personal branding are described below:

All candidates built similar basic images as a leader who is friendly and caring about public, as well as a figure of Muslim leader. This matter was of great concern given that public prefers a leader who is close to his people and in line with the majority religious adherents in Indonesia, which is Islam.

Each candidate has his own uniqueness on the visual posts, for example Ridwan Kamil has a very strong image as a creative, intelligent, and romantic figure. In contrast, Deddy Mizwar has a very strong image as a fatherly and nationalist figure. On the other hand, Sudrajat has a very strong image as a religious and loyal figure. On the contrary, TB Hasanuddin has a very strong image as an assertive figure and public speaker.

The West Java Governor election was won by Ridwan Kamil. In relation to the research, it could be concluded that intelligent and creative/innovative leader with a romantic harmonious family became an additional formula for strengthening personal branding besides a leader who is friendly, caring, and having Islamic values.

Candidate Sudrajat was an interesting phenomenon in relation to the research. Considering the number of Sudrajat's posts was the least compared to all candidates, he could be the runner-up in the election by strengthening religious, Islamic, and loyalty side. Apart from the strength of his solid grass

root campaign team and loyalty of his permanent voters, it is interesting to study how personal branding is related to Islamic values in further research.

## ACKNOWLEDGMENT

No acknowledgement to anyone

## FUNDING

The authors received no financial support for the research, authorship and/or publication of this article.

## AUTHOR CONTRIBUTIONS

First Author conduct a data collecting, analysis dan results. Second Author conduct data classification dan findings results.

## CONFLICT OF INTEREST

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

## REFERENCES

- Aaker, J., & Fournier, S. (1995). A brand as a character, a partner and a person: three perspectives on the question of brand personality. *NA-Advances in Consumer Research Volume 22*.
- Balmer, J. M. T., & Stotvig, S. (1997). Corporate identity and private banking: a review and case study, *International Journal of Bank Marketing*, vol. 15, no. 5, pp. 169-184
- Hertog, J. K., & McLeod, D. (2001). A multi-perspectival approach to framing analysis: A field guide. In Reese, S. D., Gandy O., & Grant, A. (Eds.), *Framing public life: Perspective on media and our understanding of the social world*. Mahwah, NJ: Lawrence Erlbaum Associates,
- Kapferer, J.N. (2012). *The New Strategic Brand Management*, Fifth Edition, London: Kogan Page
- Kaputa, C. (2005). *UR a brand! How smart people brand themselves*. California: Mountain View.
- Lampel, J., & Bhalla, A. (2007), "The Role of Status Seeking in Online Communities: Giving the Gift of Experience," *Journal of Computer-Mediated Communication*, 12, 2.
- Montoya, Peter (2002), *The Personal branding Phenomenon*, Nashville, Vaughan Printing

# The Perception of Malaysian Youth Towards Indonesian Modest Fashion

\*Husna Saaidin<sup>1</sup>, Suriati Saidan<sup>2</sup>, Wan Nadhra Ixora Wan Kamarulbaharin<sup>3</sup>, Shaheela Abu Bakar<sup>4</sup>,  
<sup>1,2,3</sup>Fashion Design Department, College of Art Studies, Universiti Teknologi MARA, Shah Alam,  
Selangor, MALAYSIA

<sup>4</sup>Kolej Komuniti Kluang, Johor, MALAYSIA

Authors' email: \*husnasaaidin@uitm.edu.my<sup>1</sup>, suria509@uitm.edu.my<sup>2</sup>,  
wannadhraixora@uitm.edu.my<sup>3</sup>, shhaheela@kkkluang.edu.my<sup>4</sup>

\*Corresponding author

Received: 20 November 2021, Accepted: 25 March 2022, Published: 1 April 2022

## ABSTRACT

*The Malaysian modest fashion industry is a lucrative product category that is worth looking out for since 61.3% of its population are Muslims. Thus, it is imperative that the preferences of the Muslims youth in fashion design are determined. This could invariably give fashion designers the direction forward in creativity and productivity. The preferences of modest fashion in this study were determined by comparing modest clothing of well-known designers from Indonesia and Malaysia. The characteristics of modest fashion designs done by selected fashion designers from both countries were observed and various main features were categorized. A quantitative method of surveys was then done to gauge the perceptions of 50 Malaysian youth towards their preferred modest fashion design by comparing the characteristics of Indonesia and Malaysian modest fashion. Further qualitative method was also done by giving the respondents an open question. It was found that the respondents preferred minimalist designs and perceived that Malaysian modest fashion designs are more sharia compliant compared to the Indonesian modest fashion design. Malaysian youth would like to see more creative and innovative designs in the future. It is recommended that Malaysian designers to use a bolder approach and more creativity in their designs. The instrument used could be enhanced by giving more clothing examples that could identify more characteristics of the modest fashion designs that meet consumers demands.*

**Keywords:** Modest fashion, Malaysian Youth, Perception



eISSN: 2550-214X © 2022. The Authors. Published for Ideology Journal by UiTM Press. This is an Open Access article distributed under the terms of the Creative Commons Attribution-NonCommercial-NoDerivatives License (<http://creativecommons.org/licenses/by-nc-nd/4.0/>), which permits non-commercial re-use, distribution, and reproduction in any medium, provided the original work is properly cited, and is not altered, transformed, or built upon in any way.

## 1. INTRODUCTION

Thomson Reuters and DinarStandard (Oxford Business Group, 2017), reported that spending on modest apparel had reached \$270bn in 2017 and estimated to reach about \$361bn by 2023. With such huge potentials, western fashion designers are scrambling to have some share of the pie. Vast demands from young tech-savvy Muslims and young professionals who are pursuing to wear fashionable clothing that follow the requirements of Islamic teachings has put Indonesia as one of the most populous Muslim country with a population of 277.5million as compared to Malaysia's population of 32.7million in 2021. To have an upper hand in terms of growth in modest fashion compared to Malaysia. There is a tendency that the Malaysian modest fashion might be influenced from the Indonesian modest fashion industry. However, not all styles from Indonesia are accepted by the Malaysian consumers or the local market as reported by McKinsey & Co. (2020). Therefore, it is important that Malaysia fashion designers be able to identify the general popular characteristics of modest fashion of both countries preferences to help Malaysian modest fashion market industry in exploring the unique and distinctive features of the Indonesia modest fashion that can be innovated and consequently identify our own Malaysian modest identity in fashion design. The aim of this research is to determine the general characteristics of Indonesia perceptions of Malaysian youth towards Indonesian modest fashion.

## 2. LITERATURE REVIEW

### 2.1 Fashion in general

Fashion is a form of expressiveness in the context of clothing, apparel, footwear, lifestyle, accessories, makeup and body posture. (Kaiser, 2019). Generally, categories of apparel can be classified into jacket, outerwear, shirt, blouse, dress, vest, sweater and cardigan, denim and jeans, pants, skirt, jumpsuit and overall, suit, sleepwear and nightwear and underwear. (Fashionary, 2016). One of the elements in fashion designing is design details such as neckline, sleeve, pocket, cuff, shirts detail, pants detail etc. (Sorger R & Udale J, 2017). According to Professor Reina Lewis of Cultural Studies at London College of Fashion mentioned that modest wear refers to a woman who dress in decent and appropriate to meet their spiritual and stylistic for reason of faith, religion, or personal preference.

### 2.2 Modest fashion

Modest clothing generally include longer sleeves and hemlines, and bottom reaching below the knees. However, in adherence to Islamic faith, modest clothing for women refers to covering the whole body with the exception of the face and hands. The clothing must also not be tight fitting and non-transparent (AlQaradawi. 1995). With more awareness in Islamic teachings, demands for modest clothing has grown substantially, particularly from younger Muslim population (Zabbeen. (2017). They no longer wear modest hijab as part of their belief but also as a fashion statement.

Indonesia is ahead of Malaysia in becoming a shopping destination for Muslim fashion as reported by Nikkei Asia (2019) which is second place after United Arab Emirates. Hues had since stated in his book titled, *Modest Street Fashion in 2014* that Indonesia is the hallmark of hijabers and they dare to wear bright colors. Malaysia on the other hand, seems to prefer a more conservative appearance in Muslimah fashion as compared to Indonesia's bold designs and creative head gears (Annisa, 2014). Based from the researchers' observation before the Movement Control Order, there are about twenty flights to Jakarta and Bandung alone departing from Kuala Lumpur daily from the three major airline companies in Malaysia. This showed that Malaysians like to do their shopping in Indonesia because of their cheaper, more varieties and quality clothes compared to other neighbouring countries. More so of the fact that Indonesia and Malaysia share common Malay language.

A study has found that, phenomena hijab in Indonesia are competitive and the member of Hijaber Community Bandung (HCB) was audacious and always applied accessories on hijab with latest model design. (Moch Fakhruroji, 2017). Meanwhile local brand in Malaysia such as Mimpikita, Anaabu and Tangsi Tujuh reinventing heritage wear by featuring casual wear yet modern. Most of the designs were clean silhouette, muted tones, minimalist in detail and design so that it can cater global consumers. (Chandran N, 2020).




## 3. RESEARCH METHOD

The research method for this study consists of two main stages. The first stage of the study involved analysing and identifying three main characteristics in terms of silhouette, colours and design details of both Malaysian and Indonesian modest fashion designs. Three modest fashion designers' collections from Malaysia and Indonesia were selected based on their popularity and social media influence. For the second stage, a quantitative research approach was used to obtain Malaysian youth preferences towards Indonesian modest fashion. To analyse these perceptions, a set of questionnaires of 26 questions of likert scale of 1 to 5 was to 50 Malaysian youths ranging from 19-39 years old. An open question was also included to obtain opinions of the comparison between Malaysian modest fashion and Indonesian modest fashion.

For the first stage, an observation was conducted to identify design characteristics of modest fashion



from Malaysia and Indonesia. Representative brands selected based on popularity in Malaysia were modest fashion Anaabu, Mimpikita, and Alia Bastaman as shown in Figure 1.

Brand		Design Characteristics	
(i)	(ii)		
		<p>Two pieces of garment. Loose cutting, button opening at shoulder line and paired with an A-line skirt.</p> <p>Two pieces of garment. Drop shoulder and tied on the waist and paired with an A-line skirt.</p> <p>Pastel to warm colour</p>	
<p>Jalanan collection 2018, Anaabu</p>			
(i)	(ii)	(iii)	
			<p>i) Two pieces of garments. Two layer of fabric on blouse with A line cutting.</p> <p>ii) Two pieces of garments. Detail on top with peplum and pocket, match with Aline skirt. Embroidered fabric.</p> <p>iii) Two pieces of garments. A-line blouse with embroidery yoke, match with A-line skirt</p> <p>Pastel colour</p>
<p>Fashionvalet “Gaya Koleksi Raya 2017”, Alia Bastaman</p>			
(i)	(ii)	(iii)	
			<p>Two pieces of garments. Ruffles on sleeve with printed skirt</p> <p>Two pieces of garments. Ruffles on skirt Geometric Printed.</p> <p>Two pieces of garments. Fish tailed blouse and gather at wrist with Mermaid skirt</p> <p>Geometric Printed and pastel colour</p>
<p>Raya Collection 2017, Mimpi Kita</p>			

**Figure 1:** Evaluating Malaysia’s modest fashion brand in 2017 and 2018

Selected brand from Indonesia were modest fashion from Ria Marinda, Jenahara, and Dian Pelangi. Design characteristics were evaluated based on their collection in 2018 as shown in Figure 2.

Brand			Design characteristics
(i)	(ii)	(iii)	<p>Two pieces of garment (top and bottom). Two layers transparent fabric for top with embellishment, tied on the waistline and match with palazzo pants Three pieces of garments and match with square head scarf. Drop and gathers at shoulder paired with long sleeve inner underneath, straight cut pants, and layered with asymmetrical. Two pieces of garment  Colour pastel</p>
 <p>Ria Marinda, Jakarta Fashion Week 2018</p>			
(i)	(ii)	<p>Two piece of garment, a basic shirt with bishop sleeve and paired with palazzo pants.  Two piece of garment, outer wear of wrap coat with flap pocket on the front, paired with printed tapered skirt with gathers on the right.</p>	
 <p>Jenahara Collection, Jakarta Fashion Week 2018</p>			
(i)	(ii)	<p>wo pieces of top and paired with pants. Asymmetrical design, tied on the waistline and paired with inner underneath.  Three-piece garments, outer jacket was printed in chevron motif and tied on waistline, a piece of long sleeve blouse with detail on chest, paired with straight cut pants that have multiple piece layer on the right.  Vibrant colours, printed and bold design</p>	
 <p>Dian Pelangi, Jakarta Fashion Week 2018</p>			

**Figure 2:** Evaluating Indonesia modest fashion brand during Jakarta Fashion Week 2018.

## 4. RESULT

The analysis of the three selected Malaysian modest fashion brands in Figure 1 shows that silhouette and design characteristics were generally two pieces garment with A-line silhouette, loose cutting and minimalist. While the Indonesian counterparts for modest fashion in Figure 2 showed that there were two pieces or three pieces of garment. The detailing on each outfit, generally were layered with different weight of fabrics or gathers on sleeves. The colour selections were a mixed of earthy colours, greyish and vibrant colours. These are summarized as in Table 1.

**Table 1: Summary of Characteristics of Malaysian and Indonesian Modest Fashion Designs**

	<b>Characteristics of Malaysian Modest Fashion Designs</b>	<b>Characteristics of Indonesian Modest Fashion Designs</b>
Silhouette	A-line, Straight columns	A-line, asymmetrical designs
Items	2 pieces item	2 pieces or 3 pieces item
Detailing	Minimalist, frills on sleeve	Ties on waistline, flap pockets, layers of different weight fabrics, gathers on sleeve, bishop sleeve
Colours	Pastel, earth colours	Pastel, earthy colours, vibrant

Data collected from the questionnaires were analysed and the mean value for each item that measures the Malaysian youth preferences towards Indonesian modest clothing were determined. The average mean for Malaysian youths towards Indonesian modest fashion is 3.06. This shows that generally, the Malaysian youths do have some interest in Indonesian modest clothing. The respondents do agree that Indonesian modest fashion has many designs options with a mean of 3.45, easy to mix and match at a mean of 3.38 followed by trend setter at a mean of 3.36 and bold colours at mean of 3.04. However, indication in purchasing interest of Indonesia modest fashion had a low mean at 2.77. The Malaysian youths do not really follow Indonesian modest fashion trend at a mean of 2.85. The table also shows that the lowest mean at 2.49 tends to indicate that Malaysian youths do not generally buy online from Indonesia. This may be due to buying online would be difficult as more cost will incur and returning or changing purchased good would not be economical.

**Table 2: Means of items measuring Malaysian Youth Preferences towards Indonesian Modest Fashion Designs**

	<b>Suit my taste</b>	<b>Purchased Indonesia modest fashion</b>	<b>Buy online</b>	<b>Bold colour</b>	<b>Price range affordable</b>	<b>Easy to Mix &amp; Match</b>	<b>Many design options</b>	<b>Trend setter</b>	<b>Follow Indonesia modest fashion</b>
<b>Mean</b>	3.02	2.77	2.49	3.04	3.21	3.38	3.45	3.36	2.85
Average mean = 3.06									

An open question was also given to seek the opinion of the respondents in comparing the Malaysian modest fashion with the Indonesian counterpart. Only 49% of them answered the open question. 43% of these respondents gave positive description about Malaysian fashion design with 21% of the respondents preferred Malaysian fashion designs which they described as more minimalist, more elegant, trendy, more beautiful as compared to Indonesian modest design. is more elegant, trendy, more beautiful and comfortable as compared to Indonesian modest fashion design. It is worth to note that 9% of the respondents feel that Malaysian modest designs are more shariah compliant compared to the Indonesians. Thus, this may explain why they preferred a more minimalist approach as not to attract too much attention.

A respondent wrote, “*Malaysian modest fashion is more beautiful, comfort and elegant compared to the Indonesian. The colour and design is more excellent and nicer to wear too*”. However, 21% of the respondents described that Malaysian modest fashion need enhancement, should be bolder, more creative, and more innovative. They of the opinion that Malaysian designers prefer to play safe thus the

Malaysian modest designs seem not to have any identity as compared to their Indonesian counterparts. One of the respondents pointed out that Malaysian modest fashion tends to follow the Middle East fashion designs and tailor made it according to Malaysian demand. They stated that in general Malaysian modest fashion designs are boring whereby the general publics do not have much choice to choose from. Two respondents believed there is no difference between Malaysian and Indonesian modest fashion designs. While one respondent commented that Indonesian fashion designs has more creative designs as compared to Malaysians.

## 5. CONCLUSION

This study showed that Malaysian youth perceived that Indonesian modest fashion have variations and more choices in design. They also slightly agree that Indonesian modest fashion designs use more combination of bold colours, more detailing, and cheaper compared to Malaysian modest fashion designs. Nevertheless, Malaysian youth preferred minimalist and conservative look so as not to attract too much attention. The Malaysian modest identity seems to have simple design, subtle colours, and comfortable wear in accordance with Islamic faith. The results of this study also revealed that most of the participants preferred Malaysian modest fashion rather than Indonesia modest fashion. This conclude that both countries have their own distinct narratives in terms of modest clothing fashion trend.

## REFERENCES

- Al-Qaradawi, Y. (1995). *The lawful and the prohibited in Islam (al-halal wal-haram fil Islam)*. Translators Kamal El-Helbawy, M. Moinuddin Siddiqui, Syed Shukry. Kuwait: AlFaisal Press
- Annisa R Beta (2014). *Hijabers: How Young Urban Muslim Women Redefine themselves in Indonesia*. The International Communication Gazette 2014. Vol 76(4-5) 377-389.
- Azalea Azuar (2021, January 18). *Finally! An (affordable) platform for hijabista*.
- Bim Adewumni (2011, Jun 16). *Faith-based fashion takes offline*. *The Guardian.com*. Retrieved from
- Chandran N (2020, March 27). In Malaysia, Heritage Wear goes minimalist and modern. *Vogue Business* <https://www.voguebusiness.com/fashion/malaysia-heritage-wear-goes-minimalist-and-modern>
- Fashionary (2016). *Fashionpedia: The Visual Dictionary of Fashion Design*. Fashionary International Ltd. Hong Kong
- <https://themalaysianreserve.com/2021/01/18/finally-an-affordable-platform-for-hijabistas/>
- <https://www.institutohalal.com/state-of-global-islamic-economy-report-2020-2021/>
- <https://www.theguardian.com/lifeandstyle/2011/jun/16/faith-based-fashion-online>
- Instituto Halal (NA) *State of Global Islamic Economy Report 2020/2021*
- International appeal of Indonesia modest fashion. Oxford Business Group(2020). <https://oxfordbusinessgroup.com/analysis/red-carpet-treatment-popularity-modest-fashion-growing-attracting-attention-top-international-brands>
- Josa Lukman (2020, February 2021). *Muffest: Indonesia's Modest Fashion On The Rise*. *The Jakarta Post*. <https://www.thejakartapost.com/life/2020/02/07/muffest-indonesias-modest-fashion-on-the-rise.html>
- Kaiser, Susan B. (2019). *Fashion And Cultural Studies*. Bloomsbury Visual Arts.
- Moch Fakhruroji (2017). *Religiously Fashionable: Constructing Identity of Urban Muslimah in Indonesia*. *Jurnal Komunikasi. Malaysian Journal of Communication*. Jilid33(1) 2017: 199-211.
- Mualia E (2019, July 17). *Indonesia Seeks Lead In Global Modest-Fashion Industry*. *Nikkei Asia Grp* Retrieved from <https://asia.nikkei.com/Spotlight/The-Big-Story/Indonesia-seeks-lead-in-global-modest-fashion-industry>
- Sorger R et Udale J (2017) *The Fundamental of Fashion Design*. Bloomsbury Publishing.
- The Jakarta Post (2019, September 28) , <https://www.thejakartapost.com/news/2019/09/28/indonesia-aims-be-global-hub-modest-fashion.html>
- Wendy Ma (2020, July 20). *The Malaysian Apparel and Accessories' Market: Key Trend*. *The Hong Kong Trade Development Council*. <https://research.hktdc.com/en/article/NDg5MTUxMDUz>

Yasmin Khatun Dewan (2021, March 14) *The Pressure to Appear Normal: The Crisis in Modest fashion*  
<https://www.theguardian.com/fashion/2021/mar/04/the-pressure-is-to-appear-normal-the-crisis-in-modest-fashion>

# Designing Development for Rice Agricultural Community in Delanggu Subdistrict, Klaten Regency, Indonesia: Enhancements based on Regional Cultural and Natural Potentials Studies

\*Pandu Purwandaru<sup>1</sup>, Lira Anindita Utami<sup>2</sup>, Deny Ardianto<sup>3</sup>, Sayid Mataram<sup>4</sup>  
<sup>1,2,3,4</sup>Faculty of Art and Design, Universitas Sebelas Maret, Indonesia

Institutional e-mail: \*pandupurwandaru@staff.uns.ac.id<sup>1</sup>, lyra.utami@staff.uns.ac.id<sup>2</sup>,  
denytri@staff.uns.ac.id<sup>3</sup>, sayidmataram@staff.uns.ac.id<sup>4</sup>

\*Corresponding author

Received: 20 November 2021, Accepted: 25 March 2022, Published: 1 April 2022

## ABSTRACT

*Delanggu district area has many rice-cultural potentials that can be developed. Having emerged from a traditional farming culture, some of these agricultural potentials include farming rituals, festivals, and planting methods, as well as the local rice variety of Rojolele Delanggu. Although traditionally present in the everyday life of the community, they are yet to be considered as real regional potentials. Consequently, they have not been utilized as significant elements for community building. Thus, with designers involved as facilitators, several projects have been carried out in collaboration with the farming community to re-recognize and encourage the revival of this particular living culture centered around traditional farming activity. The main activities include (1) mapping of treasure-and-stakeholders, (2) formulating ideas and making project priority scales, and (3) implementation of local-guest participatory activities. In this project, the main activities relate to re-introducing traditional agriculture, replanting Rojolele rice, and developing straw crafts.*

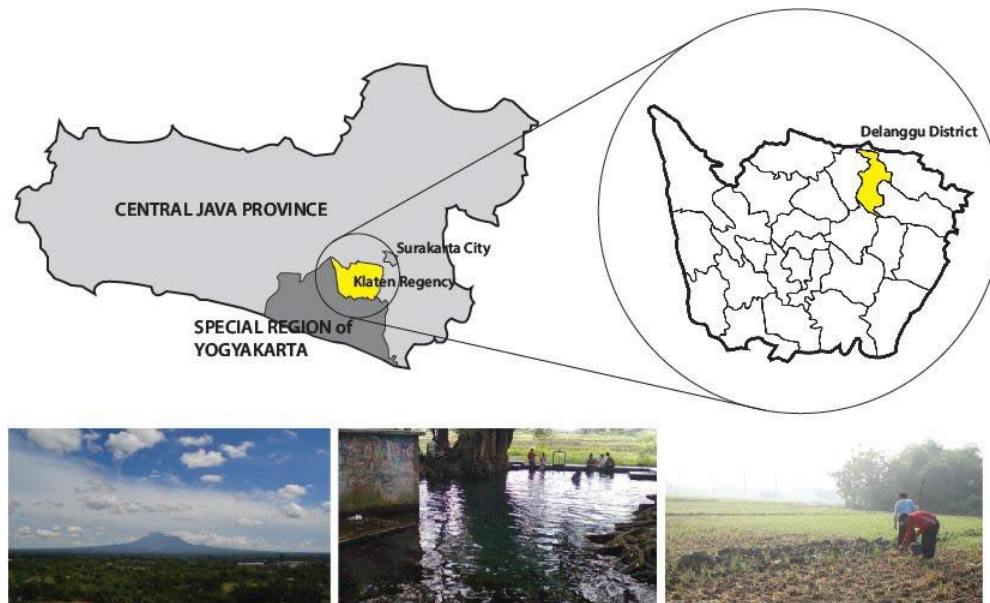
**Keywords:** design culture, design-participatory learning, village community-building, regional development, straw knowledge



eISSN: 2550-214X © 2022. The Authors. Published for Idealogy Journal by UiTM Press. This is an Open Access article distributed under the terms of the Creative Commons Attribution-NonCommercial-NoDerivatives License (<http://creativecommons.org/licenses/by-nc-nd/4.0/>), which permits non-commercial re-use, distribution, and reproduction in any medium, provided the original work is properly cited, and is not altered, transformed, or built upon in any way.

## 1. INTRODUCTION

In Indonesia, the Delanggu district is the most prominent agricultural region. Historically, the region produced the best rice and established its relationship with the Surakarta royal family through rice distribution. Geographically, the quality of rice produce is supported by its location, accessing the Cokro springs whose waters are fed by the nutrient-rich soil of Mount Merapi. In terms of rice variety, Delanggu had traditionally planted a local strain of Rojolele, well-suited with its geo-nutrients. It also influenced healthy farming, earning widespread local praise as the most delicious rice that enhances the taste of any side dish, as opposed to the current cultural mindset that emphasizes how ‘the good taste of side dishes will complement the taste of rice’. Since the government-supported Green Revolution in 1968, this traditional farming method has been forced to change to a modern one. Communal values and activities built around traditional spirituality, mythology, circular economic accessibility, thoughtful natural resource utility as well as societal education are gradually diminished and shifted to commodification processes focused only on the capacity to generate money. This has changed an agricultural society focused on kinship and general welfare to a capitalistic society with an industry-like managerial system as well as relationships of bosses and subordinates.



**Figure 1:** Delanggu District location and geographical supports  
(Source: Pandu, 2021, Copyright Consent: Permissible to Publish)

The traditional farming process of a pure Rojolele rice strain (Rojolele Delanggu) has lost its charm when compared with fast capital generation promised by modern farming technology. Since the start-to-finish process of traditional farming requires manual and communal approaches, the period required to yield one harvest usually takes five to six months. Traditional farming also involves ritual stages at the prior to, and at the beginning of, harvest, as well as soil-resting stages maintained between the community and nature as well as a level of knowledge acquisition concerning the natural nutrient cycle within the ecosystem. Meanwhile, modern farming uses machines and fast-growing rice strains, usually harvested at three to four months and wherein any associated rituals are completely torn from the system. This eliminates an entire cultural, ecological pattern and associated values embodied in farming rituals, festivals and the local farming method, while gearing the community to adopt a market system centered around profit and labor efficiency. Thus, modern farming generalizes agricultural work throughout Indonesia, which means that it homogenizes the cultural diversity between agricultural regions.

Another problem faced by the rice farming community in Delanggu is the reduced area of agricultural lands. According to the Central Bureau of Statistics, Delanggu is one of three sub-districts that experienced significant portion of agricultural land conversion. From 2004 to 2014, Delanggu district experienced a 2.39% land conversion of the total area dedicated for rice farming, which is 1,568 hectares. The converted lands were to become residential areas, commercial buildings, orchards, and vacant lands. To combat this problem, Delanggu could actually have a certain attractiveness in terms of rice farming culture. Based on its strategic location, flanked by the special region of Yogyakarta and Surakarta City, Delanggu has the potential to become a bountiful area endogenously rich in traditional culture, arts and crafts and thereby, eco-tourism. Simultaneously, to sustain their own circular economy, local communities need to be encouraged to become the "main actors" in any development process carried out within their living area. Therefore, with this research, we created an initial project to raise community and public awareness at large towards accepting Delanggu farming culture as a local treasure with the possibility of re-implementing traditional farming methods to revive environmental awareness.

## 1.1 Literature Reviews

In developing rural areas, there must be an understanding of the totality of life within which a human being aspires to exist, act and achieve. Inspired by the simplicity of Japanese rural life and traditions, the technology and practices for this project were developed from an awareness in which the environmental elements and approaches to livelihood should form an ecosystem. One in which the capacity of being a human as tool-user and object-maker is polished and improved to sustain the welfare of all beings. This understanding, known as "*Jinshin no Hana* (人心の華)" or "Flowering of the Total Person", was a design principle and method for regional development advocated by Professor Kiyoshi Miyazaki, and is currently practiced in various design activities of Chiba University's Design Culture Unit. Several community development projects in Japan by the Design Culture Unit have implemented this approach include participatory design through various event creations at the Komatsuji temple in the southern part of Chiba peninsula, the development of the agricultural community in Chiba prefecture Narukitamura region, the initiation of a 'straw community' in Aomori prefecture Inagaki village, and the revitalization of the Bamboo basket-making culture in Chiba prefecture, Isumi city, among others.

In a paper published by Professor Naoto Suzuki and Professor Kiyoshi Miyazaki entitled "Flowering of the Total Person" (2008), it is explained that this approach is developed as a way of designing living wherein the target of the design process is the "living" community. That is, the design output should focus on living enhancements that are to be based on local wisdom that traditional ways of living have generated organically. This paper also explains that to achieve this level of endogenous development, a valid approach is to encourage local communities to actively participate by positioning designers as part of the community. The ultimate goal of this approach is to form a community whose social climate, practices and activities are created to support the sustainability of economic activity, social acceptability, and environmental soundness. In terms of implementing the approach described above, a journal written by Professor Naoto Suzuki entitled "Becoming a Hometown Designer" (2010) explains that the 'tools' used in the approach are none other than mindful observation techniques and design process incorporating Participatory Learning and Action (PLA) from both designers and the local community as an all-hands-on-deck approach. This design principle and associated 'tools' have therefore become the basis for developing research and practices in the Delanggu district rice farming community.

## 1.2 Problem Statements

As a case study for the development of a rice farming community, Sabrang Village of Delanggu District has yet to create clear activities in terms of agricultural development. At the central organizing body in terms of farming activities, the Sedyo Makmur Farmers Association, none of the improvements are facilitated to secure even the quality and productivity of rice plants. As a result, no farming activities are run consistently with local customs and the community only relies on government agriculture services for activities that are often not in accordance with the needs of the local community. Therefore, most of these activities do not provide any sustainable impact. The local rice variety of Rojolele Delanggu, which is the natural potential of the area, have also not been planted for 30 years. Therefore, the rice produced has no taste character that differentiates it from those grown in other regions. Ironically, the name of Rojolele Delanggu, was made into a branding stamped on rice sacks with the aim of market segmentation even though the content is not that type of rice. Various traditional activities that are in nature formed as a way to appreciate and celebrate agricultural activities have not been practiced for twenty-five years, and thus no agricultural-based social platforms exist to promote community cooperation and comradeship (*gotong royong*) like traditional farmers have done for generations. The current young generation does not continue rice farming activities and mostly prefers to work as factory workers. Thus, in terms of what kind of activities are to be initiated and socialized, the most important step is to get all involved parties to know the "treasures" around them and to understand the various opportunities they offer.



## 2. METHODOLOGY

From the literature study discussed earlier, the implementation of this project incorporated techniques within the Participatory Learning and Action method. In the process of data collection and idea formulation, certain activities were carried out by encouraging local communities to be vocal and actively provide their opinions. In the initial stage, we used a technique called "treasures" mapping, done by walking around the area, and mapped the natural, ecological and cultural potentials of the Sabrang Village to determine which potential stakeholders would become "main actors" in the activities to be developed. The next stage was to discuss potential activities followed by the pairwise-ranking analysis to find out what activities are to be prioritized. The consideration for determining the ranking was carried out with an agreement on the aspects of ideation results, pandemic conditions, human resources, and financial support.

## 3. RESULTS OF ANALYSIS

There are three main activities implemented in this design of agricultural community development, including treasures mapping, idea formulation and pairwise-ranking, and implementation with detailed explanations as follows:

### 3.1 Treasures Mapping

The initial process was carried out by directly communicating with the elements of local stakeholders consisting of farmers, local educational institutions, communities, and the government. Discussions were held informally by representatives of the design team in order to provide a comfortable space where locals could express their opinions in a relaxed atmosphere. Because of the pandemic, the meeting was held by a facilitator representative, the team leader of this study. From the discussion, several mapping works were identified from Sabrang Village such as the potentials of traditional farming previously practiced in the village and others coming from revitalized farming activities.

#### 3.1.1 Potentials of traditional farming practice

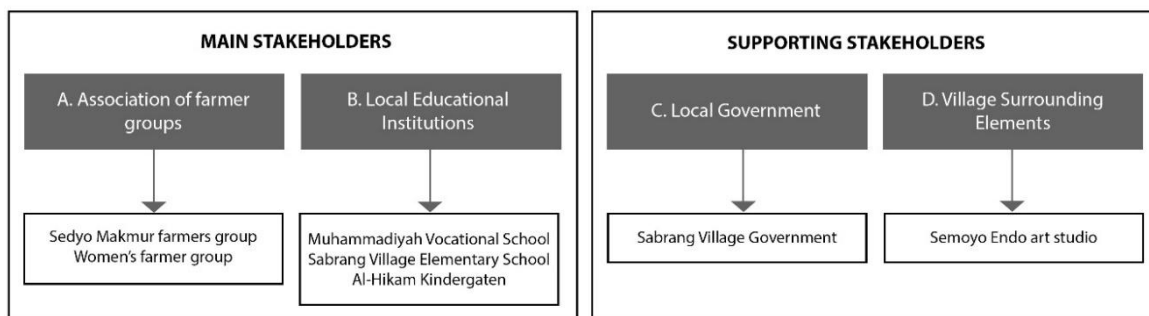
In terms of agriculture, traditional farming practice can be understood from traditional methods of farming and how these are seen as a way for people to understand the connection that they have with surrounding natural environments and the natural nutrient cycle it contains. This is a way to fit their living activities into the already established natural ecosystem so as to engage and form symbiotic relationship with other beings, as well as form a man-made landscape that blends well with nature. Methods such as backward-planting, soil-resting, observing rice plants from huts and using ropes to repel birds were invented and practiced because the previous mindset considered birds to be a part of the natural balance and need not be killed. A traditional harvesting technique done communally used a cutting tool called *ani-ani*, a type of small knife (usually well-hidden in the palms when used), to only cut the ripe rice stalks. This way, the unripe stalks could be left to ripen for a later harvest. This meticulous and time-consuming harvest actually shows the care farmers have for rice since in traditional belief, the rice plant is the embodiment of the rice goddess, hence it needs to be treated with respect and gentleness. This technique also yields longer straw and is thought to protect the straw from becoming brittle, whereas uses of a sickle that roughly chops the whole plant reduces the moisture and causes the straw to be brittle. Furthermore, traditional harvesting can only be done by women because traditional beliefs regard the rice plant as a woman and since this plant is pregnant with rice, harvesting women act as midwives who gently help them to 'deliver'.

The practice of appreciation and celebration permeated traditional farming culture in the form of several ritual activities that were also recorded in treasures-mapping. These included ritual performances during the planting period by placing bananas and other 'uborampe' elements (ritual requirements) in the irrigation stream, ritual performance on the day before harvest called 'Wiwitan' as a form of gratitude and a request for permission to Dewi Sri (Goddess of Rice plant), and 'Slametan',

which is performance of cooking and eating with farmers for the success of the harvest, as well as playing Gejok Lesung (mortar) while pounding rice grain which is usually done by hitting wooden sticks or pestles in a ship-shaped mortar.

### 3.1.2 Potentials of revitalized farming activities

What has been lost in Delanggu is the *Rojolele Delanggu Murni*, the local pure rice strain—the natural potential of Delanggu that tied the community to the ecosystem and to royal commissions, and is currently being "missed" by farmers in Sabrang Village because of the long history and stories connecting this local variety with the agricultural community in Delanggu. From the revitalized farming activities, straw becomes the agricultural potential which is not fully utilized. Until now straw is still considered as waste and is sold at a very cheap price (100, 000 Rupiahs per rice field or about 7 U.S. dollars at the time of writing) or is burned post-harvest.



**Figure 2:** Stakeholders mapping for rice agricultural community development project (Source: Pandu, 2021, Copyright Consent: Permissible to Publish)

In terms of the formal education facility in Sabrang Village, there are three schools with different levels of education including the vocational school. the SMK Muhammadiyah Delanggu (senior vocational school), SDN Sabrang (primary school), and TK Al-Hikam (kindergarten). Until now, these educational institutions run a formal curriculum provided by the central government and do not yet have a program that increases students' sensitivity to local potentials. Therefore, no connection is formed between internal stakeholders such as Gapoktan and educational institutions. As a supporting stakeholder element, the village government, represented by the *kelurahan* (urban village) has a role in providing facilities for carrying out activities as well as the legality of activities in the form of permits. Another supporting element is the Sedyo Makmur Art Studio from Gatak Village which is located right next to Sabrang Village. The studio has art activities in the fields of dance and fine arts that incorporate local-traditional themes. The studio is active in providing entertainment and communal activities in several other village communities of the Klaten Regency.

## 3.2 Idea Formulation and Pairwise Ranking

Community development activities are carried out by providing suggestions for activities related to the theme of traditional farming practice and revitalized farming activities by making relevant stakeholders as the implementers. In relation to traditional farming practice, the proposed ideas are more about how to re-elevate abandoned traditions and reintroduce them to society. The proposed activities include (1) re-organizing the pre-harvest ritual performance of Wiwitan, which used to be an icon of local community festivals for celebrating the harvest, (2) organizing traditional harvesting technique using the *ani-ani* knife, (3) organizing post-harvest communal Slametan performance with farmer associations, (4) re-making some of the agricultural artifacts, (5) traditional art performance to celebrate farming with Gejok Lesung, (6) dance activities by students of Muhammadiyah Delanggu Vocational School, (7) other agricultural workshops with students in Delanggu schools.

Meanwhile, related to revitalized farming activities, potentials are to be discovered from the proposed activities related to planting crops, as well as the utilization of local possibilities which has

not been explored at this time. The details of the activities discussed included (1) replanting pure strain of Rojolele Delanggu rice, (2) developing handicrafts made of rice straw, (3) improving the natural environment for agricultural activities, (4) organizing a bazaar for agricultural produce and products. From the proposed ideas, the next stage was discussing which ideas are prioritized to be organized through the pairwise ranking method. In addition to consideration of interesting ideas related to farming culture and revitalized agricultural potential, the team also considered how to organize it during the pandemic. The process was concluded in eight activities that were to be performed. Some of the activities were not held due to pandemic constraints, especially for school students who were still not allowed to participate in communal activities.

	A	B	C	D	E	F	G	H	I	J	K	Total	Rank
A	-	1	1	1	1	1	1	0	1	1	1	9	2
B	0	-	1	0	1	1	1	0	0	1	1	6	4
C	0	0	-	1	1	1	1	0	0	1	1	6	5
D	0	1	0	-	0	1	1	0	0	0	0	3	8
E	0	0	0	1	-	1	1	0	0	0	1	4	7
F	0	0	0	0	0	-	0	0	0	0	0	0	11
G	0	0	0	0	0	1	-	0	0	0	1	2	9
H	1	1	1	1	1	1	1	-	1	1	1	10	1
I	0	1	1	1	1	1	1	0	-	1	1	8	3
J	0	0	0	1	1	1	1	0	0	-	1	5	6
K	0	0	0	1	0	1	0	0	0	0	-	2	10

ACTIVITIES	
A: Wiwitan pre-harvest ritual	F: Muhammadiyah Delanggu Vocational School traditional dance
B: Ngani-ani traditional harvest	G: Farming workshop with students
C: Slametan celebration performance	H: re-planting pure strain of Rojolele Delanggu rice
D: Re-making farming traditional artifacts	I: Developing rice straw handicrafts
E: Gejok lesung pounding rice performance	J: improving the natural environment
	K: organizing a bazaar for agricultural products

**Figure 3:** Pairwise ranking screening ideas of project implementation  
(Source: Pandu, 2021, Copyright Consent: Permissible to Publish)

### 3.3 Project Implementation

The activity was carried out with the aim of practicing and conserving traditional farming culture, developing high quality rice farming, straw-yielding and crafts from straw as the main material. In its implementation, activities have been carried out since August 2020, following the time of the rice harvest. The beginning of the activity started with rebuilding the straw and bamboo hut, and traditional bird repellent. This activity aimed to rebuild posts that are used by farmers to rest, discuss, and protect rice fields from avian disturbances. The next activity was during the pre-harvest time, where Wiwitan ritual was re-incorporated as an appreciative act for blessings, attended, on a limited basis, by members of farmer associations and children in the village. This ritual is making a come-back and may be considered as part of the communal identity of Sabrang village. When actually performed in August 2020, it has regenerated various values, such as mutual cooperation, by collectively preparing for festival activities, showing respect for nature in the form of "asking permission" from the rice before harvesting the next day, reintroducing values related to communal celebration by the act of eating together, and creating educational value by bringing young people to experience the entire traditional farming-related act of appreciation. Farming activities were continued with rice harvesting using the *ani-ani* knife which was collectively performed by members of the Women Farmers Association. This activity was then continued with Slametan festival as a celebratory follow-up and offering of gratitude for the success of their rice harvest. As a continuation of these celebratory acts, a Lesung Jumengglung rice-pounding performance was conducted by the arts group Sanggar Seni Semoyo Endo, traditionally performed by farmers in the past to rhythmically create sounds from pounding the rice grain inside a ship-like container while singing, producing a meditative yet energizing experience.

Related to the development of local agricultural potential by revitalizing farming activities, several programs were carried out one after another. First was the replanting of the *Rojolele Delanggu Murni* pure rice strain in the sample area of rice fields by farmer groups. Ironically, these seeds were not found at all in the area of Delanggu District, but with the support of Indonesian Center for Rice Research, these precious seeds could be obtained and used. The next activity was the development of handicrafts from straw carried out by the mothers from Women Farmers Association. The craft products are developed for everyday household needs such as placemats, brushes, and soap made from burnt dried straw (*merang*). In straw craft-making activity, 'Ecofish'-making workshop was also held with the United Farmers Association where fish-shaped objects were made and placed in various water channels to filter the dirt before water enters the rice field area. This activity was directly supported by Ecofish designer Kimihide Nagase of the Inagaki Straw community, Aomori, Japan. As a creative and educative activity especially organized with and for the children in Sabrang Village, natural materials such as straw and bamboo were made into toys and used in various interactive games, such as throwing straw-rings at poles, straw-buffalo racing competitions, playing and exploring with pottery waste, and twirling bamboo rings. To stimulate an awareness of agricultural potential, the children of Al-Hikam Delanggu Kindergarten were also encouraged to make sketches and drawings with themes of rice fields which were later collected to draw inspiration for making a mural in the Sabrang village area.



**Figure 4:** Re-planting Rojolele local rice, artifacts reconstruction, wiwitan ritual, ngani-ani harvest, and gejok lesung performance, (A to E).

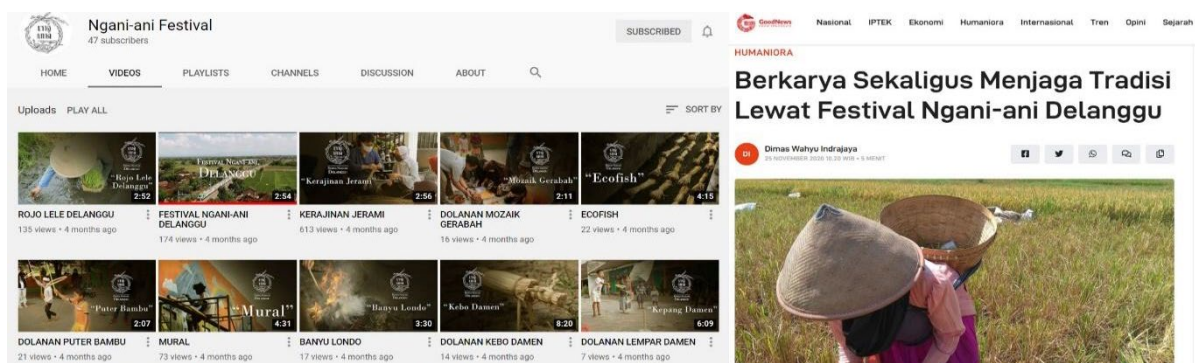
Slametan celebration, rice straw craft development, ecofish, rice straw games, and mural (F to J)

(Source: Pandu, 2021, Copyright Consent: Permissible to Publish)

## 4. DISCUSSION

Based on several discussions with farmers' groups, the development activity was named 'Ngani-ani' festival 2020 which means harvesting rice with ani-ani (small cutting tools with handle made from bamboo and small knife). It became a forum that take inspirations from traditional harvesting activity as respect for rice plants. The implementation of community development activities was carried out during a pandemic, and therefore strict health protocols and restrictions were placed on communal activities. However, for the dissemination stage of introducing these activities to the community, each event was documented where the works were assisted and edited by a team of students from Faculty of Fine Art and Design Universitas Sebelas Maret (FSRD UNS), and published in social media such as YouTube, in which the people of Sabrang village are already familiar with the operation. Currently, almost 100% of the people use smartphones and are accustomed to accessing social media, especially YouTube and Instagram. In the process of disseminating information, word-of-mouth is strongly practiced by anyone in the village, which was helpful for sharing activities with neighbours. One vacant spot in front of the village was also painted with murals to inform the wider community of these activities. Through 'Goodnews from Indonesia', a popular mass media platform that shares positive events throughout the nation, information related to this agricultural potential development of Sabrang Village could be shared with a wider national audience. The hope is to inspire others outside the village to find out about these activities as well as open up for tourism opportunities after the pandemic is over.

In implementing these activities, there were four aspects produced that have the potential to be explored and developed in the future, including local entertainment aspects, economic aspects, social aspects, and environmental aspects. In terms of local entertainment, it is provided from the cultural potential of traditional rice farming activities which incorporate communal celebrations. In fact, this is what distinguishes one agricultural area from another. This particular diversity becomes a special attraction and could be enhanced to attract visitors. In terms of economic potential, through the planting of local rice variety of *Rojolele Delanggu Murni*, the Sabrang village will have the full potential of premium rice production with historical knowledge and local stories to share. Authentic endogenous branding could provide more ways to generate a circular economy and healthier food culture within the community compared to superior rice varieties, in general. The development of handicrafts made from rice straw has the potential to provide another form of income generation, especially from the empowered female farming community, which in their spare time makes creative products to provide additional income for the family. For environmental soundness, several activities such as making Ecofish water filters and also workshops on making natural washing soap from rice straw were accepted as positive change made to improve the health of natural environment, and have re-acquainted the farmers with the natural nutrient cycle. This activity has the potential to be made into collaborative programs with educational institutions in introducing the use of straw and practicing experiential learning programs in Sabrang Village. In the context of social acceptability, various activities were carried out mutually and self-motivated by each stakeholder for optimal implementation because they considered the success of these activities to be their success as well.



**Figure 5:** Project documentation on Youtube and Indonesia's popular news media  
(Source: Pandu, 2021, Copyright Consent: Permissible to Publish)

## **5. CONCLUSION**

Designing development by incorporating local people to become "main actors" raised a sense of ownership in each of the program being carried. Thus, a sense of responsibility for the success of these activities was cultivated and facilitated. The active role of designers in this project was to facilitate participatory learning and incite curiosity by listening and mediating the opinions of the local community, encouraging them to be active, stimulating potential activities for further discussion, and motivating the local community to get to know the opportunities they can generate from their own regional and cultural potentials. In this context, designers must position themselves as a well-blended part of the local community and be sensitive to the constraints they face.

In the development of the rice farming community in Sabrang Village, Delanggu District, the majority of ideas have come from the local community who were feeling "nostalgic" about traditional farming culture which has not been observed in the village for about twenty-five to thirty years. The role of the designer here was therefore to find ways to make this long-lost activity one that was performed and regularly practiced again, albeit during this pandemic period, by paying attention to aspects of authenticity and health, and create supporting protocols. Ideas which were basically adapted from the outside by re-purposing Japanese design practices have allowed another kind of development to take place in the community. That is, products such as straw handicrafts have the potential to become an organic part of villagers' future when people find meaning and value in their everyday life context, and can be supported by designers in cultivating their creativity. For now, however, the local community accepts these activities through discussions supported by the PLA method and the fact that what was carried out yielded a positive impact on stakeholders.

Based on the evaluation conducted after the first phase of activities, designing development will continue with several programs that will be slowly and sustainably carried out such as the Rojolele Delanggu pure strain cultivation, straw handicraft-making, and traditional celebration activities at harvest time. As an additional suggestion from the village chieftain after the first activity, farmer groups were provided with an area as a village asset to expand activities towards a Tumpang Sari plantation for independent village food resources. Future activities will also be carried out to prepare for the post-pandemic period, and tourism activities and workshops for both neighbouring rural and external communities.

## **ACKNOWLEDGMENT**

In terms of the community works that made this Ngani-ani festival 2020 accomplishment, the authors' sincere appreciation goes to the main stakeholders in Sabrang Village, Sedyo Makmur Farmers Association, Women farmers Association, and the supporting stakeholders, the Regional Government and the Semoyo Endo Art Studio. Gratitude and appreciation also for GoodNewsFromIndonesia (GNFI) for national publication and our students who engaging this project from start to finish.

## **FUNDING**

The authors received research grant from non-tax national income, Research and Community Service Institutions Universitas Sebelas Maret.

## **AUTHOR CONTRIBUTIONS**

The first author was responsible for field coordination, data collection, and writing the journal framework. The second author contributed to compiling data and writing journals. The third and fourth authors were responsible for supporting data collection.

## CONFLICT OF INTEREST

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

## REFERENCES

- Appel, K., Buckingham, E Jodoin, K., Roth, D. Roth. (2012). *Participatory Learning and Action Toolkit: For Application in BSR's Global Programs*. Retrieved from <https://herproject.org/files/toolkits/HERproject-Participatory-Learning.pdf>
- Hartono, M., Darini, R., Ikaningtiyas, D.A.A. (2014). *Respon Masyarakat Sukoharjo Terhadap Revolusi Hijau 1968-1984*. Retrieved from <https://staffnew.uny.ac.id/upload/131405901/penelitian/bab-i-respon-masyarakat-sukoharjo-terhadap-revolusi-hijau.pdf>
- Klaten district's central statistical agency. (2014). *Klaten Dalam Angka Tahun 2014*. Retrieved from <https://klatenkab.bps.go.id/publication/2014/12/01/ac9158539c71a9596bb110b6/klaten-dalam-angka-2014.html>
- Purwandaru, P., Handayani, K.N., Kartikasari N.N., Handoyo, G.C. (2021). *Pendekatan Jinshin no Hana Dalam Implementasi Festival Online di Kecamatan Delanggu*. *Andharupa: Jurnal Desain Komunikasi Visual dan Multimedia*, 7 (1), 13-27. <https://doi.org/10.33633/andharupa.v7i01.4166>
- Suzuki, N., Miyazaki, K. (2008). *Flowering of the Total Person: A Practical Design Philosophy for Indigenous-Led Regional Development*. *Japanese Society for the Science of Design*, 55 (1), 37-46. [https://doi.org/10.11247/jssdj.55.37\\_1](https://doi.org/10.11247/jssdj.55.37_1)
- Suzuki, N., Sato, K., Terauchi, F., Hachima, S., Koyama, S. (2010). *Becoming a Hometown Designer: Designing a Living for Isumi City, Chiba Prefecture*. *Japanese Society for the Science of Design*, 56 (5), 97-106. <https://doi.org/10.11247/jssdj.56.97>

# Study of Symbol for the Kasunanan Surakarta Palace through the Spradley Ethnography Approach

\*IF Bambang Sulistyono<sup>1</sup>, A. Purwasito<sup>2</sup>, Wardo<sup>3</sup>, TS Pitana<sup>4</sup>

<sup>1</sup>Faculty of Arts and Design, Sebelas Maret Univesity, Surakarta, Central Java, INDONESIA

<sup>2</sup>Doctoral Programme of Cultural Studies, Sebelas Maret Univesity, Surakarta, Central Java, INDONESIA

<sup>3</sup>Faculty of Cultural Knowledge, Sebelas Maret Univesity, Surakarta, Central Java, INDONESIA

<sup>4</sup>Faculty of Technique, Sebelas Maret Univesity, Surakarta, Central Java, INDONESIA

Institutional e-mail: \*ifbambang@staff.uns.ac.id<sup>1</sup>, andrikpurrwasito@staff.uns.ac.id<sup>2</sup>, wardo\_file@yahoo.com<sup>3</sup>, titissrimuda@staff.uns.ac.id<sup>4</sup>

\*Corresponding author

Received: 20 November 2021, Accepted: 25 March 2022, Published: 1 April 2022

## ABSTRACT

*Hadiningrat said that the Kasunanan Surakarta was a fraction of Islamic Mataram when the Giyanti Agreement was approved. Historically, since the transfer movement of the capital Islamic Mataram Kingdom from Kartasura to Surakarta, the name of Keraton Surakarta Hadiningrat was turn up. This incident can be used as a benchmark for the presence of the palace symbol from the running of the government. Ethnography does not only study about society, but also learns from society (Spradley, 1980: 2). In this research, the theoretical approach that used to interpret and analyze the pattern of the Kasunanan Surakarta symbol is through the six ethnographic levels of James P. Spradley.*

**Keywords:** Symbol, Palace, Surakarta, Ethnography, Spradley.



eISSN: 2550-214X © 2022. The Authors. Published for Ideology Journal by UiTM Press. This is an Open Access article distributed under the terms of the Creative Commons Attribution-NonCommercial-NoDerivatives License (<http://creativecommons.org/licenses/by-nc-nd/4.0/>), which permits non-commercial re-use, distribution, and reproduction in any medium, provided the original work is properly cited, and is not altered, transformed, or built upon in any way.

## 1. INTRODUCTION

In the context of the journey of Javanese culture, The city of Surakarta has a long history. As the "old city" which was founded on the day of *Rêbo Pahing*, 17 Sura, in the year *Jé* 1670 (17 February 1745) by Sultan Paku Buwana II of the Mataram Dynasty is the city of kings or the royal capital of the Surakarta Palace. At first, it was a replacement for the Kartasura Mataram Palace which was damaged by the Sunan Kuning (Sunan Mas) rebellion. The Kartasura Palace was relocated to Sala and given the name "Surakarta Hadiningrat" after Paku Buwana II successfully reclaimed his throne (Raffles, 2014: 575; Projomartono, 1984: 1; and Lombard, 1996: 46).

The Kasunanan Surakarta was called Hadiningrat as a fraction of Islamic Mataram when the Giyanti Agreement was signed on February 13, 1755 which shared its territory with the Sultanate of Yogyakarta. Surakarta was later designated as the capital of the Residency in 1755 when it was subject to the Dutch Colonial government. The Salatiga agreement in 1757 diminished the power of the Kasunanan Surakarta palace when it was forced to share land with a small kingdom called Pura Mangkunegaran. (Simuh, 1988: 14-16; Lombard, 1996-Vol.1: 63; Gustami, 2007: 278; and see Kartodirdjo, 2014: 266-275).

In the ethics of power, an area hereinafter referred to as a kingdom, empire, or state; always has the "symbol" or "the symbol of the state". It is a symbol of a region's power in relation to other areas of authority. The 'sign of power' contains the ideological meanings that are built or will be built by the



government. Likewise, the Kasunanan Surakarta Palace has its own royal sign, named as "Radya Laksana". The symbol of Radya Laksana was created by Paku Buwono X, in his words: "The fame of the nation lies in the nobility of culture) (<https://engineer.co/2010/04/27/radya-laksana>). It is definitely difficult to trace since the symbol was created and officially ratified as a symbol of the kingdom. Besides, from period to period, its reign underwent several changes in some parts of the symbol to what we see today.

Historically, since the Islamic Mataram Kingdom was relocated from Kartasura to Surakarta and given the name Keraton Surakarta Hadiningrat, the government should have had an symbol. In 1747, due to the Dutch VOC conspiracy, the palace was split into two, namely the Surakarta Hadiningrat Kasunanan Palace and the Yogyakarta Sultanate Palace in the Giyanti agreement. Since the Yogyakarta Sultanate Palace also has its own royal sign, namely *Praja Cihna*, after the separation into two kingdoms, it can be considered the starting point for the formation of the Kasunanan Surakarta royal symbol named Radya Laksana.

## 2. METHODOLOGY

Javanese people in the anthropological context and Javanese society in a sociological view are ethnic groups with a rich mythology and symbols. Most of its cultural artifacts have a mythological underpinning and are replete with symbols or symbols that represent diverse concepts, purposes, meanings, and values. Some of these works have been passed down as traditional works from generation to generation. As the concept of power in the form of a "royal sign" was passed down, it came with ideological descriptions brimming with meaning. In an anthropological context, it encompasses thoughts, models of perception, peer bonding, and power.

Ethnography is a discipline that not only studies but also learns from society (Spradley, 1980: 2). The theoretical approach used to interpret the "pattern of symbols" in the symbol of the Surakarta Hadiningrat Kasunanan Palace is through the six levels of ethnography from James P. Spradley (1980: 162- 165), namely:

- a) Level 1: Universal Statements (statements that are universal), to examine the most common trends about the conception of the symbol in a macro context.
- b) Level 2: Cross-Cultural Descriptive Statements (descriptive statements about cultural interactions), to explore the tendency of the conception of the symbol towards assimilative conceptions and adaptations of various understandings of immigrants from other cultural areas.
- c) Level 3: General Statements about a Society or Cultural Group (general statements about a society or cultural group), to understand the meaningful signs that are usually used as symbols, and then interpret various visual signs that are structured as symbols in the symbol.
- d) Level 4: General Statements about a Specific Cultural Scene (general statements about specific cultural behavior), to determine the pattern of interpreting a specific sign or symbol phenomenon that is formed based on normative and special behavior, resulting in a 'cultural decision' which is represented in the form of a royal symbol.
- e) Level 5: Specific Statements about a Cultural Domain (specific statements about the locus of cultural authority), to examine the specific conception contained in the symbol as a value decision that the community can understand as an ideology of power.
- f) Level 6: Specific Incident Statements (statements about special events), expressions of "meaningful concepts" that can integrate all ideologies in the form of "unique values" not found in other cultural areas.

### 3. DISCUSSION 1: THE SHAPE AND MEANING OF THE SYMBOL OF THE KASUNANAN SURAKARTA PALACE

The Radya Laksana symbol was first worn as a gold brooch or pin by the monarch, his relatives or royal family, and prominent officials of the Surakarta Hadiningrat Kasunanan. It was then used as a type of official marker of the Keraton government's power in many media, including reliefs on the gates (*kori*) of vital roadways around the palace, city boundary gates, royal chariots, and carved on the surface of the kris container (*pendhok*).

Radya Laksana comes from the Sanskrit language, namely *Radya* which means kingdom or state, while *laksana* means character, identity or symbol. When combined, it means 'royal symbol'. The basic form of the symbol is an oval circle. In detail, the pictures in the circle mean:



**Figure 1:** The Symbol of the Kingdom of Sri Radya Laksana Surakarta Hadiningrat Kasunanan Palace

(Source: Suropati van Babirong, 2016, <https://kratonsoloblog.wordpress.com/2016/04/30/sri-radya-laksana->)

1. The crown is based on three layers of gold, the top is red with golden borders.
  - The crown at the top of the royal symbol means that the king is in power over all.
  - The color red can signify a strong and extremely huge power; it alludes to the *bang-bingtulu* (red, white, yellow, and black) concept of color in Javanese philosophy, where red signifies the essence of anger, which means strength.
  - The golden yellow, basis of the crown, is based on the concept of *bang-bingtulu*, which states that yellow is a sign of *lauwamah* or *aluamah*, which indicates power.
  - The *triloka-tribuwana*, or three world layers: the Upper World, the Middle World, and the Human World, are symbolized by the three layers at the base of the crown (Sumardjo, 2013: 9). It represents the monarch's ability to 1) rule the human world, or *sayidin pranatagama*, 2) serve as the Gung Binathara (the great king incarnate of the Gods) (Subagya, 1981: 56-57), and 3) serve as God's representative on earth, with the title *kalifatullah*.
2. An oval circle with a golden circle border, which has a picture of:
  - The globe and the spikes stuck in the upper pole in the denotative form are nails and the earth which has a broader meaning, "*pakubuwana*," emphasized by pictures of the moon, stars and sun, all of which are golden yellow, representing the meaning of the universe or *buwana*. This is in accordance with the title that is carried by every king of the Surakarta Palace, namely Pakubuwana, and even remains to this day.
  - The golden sun with sixteen rays of light in blue and light blue stripes signifies that the king has the power to illuminate life in all directions.
3. The cotton plant, which has eight growing cotton pods, represents the king's ability to deliver prosperity to the eight directions of the wind, or to all of his people, with all of his power.

4. The clumps of rice with eight strands of rice grains mean that the king is able to give prosperity to the eight directions of the wind or to all his people.
5. A long red and white ribbon that binds the base of the cotton and rice stalks. At first glance, it can be interpreted as a red and white National flag, but the meaning is contradictory because it can be interpreted that the one who provides prosperity is the Republic of Indonesia. This is understandable after Indonesia's independence. However, in the context of royal authority, red and white do not refer to the Indonesian flag, but a symbol of power based on the white color, namely *supiah* in the context of *bang-bintulu* which means wisdom. Thus, the red and white ribbon that ties the cotton stalks and rice represents wisdom-based strength that may bring prosperity to its people.

#### 4. DISCUSSION 2: ETHNOGRAPHIC POTENTIAL OF RADYA LAKSANA SYMBOL

According to Koentjaraningrat, the cultural value system is the most abstract level of *adat* in a particular cultural area, consisting of the conceptions that live in the minds of most of the citizens of the community, and of things that they should consider very valuable in life. The system acts as the most authoritative guideline for human behavior (Koentjaraningrat, 1994: 25). These achievements are enshrined and attempted to be passed on to the next generation in various forms of tradition, such scripts, songs, mantras, magical images, symbols of power, ritual processions, and so on. Likewise with the royal symbol of the Surakarta Hadiningrat Kasunanan Palace, its existence is important in addition to being a symbol of power from the Islamic Mataram dynasty in Surakarta, it also reflects the conceptual notion of the most basic system of governance or rulers. Where the symbol of power is positioned highest by 'undertaking' the representation of the universe (*buwana*). This is understandable because one of the strategies for getting the kingdom's people to obey it is to tell a mythological story, even if it does not always make sense. The portrayal of religious mythology is one of the links of loyalty of the Javanese to their cultural symbols, according to Benedict Anderson's book *Mythology and Tolerance of the Javanese (Mitologi dan Toleransi Orang Jawa)* (Anderson, 2008: 10).

According to Franz Magnis-Suseno, the essence of the Javanese is to seek "harmony" and that life ethics are characterized by a sense of harmony, order, and lack of conflict. He did, however, imply that ethics is wrapped in a "hierarchical order" (Magnis-Suseno, 1995: 71-74). The conception of the depiction of a crown with a three-tiered base, which is further suspected as a symbol of the *triloka-tribuwana*: an adaptation of Hindu-Buddhist philosophy (India). The Javanese people can easily adopt and adapt the newcomers' ideology to become a complementary part of Javanese philosophy itself to achieve harmony.

Javanese civilization has produced many symbols and developed many myths over its long journey, but the clearest and most direct understanding is Javanese values and the Javanese mentality, which is closely tied to the metaphysical dimension (Geertz, 1973: 129-132). The order of the formation of symbols that can be described as "visual language" is the symbolic structure of the meaningful forms that exist in *Radya Laksana*, where the image of the crown at the top position, shading the sun, stars, moon, and earth is a representation of the philosophical contained in the word "Pakubuwana". Likewise, the image of cotton on the left of the oval circle and the image of rice on the right is a hierarchical order where the meaning of "clothing" (welfare) is the first priority, and the meaning of "food" (prosperity) is the next stage.

Jean-Paul Sartre in the book *The Psychology of Imagination*, stated that:  
*imagination has a "surpassing and nullifying power" which enables individuals to escape being "swallowed up in the existent", frees them from given reality, and allows them to be other than what they are made (Sartre, 1972:273).*

The symbol or symbol of an institution, particularly a huge empire, is a sign that serves as more than a status symbol. It is the accumulation of all ideological accumulation based on historical context,

existence, orientation, and all of their virtues. The reign of the kings of Kasunanan Surakarta, like Radya Laksana's, was not merely a sign that could be read meaningfully from period to period; the symbol was also imagined as a 'magical image' of a vast power over the 'cosmic order' on the island of Java, and even the entire universe (*buana*). More than that, the symbol has also arrived as a "sacred symbol", where its existence as an image has undergone a metamorphosis into a visual performance that is respected and even feared, especially during the heyday of the kingdom.

## 5. CONCLUSION

As a result of its anthropological and sociological journey, Javanese culture's world of symbols spans a wide range, from subtle satire to parables, phenomena of meaningful signs, signs as references, symbol phenomena, symbols as references, and symbols. The symbol itself is divided into numerous types, including magic symbols, banners, symbols, power symbols, and sacred symbols.

Radya Laksana is the symbol of the Surakarta Hadiningrat Kasunanan Palace's monarchy. It is a symbol for recognizing the kingdom's territorial power specifications. It has evolved into more than merely a symbol in its cultural context. Radya Laksana is the greatness of a power, the dynasty's mythology, and the belief that it can transform into self-esteem, social standing, and even the spirit of the mighty throne

## ACKNOWLEDGMENT

The authors gratefully thank the Surakarta Sunanate Palace, Surakarta local government and all those who assisted with this project.

## FUNDING

This research was supported by the Arts and Design Doctoral Programme, Sebelas Maret University, Surakarta, Central Java, Indonesia.

## AUTHOR CONTRIBUTIONS

IF Bambang Sulistyono as writer, data collector, A. Purwasito as data analysis, Wardo as data analysis, TS Pitana as data collector.

## CONFLICT OF INTEREST

There are no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

## REFERENCES

- Anderson, Benedict R.O'Gorman. (2008). *Mitologi dan Toleransi Orang Jawa, atau Mythology and Tolerance of the Javanese* (1965), Terjemahan, Revianto B. Santoso. Yogyakarta: Jejak.
- Geertz, Clifford. (1973). *The Interpretations of Cultures: Selected Essays*. New York: Basic Book Inc. Publishers.
- Gustami, SP. (2007). *Butir-butir Mutiara Estetika Timur: Ide Dasar Penciptaan Seni Kriya Indonesia*. Yogyakarta: Prasista.
- Kartodirdjo, Sartono. (2014). *Pengantar Sejarah Indonesia Baru: 1500-1900 – dari Emporium sampai Imperium* (Jilid I). Yogyakarta: Ombak.
- Koentjaraningrat. (1994). *Kebudayaan Mentalitas dan Pembangunan*. Jakarta: Gramedia Pustaka Utama.

- Lombard, Denys. (1996). *Nusa Jawa: Silang Budaya: Batas-batas Pembaratan* (Vol.1 & 3) atau *Le Carrefour Javanais* (1990), Terjemahan, PT. Gramedia. Jakarta: Gramedia.
- Magnis-Suseno, Franz. (1995). *Wayang dan Panggilan Manusia*. Jakarta: Gramedia Pustaka Utama.
- Projomartono. (1984). *Penjelasan Singkat Mengenai Bangunan Keraton Surakarta*. Surakarta: Tiga Serangkai.
- Raffles, Thomas Stamford. (2014). *The History of Java*, atau *The History of Java* (1817), Terjemahan, Eko Prasetyaningrum dkk. Yogyakarta: Narasi.
- Sartre, Jean-Paul. (1972). *The Psychology of Imagination*. New York: Citadel.
- Simuh. (1988). *Mistik Islam Kejawen: Raden Ngabehi Ranggawarsita* Jakarta: Universitas Indonesia Press.
- Spradley, James P. (1980). *Participant Observation*. United States of America: Rinehart and Winston.
- Subagya, Rahmat. (1973). *Kepercayaan, Kebatinan, Kerohanian, Kejiwaan, dan Agama*, Yogyakarta: Yayasan Kanisius.
- Sumardjo, Jakob. (2013). *Arkeologi Budaya Indonesia: Pelacakan Hermeneutic-Historis terhadap Artefak-artefak Kebudayaan Indonesia*. Yogyakarta: Qalam.

# Muslimah Design Trends through the Role of Fashion Forecasting

\*Suriati Saidan<sup>1</sup>, Husna Saaidin<sup>1</sup>, Wan Nadhra Ixora Wan Kamarulbaharin<sup>1</sup>, Norzaleha Zainun<sup>2</sup>,  
Mohd Hafnidzam Adzmi

<sup>1</sup>College of Creative Arts, Universiti Teknologi MARA, Shah Alam, Selangor, Malaysia

<sup>2</sup>Department of Fashion Design,  
Center of Art and Design Studies,  
Universiti Teknologi MARA, Perak Branch, Seri Iskandar Campus, Malaysia

Institutional email: \*suria509@uitm.edu.my<sup>1</sup>, husnasaaaidin@uitm.edu.my<sup>1</sup>,  
wannadhraixora@uitm.edu.my<sup>1</sup>, norza406@uitm.edu.my<sup>2</sup>, mohd013@uitm.edu.my<sup>1</sup>

\*Corresponding author

Received: 20 November 2021, Accepted: 25 March 2022, Published: 1 April 2022

## ABSTRACT

Muslimah fashion design nowadays is a fashion trend that is the best alternative for Muslim women who want to cover their aurat with an attractive style. With a variety of options, Islamic clothing is not considered conservative or outdated. Therefore, the form of fashion design should be more contemporary and in accordance with Islamic characteristics and suitable for use by all nations. In this paper the researcher will look at the fashion forecasting process used in the production of Muslimah clothing. Fashion trends are an important element in determining the concept of clothing design. As a trend forecasting concept, several things have a significant impact on the fashion industry. The ability to forecast trends in fashion, technology, and culture is a critical area of the marketing industry dedicated to identifying patterns of consumer behavior while helping companies and brands connect with audiences. Fashion trends are styles of clothing and accessories that are popular at a particular time. It will affect the popularity and lifestyle for example through the use of colors and fabrics used. Fashion forecasters will do research somewhere to find out new trends and try to bring some new ideas about the brand. It requires scientific skills and creative concepts. Thus, fashion forecasting is a field in the fashion industry that is concerned with predicting upcoming fashion trends in terms of colors, design techniques, textile materials, and more that lead to consumer demand. Fashion forecasters produce trend reports that are used to develop a brand for the production of a product. In the process of making designs, designers need to pay attention to fashion predictions which in addition to having Islamic characteristics, the design can be comparable to international designs.

**Keywords:** Design, Fashion, Islamic, Muslimah, Trends.



eISSN: 2550-214X © 2022. The Authors. Published for Ideology Journal by UiTM Press. This is an Open Access article distributed under the terms of the Creative Commons Attribution-NonCommercial-NoDerivatives License (<http://creativecommons.org/licenses/by-nc-nd/4.0/>), which permits non-commercial re-use, distribution, and reproduction in any medium, provided the original work is properly cited, and is not altered, transformed, or built upon in any way.

## 1. INTRODUCTION

There are many clothing designs for Muslim women available in the market today with various types of fabric, color and decoration, but if a design is produced through fashion forecasting, it will have more impact on a design that will be produced. However, before a design is produced, some Islamic characteristics as a Muslim woman must be applied. This paper aims to define the trends for the year 2020-2021 according to three main brands.

Covering aurat is compulsory for Muslim women to protect self-respect and to limit associations. Covering aurat is mainly focused on females as they are mostly associated with beauties which are allowed to be shown to their husbands or mahrams. Aurat is a principle in Islam especially to women

who have reached puberty. It is a demand from Allah that Muslims are guided in making choices for the greater good especially in covering aurat. As stated in the Qur'an:

*"O children of Adam, We have bestowed upon you clothing to conceal your private parts and as adornment. But the clothing of righteousness - that is best. That is from the signs of Allah that perhaps they will remember."*

(Al-A'raaf: 26)

While many designs and clothing intended to be worn by Muslimah are available widely in the market, it is still a rarity to find clothing that are aligned with the Islamic dress code in terms of materials, patterns and colours. "Every year fashion centres in Europe and America come up with the latest design. And what have they design? Another way of not covering the body". (Baig). Exposures on clothes that do not comply with Islamic rules will give negative impact on younger generations of Muslimahs. The use clothes do not cover aurat will result in forgetting the rules and guidelines of proper clothing.

## 1.1 Fashion Forecast

Fashion forecasting is a global career that focuses on upcoming clothing trends. Fashion forecasters usually predict the colors, fabrics, textures, materials, prints, graphics, beauty/grooming, accessories, shoes, street style and other styles that will be presented in the store for the coming season. To enhance the brand's image and maintain it as a pioneer, fashion needs to continue to innovate. Long-term forecasts (over 2 years ahead) are used by executives for corporate planning purposes. It is also used as a marketing strategy to ensure clothing brands remain competitive with each other. Fashion Forecast can help in the process of designing ideas for a brand based on the trends that have been made according to a particular season. Trend forecasters work in each industry, using data obtained from sales in the past to anticipate future opportunities as well. Fashion forecasting is a field in the fashion industry that is concerned with predicting upcoming fashion trends in terms of colors, styling techniques, fabric textures and more and will indirectly increase demand from consumers. According to Kathryn McKelvey in her book entitled Fashion Forecasting, fashion forecasting has emerged as an industry in line with mass production and retail development and became a serious industry after the end of the Second World War. Changes to the fashion industry over recent history have been reflected in the manner which prediction information is sourced, compiled and utilized. There has been a shift from the 1960s onwards in the dominance of single fashion trends to a more pluralistic approach, mirroring the expansion of mass communication and in turn the increasing sophistication of the consumer. This has created a gradually repositioning from a marketplace that was defined by both the designer levels influencing the middle and mass market, creating designs and trends that 'trickle down' to commercial high street and the converse effect of street styles and subcultures inspiring designers, to one which is focus on individual and fragmented into niche markets, where the consumer's aspiration is brand led and life style driven. During the post-war period, forecasting company compile stories and themes each season that were easier to predict, as the market moved at the slower pace. Prediction information was compiled into books that could deliver information was compiled into books that was both visual and tactile. Often there was an element of hand crafting in the production. Theme were also more predictable and often fell into evolving stories that reflected the slower moving trends of the time, for example, each season would see an update of classic stories, nautical, ethnic, purity, floral and geometric. Typical themes from this time reflected the simplistic of the market, for example 'Milkmaid', 'Poacher', 'Safari', 'Country Squire' and Folk Story'. Colors were more simply divided into neutrals, midtones and darks and bright and less market segmented than today. A random selection of modern theme titles reads 'Fresh Revelations', 'Allusions', 'Chameleon' and 'Filter'.

## 1.2 There are 5 Fashion Brand Prediction Trend Methods

The trend forecasting process is different for each brand. Women's clothing brands, for example, invest more in micro trend analysis than men's clothing brands because they release more collections

each year. Forecasts also depend on the size of the company and its target market, but there are several reliable ways to predict brand trends.

### **1.2.1 With internal trend forecaster:**

Large fashion brands are often vertically integrated, meaning their trend predictions are done internally. This allows fashion forecasters to work directly with the product development team to create a new product.

### **1.2.2 With trend forecasting agencies:**

Larger brands that are not vertically integrated often turn to the expertise of trend forecasting agencies, where they produce trend research reports for a fee.

### **1.2.3 By going to a fashion show:**

Before the advent of the internet, trend forecasters did most of their research at fashion shows, where they recorded the most striking and compelling looks, and then brought that information from the catwalk to product developers of chain stores and fashion magazines like Vogue. This is called a “top-down” prediction, and it has to do with the way the fashion trend flows down from haute couture runways to street shops.

### **1.2.4 By looking at influencers:**

Today, trend forecasters are also starting to look at influencers, street styles and blogs to get information on the latest trends. This is called “bottom-up” forecasting, and it involves close monitoring of the target market to predict demand for future trends.

### **1.2.5 By looking at other industries:**

Fashion designers for small industries may stay away from trend forecasting altogether, instead creating mood boards based on art, film and nature to inspire their unique collections. Most trend forecasters rely on a combination of “top-down” and “bottom-up” predictions, as well as in-depth knowledge of the fashion process as well as their own intuition to make predictions about the future of fashion.

## **2. THEOREMS IN CONCEALING AURAT**

According to Shofian Ahmad, in his book (Aurat Kod Pakaian Islam, 2004); Ulama’s agreed that concealing aurat is compulsory. These collective opinions are based on the Qur’an and Hadith. Among those foundations that are mentioned in Qur’an and hadiths are as follows:

*“O children of Adam, take your adornment at every masjid, and eat and drink, but are not excessive. Indeed, He likes not those who commit excess.”*  
(Surah al-A’raf: 31)

*But Satan whispered evil thoughts to them, to manifest to them that was hidden from them of her body.*  
(Surah Al-A’raf: 20)

*O children of Adam, We have bestowed upon you clothing to conceal your private parts and as adornment. But the clothing of righteousness - that is best. That is from the signs of Allah that perhaps they will remember.*  
(Surah Al-A’raf: 7:26)



*And tell the believing women to reduce [some] of their vision and guard their private parts and not expose their adornment except that which [necessarily] appears thereof and to wrap [a portion of] their headcovers over their chests and not expose their adornment except to their husbands, their fathers, their husbands' fathers, their sons, their husbands' sons, their brothers, their brothers' sons, their sisters' sons, their women, that which their right hands possess, or those male attendants having no physical desire, or children who are not yet aware of the private aspects of women. And let them not stamp their feet to make known what they conceal of their adornment. And turn to Allah in repentance, all of you, O believers that you might succeed.*

(Surah Al-Nuur: 24:31)

*O Prophet, tell your wives and your daughters and the women of the believers to bring down over themselves [part] of their outer garments. That is more suitable that they will be known and not be abused. And ever is Allah Forgiving and Merciful.*

(Surah Al-Ahzab 33:59)

All of the above hadith that mean the same thing Muslim women must cover their aurat and to dress according to the Islamic dress code. Attire that has excessive decorations is also discouraged for which the purpose of clothes is to conceal the aurat. Decorations are believed to be an attraction for the males. An excessive decoration also signifies excessive spending that is not encouraged in Islam. Nevertheless, clothes that are decorated with modesty are allowed as it is a female's nature to appreciate beauty. Islam allows us to beauty ourselves from sustenance that is given from Allah.

## **2.1 Factors That Should Be Include in Marketing of Islamic Clothes**

### **2.1.1 Climate Friendly**

Climate is a factor in designing clothes. Types of climates will affect the selection fabrics and other materials. In a country that is known for its tropical climate, fabrics made of cotton are appropriate to provide absorption.

### **2.1.2 Suitable with the Culture**

Besides materials, the clothes must follow the culture of its surroundings. Therefore, it is important to synthesize the traditional Malay styles with the elements from the west.

### **2.1.3 Suitable Through Age**

Age is considered another factor in designing clothes. The process of aging does affect the taste and fetishes, which in turn will affect their choosing on certain clothes or garments. Different age group are attracted to different styles of designs, motifs, patterns and colours.

### **2.1.4 Suitable With its Purpose**

The designer must also consider the purpose of the clothing. Clothes serves various roles in our everyday life either it is intended to be casual or formal.

### **2.1.5 Cost**

The clothes itself must be economical. Types of fabrics must be appropriate in terms of cost to enable it in becoming easier to purchase or obtained.

### **2.1.6 Design and Marketing**

The aspects mentioned before is considered a mixture for beauty and morality. Beauty is a factor adored by the wearer, whereas morality is an element appreciated by Allah. As a result, the assimilation of beauty and morality in designs is considered ethical that increase its aesthetical values which is potential to attract various Muslim communities to appreciate and embrace the beauty of Islam. Previous research conducted among Muslim female students suggests that the perception towards the current trends in Islamic attire is high. While the perception towards clothes that follows the Islamic dress code is somewhat moderate. The perception towards the demands to follow the dress code is recorded high (Mohamad & M. Radzi).

## **3. THE USE OF FASHION PREDICTIONS IN CLOTHING DESIGN FOR THREE FASHION BRANDS IN MALAYSIA**

The fashion forecast for the year 2020-2021 spring/summer is used as a guide in comparing the three brands for Muslim women's clothing design in Malaysia, namely Jovian Mandagie, Khoon Hooi and Fern Batik. The use of trend report from Anjoli Grover Vassi is used as a reference for fashion forecast spring summer 2020-2021.

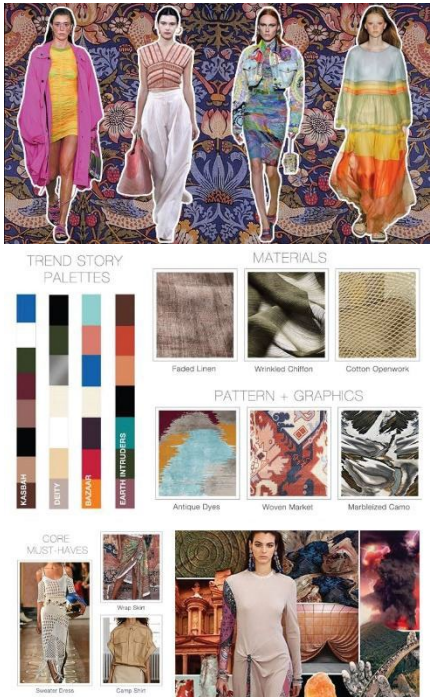
### **3.1 Spring/summer 2020**

It comes with a continuing appreciation for the craft and a new sense of minimalism that emerges through local design, which actually speaks to a purpose. Sustainability takes on new forms with plant-based fabrics, and an increase in ingredients from farm to table found in beauty and health. The vision of the virtual world becomes more ingrained in our daily lives and futuristic advances challenge our subconscious capacity, thus giving this season the nickname 'Futuristic'. Advances in technology give us a clearer picture of the beginning of time, as we continue to reveal the secrets and hidden treasures of the world. Designers like Axel Vervoordt reflect the aesthetics of our current trend elements combining ancient antiques and modern minimalism. Embracing the past, it can be seen that fun in the 1980s influenced the modern look which was all about amplified color, sensual movement and culture. Ancient elements and modern biotechnology, the most innovative materials balancing both the past and the present, also maintain sustainability as the end result. As a result, we see those raw fibers, plant-based dyes, are preferred. Vintage fabrication is enhanced with a simplified and innovative process, where customization takes a more luxurious approach. While cotton takes a sharper approach, snares take a more dynamic approach. This spring/summer 2020 vision is not only easily achievable but also rooted in reality. The strong contrast of this decade means luxury and opulence coexist in an exciting but also edgy place.

### **3.2 Spring/summer 2021**

Switching from an offline physical format to a fully online digital format does not hinder the creativity of fashion designers. It gives them a much-needed impetus to rebel against new habits to emerge as winners and give an injection of hope that the world can stop, but the fashion world can't be stopped. Closing is a great time for high fashion designers and brands to stop and refocus on things that are actually needed in the future. In an effort to regain normalcy and welcome a new era full of possibilities, the runway is a direct testament to the current atmosphere surrounding our world. The old and come in with the new as we list the top fashion trends for silhouettes and details set to control the 2021 spring/summer season.

**Table 3.** Fashion Forecast for spring/summer 2020 (Source: Anjori Grover Vasesi, 2020)

Fashion Trends 2020	Colors	Details & Silhouette	Fabric
 <p>The visual content for 'Fashion Trends 2020' includes:         <ul style="list-style-type: none"> <li>Four models showcasing different fashion styles: a pink and yellow ensemble, a white and orange outfit, a colorful patterned dress, and a long-sleeved top with a colorful skirt.</li> <li><b>TREND STORY PALETTES:</b> A vertical color palette with categories: KASBAH (blue, green, red), DEITY (black, white, blue), BAZAAR (orange, black, white), and EARTH INTRUDERS (purple, red, black).</li> <li><b>MATERIALS:</b> Three fabric swatches: Faded Linen, Wrinkled Chiffon, and Cotton Openwork.</li> <li><b>PATTERN + GRAPHICS:</b> Three pattern swatches: Antique Dyes, Woven Market, and Marbleized Camo.</li> <li><b>CORE MUST-HAVES:</b> A collection of garment images including a Sweater Dress, a Crop Top, and a long-sleeved top.</li> </ul> </p>	<ul style="list-style-type: none"> <li>- Kasbah</li> <li>- Deity</li> <li>- Bazaar</li> <li>- Earth intruders</li> </ul>	<ul style="list-style-type: none"> <li>- Drapes</li> <li>- Utility pockets</li> <li>- Fringes</li> <li>- Cutouts</li> <li>- Embroidery</li> <li>- Patchwork</li> <li>- Tiered ruffles</li> <li>- Relaxed fixed silhouette</li> </ul>	<ul style="list-style-type: none"> <li>- Colour faded linen</li> <li>- Wrinkled chiffon</li> <li>- Cotton openwork</li> <li>- Gauze knit</li> <li>- Woven raffia</li> <li>- Softened canvas</li> <li>- Printed stretch jersey</li> </ul>

**Table 3.1** Fashion Forecast for spring/summer 2021 (Source: Anjori Grover Vasesi, 2021)




Fashion Trends 2021	Colors	Details & Silhouette	Fabric
 <p>Colour festival</p> <ul style="list-style-type: none"> <li>01-0475 TCX</li> <li>02-7526 TCX</li> <li>03-3419 TCX</li> <li>04-8421 TCX</li> <li>05-0210 TCX</li> <li>06-8910 TCX</li> <li>07-0746 TCX</li> </ul>	<ul style="list-style-type: none"> <li>- Red</li> <li>- Pink</li> <li>- Violet</li> <li>- Blue</li> <li>- Yellow</li> </ul>	<ul style="list-style-type: none"> <li>- Paper bag waists</li> <li>- Boyfriend jeans</li> <li>- Wide legs</li> <li>- Padded shoulders</li> <li>- Balloon sleeves</li> <li>- Buckles</li> <li>- Knots</li> <li>- Bows/ metallic hardware</li> </ul>	<ul style="list-style-type: none"> <li>- Corduroy</li> <li>- Classic Tweeds</li> <li>- Lace</li> <li>- Organza</li> <li>- Shiny Leathers</li> <li>- Metallic shine</li> <li>- Colour merge tie &amp; dye</li> <li>- Fleece</li> <li>- Herringbone pattern fabrics</li> <li>- Lusters</li> </ul>
			
			
			
			

### 3.2 Collection of Three Fashion Brands in Malaysia for 2020 and 2021

**Table 3.2** Fashion Collection for 2020 from Jovian Mandagic, Khoon Hooi and Fern Batik (Source: Natalie Khoo, 2020)

Brand	Collection	Details & Silhouette	Colour & Fabric
Jovian Mandagic		<ul style="list-style-type: none"> <li>- Traditional Kurung and contemporary kurung modern with peplum</li> </ul>	<ul style="list-style-type: none"> <li>- Blue, skin tone, pink and purple</li> <li>- Lace, sateen silk, polyester, printed fabric</li> </ul>
Khoon Hooi		<ul style="list-style-type: none"> <li>- Traditional Kebaya cut and caftan with drape skirt</li> </ul>	<ul style="list-style-type: none"> <li>- White, gold, black, baby blue and yellow</li> <li>- Chiffon, cotton, sateen and printed fabric, lace applique, sequence fabric</li> </ul>
Fern Batik		<ul style="list-style-type: none"> <li>- Modern dress, Traditional Kebaya and loose caftan</li> </ul>	<ul style="list-style-type: none"> <li>- Blue, brown, grey and white</li> <li>- Chiffon, sateen and Polyester and printed fabric</li> </ul>

**Table 3.3** Fashion Collection for 2021 from Jovian Mandagic, Mimpi Kita and Fern Batik (Source: Natalie Khoo, 2021)

Brand	Collection	Details & Silhouette	Colour & Fabric
Jovian Mandagic		<ul style="list-style-type: none"> <li>- Modern dress and kurung, embroidery, beadwork and embellishment</li> </ul>	<ul style="list-style-type: none"> <li>- Royal shades of emerald green, magenta, terracotta red, betty brown, navy blue and black</li> <li>- Lace, crepe</li> </ul>
Khoon Hooi		<ul style="list-style-type: none"> <li>- Traditional kebaya, embellishment of rhinestones, neckline and puff sleeves</li> </ul>	<ul style="list-style-type: none"> <li>- Striking color</li> <li>- Printed fabric, brocade and lace</li> </ul>
Fern Batik		<ul style="list-style-type: none"> <li>- Caftan, baju kurung and kebaya</li> <li>- Jungle orchid design, soft ruffles, structured pleat, classic cut and exaggerated sleeves</li> </ul>	<ul style="list-style-type: none"> <li>- light yellow, peach, pink, purple, peach and orange</li> <li>- Batik, sateen silk and cotton</li> </ul>

#### 4. Analysis and Findings Related to the Use of Fashion Forecasting Elements in Three Clothing Brands in Malaysia

Based on the comparison made on three Muslim women's clothing brands in Malaysia, it is found that there is the use of fashion prediction for each design, for example, Jovian and Fern brands apply digitally printed elements in their designs and can also be seen Khoon Hooi using drape technique on his skirt design. Apart from that, the colors, silhouettes and details that are in the forecast for 2020 are also used in the design process of the three clothing brands. While for the design in 2021, it was found that Jovian, Khoon Hooi and Fern Batik used elements from fashion predictions, for example by applying design details such as silhouette and embellishment, ruffles, structure pleat, puff sleeve and exaggerated sleeves. Although the designers of these three clothing brands still maintain the traditional features of Malay women's clothing, they still apply the elements according to the latest trends found in the fashion forecast.

## 4.1 Selection of Clothing Design for Muslimah

According to Shofian Ahmad in his book entitled *Aurat Kod Pakaian Islam*, the wearing of covering the aurat can be realized through the art of fashion design and marketing. Islamic clothing fashion will be able to encourage the interest of all walks of life to wear it. This situation will indirectly change the minds of some individuals who say that clothes covering the genitals are outdated. However, every designer must really create the perfect dress according to the characteristics that have been outlined by Islam. Designers need to refrain from creating clothes that only cover the aurat with a headscarf but need to ensure that it has the characteristics of clothing that is suitable for Muslim women. Islamic clothing is a symbol of the identity of a Muslim and a Muslim woman. As a Muslim, one must be wise in choosing the appropriate clothes to wear as there are many clothing designs available in the market today.

## ACKNOWLEDGMENT

In the name of Allah, most gracious and merciful, with his permission, the paper has been completed. I would like to express my gratitude to my team work, for their corporation and for their patience to complete this research. I would also like to express appreciation to other friends for their views and guidance in this paper.

Finally, I would like to deliver my sincere gratitude especially to my beloved husband and family for their patience, encouragement and motivations during the period of my paper. Last but not least to all colleagues who have given their support and guidance in my paper process.

## REFERENCES

- Abidin, S.A. (2004). *Aurat Kod Pakaian Islam*. Kuala Lumpur: Utusan Publications and Distributors Sdn Bhd.
- Anjori Grover Vesesi (2019). Trend Report: Women's Spring Summer 2020 Fashion Forecast. <https://apparelresources.com/fashion-news/trends/fashion-snoops-unveils-s-20-trends-women/>
- Anjori Grover Vesesi (2021). Trend Report : Women's Spring Summer 2021 Fashion Forecast. <https://apparelresources.com/fashion-news/trends/top-silhouette-detail-fashion-trends-spring-summer-2021/>
- Aris A, Ibrahim S, Ahmad H, (2018), The Identity of "Islamic Fashion". International Journal of INTI, 8-14.
- Al-Hibri, A. (1982). *Women and Islam*. New York: Pergaman Press.
- Badawi, J. (1989). *The Muslim Women's Dress according to the Qur'an and Sunnah*. London: Ta-Ha Publishers.
- Eundeok Kim, Ann Marie Fiore, Alice Payne, Hyejeong Kim, (2021). *Fashion Trends: Analysis and Forecasting*. Bloomsbury Publishing, ISBN 1350099031, 9781350099036
- Kathryn McKelvey, Janine Munslow (2009). *Fashion Forecasting*. John Wiley & Sons, ISBN 1444309501, 9781444309508
- Kaukab, S. (1990). *The Role of women in Islam*. Lincoln UK: Lincoln University Press.
- Mohiddin, M. N., & Serbini, D. S. (2019). *Fesyen Halal Style Dalam Kalangan Pelajar Unissa*. Journal of Islamic, Social, Economics and Development (JISED), 4(19), 139-154.
- Natalie Khoo (2020). Lebaran 2020: 7 Local designer collections to get into Raya spirit. <https://firstclasse.com.my/lebaran-2020-local-designer-collections-raya/>
- Natalie Khoo (2021). Lebaran 2021: Local designer collections to shop for your Raya wardrobe. <https://firstclasse.com.my/lebaran-2021-local-designer-collections/>

# The Development of Bacterial Cellulose Biomaterials Using the Material Design-Driven Approach for Packaging Industry

\*Fadzli Irwan Bahrudin<sup>1</sup>, Liew Yong Kian<sup>2</sup>, Zati Hazira Ismail<sup>3</sup>

<sup>1</sup>Department of Applied Arts and Design, Kulliyah of Architecture and Environmental Design, International Islamic University Malaysia, MALAYSIA

<sup>2</sup>Industrial Design Department, Malaysia Institute of Art, MALAYSIA

<sup>3</sup>Industrial Design Department, Imam Abdulrahman Bin Faisal University, SAUDI ARABIA

Authors' email: \*fadzliirwan@iiu.edu.my<sup>1</sup>, liewyongkian@mia.edu.my<sup>2</sup>, zhismail@iau.edu.sa<sup>3</sup>

\*Corresponding author

Received: 20 November 2021, Accepted: 25 March 2022, Published: 1 April 2022

## ABSTRACT

*Alternative renewable materials are a possible solution to the rapid depletion of non-renewable resources. Within the renewable materials category, living organisms have been utilised in sustainable material projects. Although the projects are currently speculative, the possibility of utilising living organisms offers an appealing sustainability advantage for product design. Notably, their ability to 'self-build' enables them to become the co-maker of the output materials or products effectively. One of the promising lab-grown materials developed and utilised in product design is bacterial cellulose. Many researchers and designers have focused on improving the cultivation process and the feasibility of the materials for targeted product applications. However, much research is still needed to fill the void of knowledge in developing biomaterials for product design. This paper presents an early development of novel bacterial cellulose biomaterials and their applications using the Material Design Driven (MDD) framework. In this research, three bacterial cellulose biomaterials with unique experiential qualities have been produced through the approach. Notably, the research highlights the innovative potential of bacterial cellulose as a packaging material by incorporating plant fibres as the reinforcement agent and imprinting artificial texture on the material surface.*

**Keywords:** Sustainable Material, Biomaterial, Material Experience, Packaging, Circular Economy



eISSN: 2550-214X © 2022. The Authors. Published for Ideology Journal by UiTM Press. This is an Open Access article distributed under the terms of the Creative Commons Attribution-NonCommercial-NoDerivatives License (<http://creativecommons.org/licenses/by-nc-nd/4.0/>), which permits non-commercial re-use, distribution, and reproduction in any medium, provided the original work is properly cited, and is not altered, transformed, or built upon in any way.

## 1. INTRODUCTION

The environmental impact of our production and consumption activities is sobering. A tremendous amount of waste is sent to landfills due to a throw-away culture. Single-use plastic is the primary culprit due to the tremendous waste it produces. Initially driven by innovation for economic benefit, petroleum-based plastic products provide convenience and create massive waste in landfills (Meikle, 1997; Mhd Nor Osman et al., 2018). Furthermore, the unchecked overconsumption of such products leads to severe environmental and social consequences (Packard, 1960).

A great deal of literature indicates a growing interest from various industry stakeholders in developing more environmentally benign materials. Such materials are developed and utilised as an activity to counterbalance the depleting of non-renewable materials. Although the prospect of renewable and recycled industrial materials is hindered by the strong position of petrochemical-based



materials and the locked-in nature of other materials in the market, opportunities for a genuinely sustainable materials economy remain extraordinary (Geiser, 2001).

The implications of overconsumption and the adverse impact of the take-make-use-dispose approach have long been highlighted (Ellen MacArthur Foundation, 2013; Papanek, 1972; Rogers, 2005). In recent years, product stakeholders and the general public are becoming aware that if this linear economy prolongs, some ecosystems will collapse even before resources are completely exhausted. The current rate of raw materials consumption puts a strain on material resources and is detrimental to the environment (OECD, 2013). Further, planned product obsolescence has worsened the adverse environmental impact of production and consumption (Agrawal et al., 2015; Andrews, 2015). Hence, a more viable alternative production approach is required, and product industry stakeholders are under increasing pressure to shift towards circular practices to close the loop of material usage efficiently.

In response to the above challenge, designers and product developers are showing a growing interest and distinct efforts to develop and utilise more environmentally benign materials. Designers and product developers inspired by natural resources such as tropical organism in make a variety of materials (Donna Angelina, 2020). The development of sustainable materials is seen as crucial to minimising the environmental impact of products and reducing non-renewable material resource depletion. Hence, recycled and renewable materials that are commonly complemented with sustainability claims are emerging in the market.

Within the spectrum of sustainable materials, living organisms are used in speculative material projects. The developers in these projects were optimistic that living organisms could revolutionise the way materials are produced. The material's ability to 'self-build' or replace other necessary compounds in making the material it substituted is considered an advantage to minimise environmental burden. Lab-grown materials such as Kombucha, mycelium and tissue culture were perceived as a unique source of sustainable materials. The living cells effectively become the co-maker of the materials, thus blurring the boundary between man-made and nature (Hilal Mazlan, 2020). For instance, the Kombucha based material developer stated that the idea is to trigger a bacterial colony to produce a textile material to provide an alternative to conventional animal leather fraught with ethical and environmental issues. The idea of having nature as the co-maker of products is currently seen as the way forward to sustainable production and consumption. Such a strategy will help minimise the adverse impact of non-sustainable material and reduce reliance on finite, non-renewable fossil-based material.

Substantial progress has been made in the past concerning research findings on the cultivation of Kombucha biomaterial, but current development is stagnant. In particular, existing research has predominantly explored the production process (Jurgita Domskiene et al., 2019; Torres et al., 2012; C. Zhu et al., 2013). Also, researchers are focusing on the feasibility of the materials at molecular levels, e.g., relating to composition, structure, and processing of materials to their properties and uses, conducted by material scientists and researchers (Vincent, 2011). However, it is still necessary to improve the output material in terms of its technical and experiential properties. For instance, the kombucha film without oil or wax coating crumbled easily and even with coating; the material is not as durable as animal leather. Thus, in general, the current understanding of how to further develop the biomaterial to be embedded in functional products is inadequate. Therefore, a new design direction that counterbalances the material's technical qualities and experiential qualities is essential. It is also noteworthy to highlight that this research mirrors a new emphasis on developing and utilising novel and sustainable biomaterial in Malaysia.

## 2. SUSTAINABLE MATERIAL

Material industry stakeholders posit diverse sustainability dimensions, but they convene around similar themes, minimising materials' adverse impact on humans and the environment through efficient management. (Arroyo et al., 2016) asserted that defining sustainability can be complicated since it is subject to multiple stakeholders' views and contexts.

By definition, 'sustainable' means 'conserving an ecological balance by avoiding depletion of natural resources (*Oxford Dictionary of English (3d.)*, 2010). In literature, the word 'sustainable' is typically used with no consensus meaning. It has no precise definition and is composed of three fragments of aspiration: economic, social, and environmental well-being (Allwood, 2016). It is also understood as a vague concept concerning holistic well-being at the societal level (Kattwinkel et al., 2018).

When the word 'sustainable' is linked to materials, it explains a more viable material that fulfils specific sustainability attributes regardless of the material's type. For example, In the book 'Sustainable Materials with Open Eyes', (Allwood & Cullen, 2012) reviews the sustainability attributes of five materials, namely steel, aluminium, cement, paper and plastic. Of course, the attributes that define sustainable materials vary depending on the context. However, the essence of the terminology encapsulates the well-being of humans and the environment. 'Sustainable materials' are those that reduce hazards in processing, secure public health and minimise environmental impact throughout their life cycles (Geiser, 2001).

Also, 'sustainable material' is often used interchangeably with 'eco-materials' to explain the environmental credentials, e.g., 'Eco-tyres that are made of sustainable methods and materials' (Luchs et al., 2010). In the Rio de Janeiro Earth Summit, the concept of 'eco-materials' was proposed by which all materials should be developed and utilised in harmonic sync with the eco-sphere (Halada & Yamamoto, 2001). Historically, "eco-friendly" was originated in 1989, while "sustainable" has been around since 1727 (*The Merriam-Webster Dictionary*, 2013). Nevertheless, the two terminologies are widely used (Campbell et al., 2015) and are prominent in 1,570 labels of sustainable products in 2009 (Greenbiz, 2009). More broadly, both material groups are associated with similar attributes, e.g., materials designed employing lifecycle assessment, hazardous substance-free, higher material recyclability and having a low environmental impact (Umezawa et al., 2014, Halada et al., 2003), and bio-derived, renewable and bio-degradable (Grant & Mason, 2013).

In the science and engineering domain, 'sustainable materials' are prevalently used to describe alternative renewable materials (Cunha et al., 2013; Mikkonen & Tenkanen, 2012; Poletto et al., 2016). Furthermore, the word 'sustainable' is often used as the prefix to material types such as sustainable polymers (Y. Zhu et al., 2016) and sustainable bio-composites (Mohanty et al., 2002), describing the end-of-life (biodegradability) and the resource origin attribute (renewability). Within the design domain, various other terminologies are used, such as 'environment-conscious materials' (Utsugi et al., 2007), 'materials with high sustainable potential' (Rognoli et al., 2011) and 'eco-sensitive materials' (Karana & Nijkamp, 2014) which all of these are referring to either renewable or recycled materials. However, the difference in sustainability attributes confined by these terms is not always clear. The breadth of the terms indicates that the area of sustainable materials is growing and is still divergent in thinking. As a matter of fact, there is no consensus yet on the usage of 'bio-based plastic' terminology in the industry (Álvarez-Chávez et al., 2012).

### 3. MATERIAL DESIGN DRIVEN (MDD) APPROACH

Historically, research and exploration of materials as a substance having beneficial properties were exclusive to material scientists as the discipline of chemistry progressed faster during the Industrial Revolution (Miodownik, 2007). The focus back then was on utilising the performative aspects of the material and converting them into valuable products. Interdisciplinary collaboration was encouraged in the 1960s, and industry-academic partnerships were initiated in the 1980s to escalate material commercialisation (Vincent, 2011). As a result, material exploration and development discourse spread to other disciplines such as product design. Within the same period, sustainability consideration was incorporated in the fore of the design industry as part of their environmentally conscious design solution (Ramirez, 2012). The trend also emerged in academics where sustainability issues are being taught in design courses (Ramirez, 2012). The Cumulus International Association of Universities and Colleges of Art, Design and Media further posed sustainability issues as opportunities for design, design education and design research (Cumulus, 2008).

Thus, currently, sustainable material exploration and development is not unusual in design practices. This trend is also partly driven by the democratisation of knowledge and production technology (Rognoli, Bianchini, Maffei, & Karana, 2015; Mota, 2011), producing an increasingly large output category of 'DIY' materials (Rognoli et al., 2015). It is also noteworthy that material exploration within this spectrum is further facilitated through maker communities (Thilmany, 2014). The exploration projects are not limited to self-exploration, as multidisciplinary knowledge sharing platforms (e.g., the open workshops on bio-materials held by the Co-Lab at the Institute of Making, University College London) contribute to disseminating materials knowledge to the public.

The use of unconventional materials with peculiar surface characteristics in which imperfection is embraced and considered an appealing aesthetic is one of the designer's emergent themes in material projects. Examples of such projects are Tomas Gabzdil Libertiny's bees hive vase (Parsons, 2009); Suzanne Lee's bacterial cellulose jacket; Gingers Krieg Dossier's microbial-induced bricks (Ginsberg, 2014); a tissue-cultured jacket (Catts & Zurr, 2014); alternative textile production from mycelium (Collet, 2017) and seeds' tablets and pots based on coffee waste, (Karana, Barati, Rognoli, & Zeeuw Van Der Laan, 2015).

Although inclined towards conceptual application that is purely design-based, i.e., explored through material tinkering or trial and error, materials explored by designers have contributed to the body of knowledge. The outputs of material exploration by designers are pushing the boundaries of the design discipline and challenging the capabilities of the current technology. However, they are indeed shaping the future of the material field (Ginsberg et al., 2014). The exploration of materials by designers in this century has reached the ultimate peak, including the creation of futuristic materials (Lee, 2015). The oxygen-breathing 'silk-leaf' by a Royal College of Art graduate (Melchiorri, 2014) and 'Bio-plastic Fantastic' (Schmeer, 2014) can be considered as iconic examples that indicate the progressiveness of the materials explored by designer, to the extent that future living with interactive and living materials are conceptualised. Significantly, the features of the materials contribute to an additional facet of sustainability (e.g., renewability, self-heal). Not limited to conceptual products, even luxury brands have utilised sustainable materials to comply with the sustainable standard in sourcing and producing products. For example, Gucci launched a handbag collection made of leather sourced from Rainforest Alliance Certified ranches, and Stella McCartney developed biodegradable leather (Ki & Kim, 2016).

Further, the Material Driven Design framework has been developed to facilitate designers in designing products with materials as the clear departure point in the design process (Karana et al., 2015). Also, this tool is beneficial in designing or developing non-conventional materials in which the embedded meaning of the materials is unknown. As shown in Figure 1, attention is given to the technical

and experiential qualities of materials. Therefore, designers need to go through four main steps as follows: (i) Understanding the Material: Technical and Experiential Characterisation, (ii) Creating Materials Experience Vision, (iii) Manifesting Materials Experience Patterns, and (iv) Designing Material/Product Concepts. The first and second steps are crucial as designers need to analyse the nature of the materials, how users go about appraising materials and formulate ideas on the possible application where unique technical qualities and experiential qualities of materials are relevant to be incorporated (Karana et al., 2015).

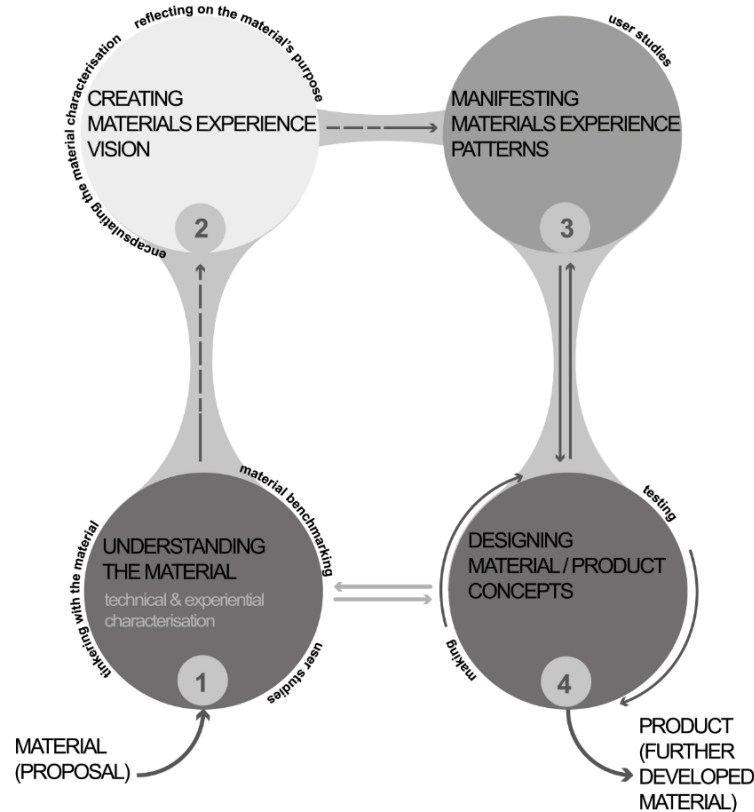
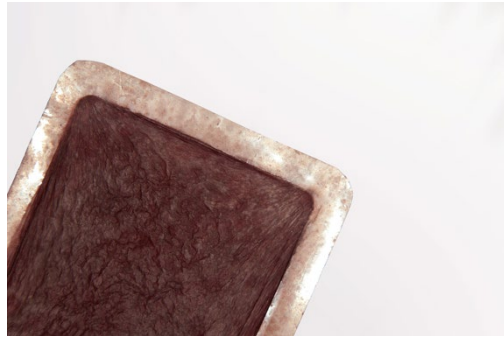


Figure 1: The Material Driven Design Framework (Karana et al., 2015)

## 4. BACTERIAL CELLULOSE BIOMATERIAL

Bacterial cellulose is a biological material with impressive physical properties and low cost of production that is an attractive substrate for the development of sustainable materials for product application. As previously mentioned, the main idea of utilising living materials for products is to harness the ability of the materials to be self-built. Thus, the output material or the product is relatively more sustainable because it requires little energy and resources in its production.

One of the most common bacterial cellulose materials used in product design is the Kombucha bio-film. The material is a membrane created through a symbiotic fermentation process by consortium bacteria, yeast and Kombucha tea (Alkhalifawi, 2014). Principally, the bacteria are fed with agricultural waste as the grow medium, forming a sheet of skin-like material. Usually, it would take about two weeks for a thin, flexible and organic film to form. At its end of life, Kombucha biomaterial will easily disintegrate and decompose.



**Figure 2:** Samples of semi-developed Kombucha biomaterial (Emma Sicher, 2018)

Many product designers have developed Kombucha biomaterial to substitute plastic, textile and animal leather (see the above Figure). As the biomaterial is entirely grown from cellulose film, no animal is exploited in the production. Also, water and energy use are less intensive than the production of mainstream materials. Hence, the carbon footprint of Kombucha biomaterial is relatively low. However, developers are still refining the finishing treatment for the biomaterial. For sustainability reasons, they opt not to use harmful chemicals typically used to treat material surfaces.

To date, much research has explored the engineering and design aspects of cellulose materials. For example, (Sicher, 2017) and (Cohen et al., 2020) investigated food waste as a growth medium for bacterial culture, (Chawla et al., 2009) describe the structural properties and speculate current and potential applications of bacterial cellulose. Previous studies (e.g., Stefano Parisi, 2021; LoreVeelaert, 2020; Ghalachyan, 2018) explored user perceptions and experiential characterisation towards bio-inspired cellulose material application in design. In addition, researchers are exploring the various dimensions of bacterial cellulose materials to look for alternatives in substituting the non-renewable resources typically used in the conventional linear economy.

## 5. METHODOLOGY

This paper presents a project to develop bacterial cellulose composites variation using the Material Driven Design (MDD) framework (Karana et al., 2015). The project focuses on the early stage of material development encompassing the first two steps of MDD, (i) Understanding the Material, (ii) Creating Material Experiential Vision, (iii) Manifesting Materials Experience Patterns, (iv) Designing Material/ Product Concept. It is noteworthy to highlight that the MDD guides designers to envision a material application based on its experiential and technical qualities. Like the typical practice of a product design development process, designers rely on a reflective approach and act on intuitive interpretation, knowledge and experience in using MDD.

In the first step of MDD, as part of the alteration and tinkering process, a mini-laboratory of biomaterial cultivation and processing system was set up to output several samples of bacterial cellulose materials. Then, the researchers interacted and manipulated the samples to understand their technical and experiential characteristics thoroughly. In addition, selected samples were benchmarked against several conventional materials.

In the second step, the purpose of the materials was defined. Relevant material applications based on their experiential characteristics were projected. The step also consists of an evaluation of the materials by a panel of product design experts. The study participants were asked to appraise the materials using a think-aloud protocol. The aim was to understand users' perceptions of the material samples. A semi-structured interview with two product design experts was conducted in the third step of MDD. The interview further investigated the material-users relationship, and the findings provide a

basis for envisioning the material application. Finally, a meaningful and feasible embodiment of the material samples in products were proposed. The overall MDD process conducted in the study is summarised in Table 1 below.

**Table 1:** The MDD steps and approaches in each step

<b>MDD Steps</b>	<b>Approaches</b>
1. Understanding the Material	<ul style="list-style-type: none"> <li>● Alteration and tinkering                             <ul style="list-style-type: none"> <li>-samples cultivation</li> <li>-physical manipulation</li> <li>- think-aloud protocol and physical interaction by two product design experts</li> </ul> </li> </ul>
2. Creating Material Experiential Vision	<ul style="list-style-type: none"> <li>● Material benchmarking</li> <li>● Reflection on experiential and technical qualities of the material samples</li> </ul>
3. Manifesting Materials Experience Patterns	<ul style="list-style-type: none"> <li>● Understanding of how the materials will be used and experienced                             <ul style="list-style-type: none"> <li>-think-aloud protocol with two product design experts</li> </ul> </li> </ul>
4. Designing Product Concept	<ul style="list-style-type: none"> <li>● Packaging Design Proposals</li> </ul>

## 6. FINDINGS

The following sections present the outcomes of each step of the MDD. In this project, approaches within each step of the MDD facilitate the output of new variants of bacterial cellulose material and envision their applications.

### 6.1 Understanding the Materials

#### 6.1.1 Alteration and Tinkering

The tinkering process is started with the production of the material samples. The process aims to make changes and improve the characteristics of the material. Through exploratory experiments, one 'control' (unaltered sample), one 'film' (altered sample), and two composites (altered samples) were produced, as shown in Figure 3.



Control (unaltered sample)



Biocomposite 1 (altered sample)



Biocomposite 2 (altered sample)



Biofilm (altered sample)

**Figure 3:** Four material samples

All material samples were grown at room temperature in a controlled growth medium. Table 2 presents the brief record of the material samples cultivation. Examples of the scene of the cultivation and material processing are shown in Figure 4.

**Table 2:** Record of material samples cultivation control

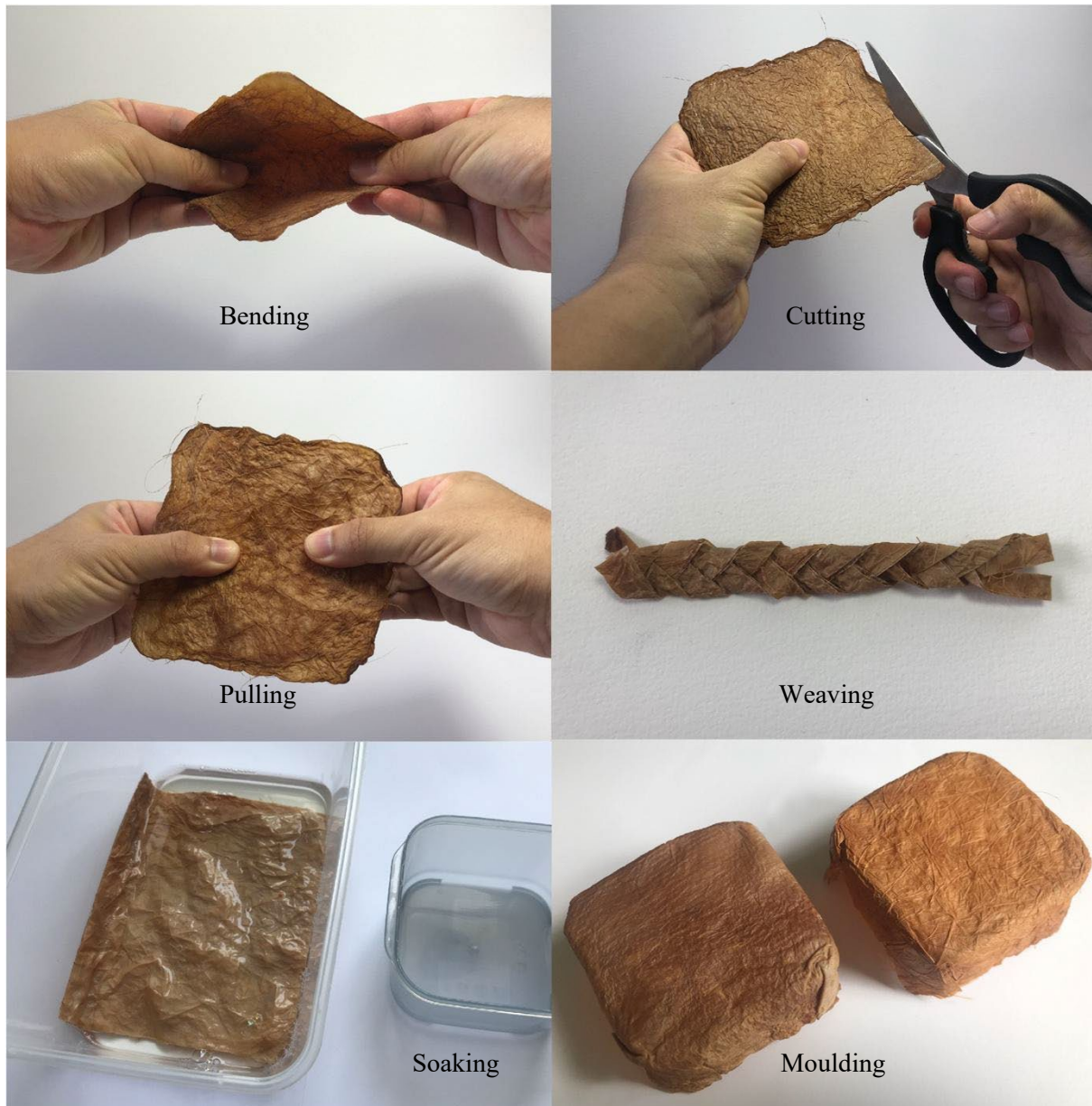
Cultivation Process	Control (Unaltered Sample)	Biofilm (Altered Sample)	Biocomposite 1 (Altered Sample)	Biocomposite 2 (Altered Sample)
Growth Duration	Four weeks	One week	Two weeks	Four weeks
Fibre Reinforcement	NA	NA	Coconut husk & rice straw	Coconut husk
Impurities Removal Treatment	NA	Water, Betaines and Sodium Laureth Sulfate	Water	Water, Betaines and Sodium Laureth Sulfate
Surface Treatment	NA	Silicone texture imprint	NA	Silicone texture imprint
Colour Treatment	NA	NA	Food grade dye	NA
Water-Repelling Treatment	NA	NA	Coconut oil	NA
Drying Method	Sun-dry	Sun-dry and heat press	Sun-dry and heat press	Sun-dry and heat press



**Figure 4:** Bacterial cellulose in growth medium (left) and sun-drying and texture imprinted process (right)

Several sessions of physical manipulation were conducted on the materials after the cultivation and processing were complete. The tinkering process allowed the designers to develop a comprehensive understanding of the materials, including their sensorial, performative, affective, and interpretive aspects. Specifically, the tinkering studies were conducted with the materials to understand their properties, behaviour under different manipulation, and opportunities. As shown in Figure 5, the material samples were bent, cut, weaved, pulled, soaked and moulded. The step enables material developers to be intuitive, like an artisan, relying on cognitive process and physical-experiential capacity to read the behaviour of the materials.





**Figure 5:** Tinkering Studies with the Bacterial Cellulose Materials.

The procedures mentioned above validate the materials' technical qualities. However, the researchers also simultaneously focused on the materials' experiential qualities by having a think-aloud protocol session with two product design experts. This approach aims to simulate a users' perception and experience study, to understand the evoking emotions and appraisals of the materials. It is found that the materials elicited a range of emotions from surprise, pleasant, joy to disgust. Mainly, the second composite is potentially seen as an untreated animal skin. Hence users may be revolted to touch it. Then, the product design experts associated the material samples with everyday objects such as wood, leather, film and edible material. The appraisals were done while touching, grasping, folding, caressing, and pinching the materials' samples. The translucency is deemed a unique characteristic of the film sample, and the imprinted texture makes the material look high quality. The following table shows a breakdown of the various reactions and emotions elicited when the researchers cum appraisers interacted with the material samples.





**Table 3:** Experiential Quality Studies

Experiential Quality	Control	Biocomposite 1	Biocomposite 2	Biofilm
Sensorial	A pungent smell, wavy contour	Coconut-like smell, see layers, structural, moss green	Pleasant smell, natural look	Paper-like, translucent, structured pattern, feel smooth, soft, plastic sheet-like,
Performative	Fold, bend, pinch, press, stroke	Caress, fold, bend, pinch, press, grasp	Fold, bend, pinch, press, roll	Fold, bend, pinch, press, caress, roll
Affective	Unpleasant, surprise, disgust, shudder	Surprise, pleasant	Joy, happiness, surprise, fascination	Surprise, fascination, confuse
Interpretive	Wood bark-like, low quality, wrinkled leather, cheap and strong, parchment-like,	Crafty, wall deco, natural, beautiful,	Leather-like, packaging, strong, biobased material,	Film-like, rice paper, inner packaging, food packaging, high quality, flimsy, filler packaging, ready to use, edible, food-safe

### 6.1.2 Material Benchmarking

Further, the material samples were benchmarked against related mainstream and innovative materials available in the market. This step is essential in strengthening our insights on the characteristics of the designed materials.

**Table 4: Material Benchmarking**

<b>Benchmark criteria</b>	<b>Recycle Brown Paper &amp; Corrugated Box</b>	<b>Cowhide Leather</b>	<b>Mycelium Leather</b>	<b>Altered Bacterial Cellulose Materials</b>
Sample picture				
Technical properties	Non-water resistance, easily torn	Resistant to tear, puncture, wet and dry abrasion, elastic	Low density, thermal and acoustic insulation,	Resistant to tear, paper-leather flexibility, humid resistant
Experiential qualities	Established meaning depending on the sensory quality e.g., temporal, throw-it away, single-use	Established meaning depending on the sensory quality e.g., warm, sophisticated, classic	Natural, leather-like, flexible, imperfection surface quality	Natural, leather-paper-like, no established meaning
Applications	Durable and robust packaging for various industries	Clothing, furniture upholstery, bag, leather goods.	Leather substitute, footwear, fashion accessories, bag,	Filler packaging, toiletries packaging, food packaging, coffee cup sleeves, wall and interior finishing, soft board
Sustainability attributes (resources origin and lifecycle)	Renewable resources, recyclable	Renewable resources, environment impact (tannery)	Renewable resources, biodegradable, low carbon footprint,	Renewable resources, biodegradable, low carbon footprint, high cultivation rate
Sustainability attributes (water consumption in production)	Approximately 10 litres for an A4 sized	Approximately 160 litres for 1 kg of leather	Approximately 1% of the water used in leather production	Approximately 2 litres for an A4 sized

## 6.2 Creating Material Experiential Vision

### 6.2.1 Reflection on Experiential and Technical Qualities of the Material Samples

Based on the experiential study, technical evaluation and mapping above, the outstanding quality of bacterial cellulose material is its paper-leather-like characteristics. Compared to paper, composite samples with natural fibres showed better water and tear resistance. The fibres help to disperse the water quickly hence maintaining the integrity of the matrix. In addition, the incorporation of natural fibre in the material reinforces the structural strength of the material. The leather-like sample (composite 2) is slightly rigid, but the fibered composite is as highly flexible and malleable as parchment leather. Also,

the less adhesion of the reinforcement fibre with matrix would speed up the biodegradability process at the material' end of life'.

Notably, despite the sensorial and technical quality, the perceived sustainability is a solid value-added in the experiential dimension of the material. The sustainability information can be communicated to users through the narrative of materials, including the resource origin, place of origin, developers, manufacturing process and the end-of-life state (biodegradability). However, the challenge is to formulate harmonic sync between the sensorial quality, technical quality and the biographical story to enable an engaging and pleasant experience in using the materials.

## **6.3 Manifesting Materials Experience Patterns**

### **6.3.1 Understanding of How the Materials will be Used and Experienced**

In conceptualising the material application, we foresee that it is feasible in packaging due to its technical, experiential and sustainability attributes. The product design experts speculated that users would have no repulsion towards the materials. They will perceive the control sample as wood bark-like or parchment-like materials, composite 1 as a natural fibre composite, composite 2 as a leather-like material, and the film as a wax paper. Meaning they are familiar with the sensorial properties of the materials, especially the visual and tactile. Furthermore, the design experts appraised the crafty look of composite 1, which resulted from the fibre reinforcement as beautiful, natural, and suitable for wall finish. Meanwhile, the leather-like composite 2 material is versatile for leather goods such as wallets, keychains, bags and purses.

The design experts expressed diverse visions on the film sample. Its flimsiness, imprinted patterns, and translucency were associated with rice paper, flat noodles, gift wrappers, lampshades and *wayang-kulit* (shadow puppets). Notably, the predicted vast area of application for the material is in the packaging industry. Due to its properties, the film is feasible for inner packaging, food packaging, filler packaging, edible packaging and food safe wrapper.

The designed materials in this project are cost-effective and utilise easy up-scalable production techniques. Notably, local feedstocks can be used as the growth medium and substances of the materials. Hence, it is feasible to manifest the production of the materials in Malaysia as the small and medium enterprises (SMEs) are the backbone of the manufacturing industry. Also, there is an emerging cluster of microenterprises consisting of young designers and independent product makers. Such stakeholders could further develop and commercialise the materials, either for everyday functional product application or as a medium for creative and artistic exploration.

## **6.4 Designing Product Concept**

### **6.4.1 Packaging Design Proposals**

Based on the previous three steps of MDD, the researchers have envisioned three packaging concepts for the three bacterial cellulose materials. The proposed concepts took advantage of the experiential and technical qualities of the materials. While the main aim is to solve the fundamental problem of the wasteful and negative impact of mass plastic and paper-based packaging, the researchers also intend to support a counter-movement of artisanal making or craft industry. Hence, the proposed packaging design adopts a simple and effective manufacturing process

The embodiment of bio-based materials in such products is central to the contemporary conversation about environmentally aware consumption. Consumers are becoming more eco-conscious in Malaysia, and companies are beginning to see that sustainability makes sense economically. It is also an asset that helps to leverage a responsible brand image.

The following Figures show the proposed packaging design made of the designed materials. The packaging concepts for the material samples are as follows:

- 1) Biocomposite 1- Gift box
- 2) Biocomposite 2- Biscuits and pastries serving box, fruits bag, soap sleeve packaging
- 3) Biofilm- Alternative 'bubble wrap'.



**Figure 6:** Proposed packaging design: (a) gift box, (b) fruits bag, (c) alternative 'bubble wrap', (d) biscuits and pastries serving box.

## 7. DISCUSSION

The novel output materials for this project are two variants of bacterial cellulose – plant fibre-reinforced composites and a bacterial cellulose film. At a glance, the first composite may be perceived as a natural fibre composite, a combination of plant fibre as reinforcement and a natural binder as the matrix. The second composite is potentially be seen as a leather-like material. On the other hand, the

film can be considered as a thick baking sheet or rice paper. However, upon initial interaction or close examination with the three materials, they can be appraised as parchments with paper-to-leather characteristics. The plant fibre reinforced composites feel rough, and they make slight rustling when folded. Notably, the composites' uneven thickness, 'stain' colours, abstract pattern of veins, subtle scars and bruises, and shrunken surfaces evoke natural meanings. The surface of the film is silky smooth but structurally stiff. The imprinted texture on the material's surface brought the meaning of 'manufactured' hence elevating the perceived robustness of the material.

In terms of technical qualities, by nature, bacterial cellulose is hydrophilic. However, although it has a strong affinity for water, the material stays intact, and the surface layer of the material is hygroscopic (not easily dissolved by water). Therefore, oil or wax treatment helps to control the water-vapour permeability. Also, the reinforcement of plant fibres, including the types and techniques of incorporation, is a novel finding of this research. Less adhesion between the plant fibres and the matrix contributes to the flexibility and biodegradability rate of the material.

Based on the experiential and technical qualities of the designed materials, the researchers deem that the materials are feasible to be used as packaging. Notably, the unique main character of the materials is that it is more robust than paper and do not last forever as plastic. Moreover, the desired technical qualities of the materials can be controlled during their growth process. For example, for more structural packaging, rigid and brittle fibres can be incorporated. Also, a thin and untreated version of the material fits for fillers or plastic wrap-like packaging, of which the materials' lifespan can be shortened for sustainability.

Another significant sustainability aspect of the bacterial cellulose material is the potential to establish a network of local stakeholders that develop and utilise the materials. For example, universities or research centres can provide the 'blueprint' of the materials. Then, start-ups, micro-enterprises or craft companies can cultivate the materials, using growth medium from much by-production waste such as used coffee and tea powder from cafes and restaurants in Malaysia. Similarly, reinforcement fibres can be obtained from food industry waste. Finally, the finished materials may be passed to third parties producers to turn the materials into products. Such stakeholders are part of the material's story. Narrating the biography of the material to the consumers would elevate the perceived value of the materials. Expectedly it will create an engaging material experience, more appreciation of the material and ultimately lead to progressive uptake of sustainable materials in the local market.

Nevertheless, expansion of approaches within each step of MDD can lead to product diversification. Future investigations are necessary to validate the experiential and technical properties of the materials. Apart from commercialising the materials as packaging products, we believe that future research could look for crafts and creative applications. For instance, the materials can substitute mengkuang or bemban to be weaved into everyday items such as baskets, containers, and lampshades. Also, future research is needed to understand how users' perceptions change when the materials are applied in different types of products.

## **8. CONCLUSION**

An approach gaining popularity among product designers and material developers is called Material Design Driven (MDD). The framework offers a systematic step to qualify materials in terms of their technical and experiential qualities. Such an approach assists designers in developing novel and non-mainstream materials, aiming to embed desirable characteristics to the designed materials. Importantly, it triggers material's sustainability consideration as projecting how the material will be used and experienced is a prominent agenda of MDD. In this project, the researchers have produced three types of bacterial cellulose materials, i.e., composites and film, proposed to be used as packaging materials. It is anticipated that the 'parchment' or 'paper-leather'-like characteristics of the materials provide

advantages in product protection, sensorial experience and meanings. The materials potentially can be developed by small and medium enterprises and the crafts industry in Malaysia as the cultivation process is not complex. Additionally, waste materials are the primary resources used in the materials' cultivation. Further improvement of the material variants by expanding the approaches of MDD would unfold new dimensions of the material characteristics and applications.

## ACKNOWLEDGEMENT

The research is conducted collaboratively with three academic institutions namely, International Islamic University Malaysia, Malaysia Institute of Art and Imam Abdul Rahman bin Faisal University, Saudi Arabia.

## FUNDING

The research is funded by an IIUM research grant (RMCG20-068-0068).

## AUTHOR CONTRIBUTIONS

The three authors are experts in sustainable materials and product design. The first and second author developed the materials, conceptualised and conducted the experiments. The third author helped to perform the experiential studies. All authors discussed the findings and contributed to the final version of the manuscripts.

## CONFLICT OF INTEREST

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

## REFERENCES

- Agrawal, V. v., Atasu, A., & Ittersum, K. van. (2015). Remanufacturing, Third-Party Competition, and Consumers' Perceived Value of New Products. *Management Science*, 61(1), 60–72.
- Alkhalifawi, I. (2014). Factors Influence on the yield of Bacterial Cellulose of Kombucha (Khubdat Humza). In *Article in Baghdad Science Journal*.  
<https://www.researchgate.net/publication/303487605>
- Allwood, J. M. (2016). Sustainable materials. *Nature Reviews Materials*, 1(1), 15009.  
<https://doi.org/10.1038/natrevmats.2015.9>
- Allwood, J. M., & Cullen, J. M. (2012). *Sustainable Materials with both eyes open*. UIT Cambridge.
- Álvarez-Chávez, C. R., Edwards, S., Moure-Eraso, R., & Geiser, K. (2012). Sustainability of bio-based plastics: General comparative analysis and recommendations for improvement. *Journal of Cleaner Production*, 23(1), 47–56. <https://doi.org/10.1016/j.jclepro.2011.10.003>
- Andrews, D. (2015). The circular economy, design thinking and education for sustainability. *Local Economy*, 30(3), 305–315. <https://doi.org/10.1177/0269094215578226>
- Arroyo, P., Tommelein, I., & Ballard, G. (2016). Selecting globally sustainable materials: a case study using choosing by advantages. *Journal of Construction Engineering and Management*, 142(2), 1–10. [https://doi.org/10.1061/\(ASCE\)CO.1943-7862.0001041](https://doi.org/10.1061/(ASCE)CO.1943-7862.0001041).
- Campbell, B., Khachatryan, H., Behe, B., Dennis, J., & Hall, C. (2015). Consumer perceptions of eco-friendly and sustainable terms. *Agricultural and Resource Economics Review*, 44(1), 21–34. <https://doi.org/10.1017/S1068280500004603>

- Catts, O., & Zurr, I. (2014). Countering the engineering mindset: the conflict of art and synthetic biology. In A. Ginsberg, J. Calvert, P. Schyfter, A. Elfick, & D. Endy (Eds.), *Synthetic aesthetics investigating synthetic biology's designs on nature* (pp. 27–37). The MIT Press.
- Chawla, P. R., Bajaj, I. B., Survase, S. A., & Singhal, R. S. (2009). Microbial Cellulose: Fermentative Production and Applications. *Food Technology and Biotechnology*, 47(2), 107–124.
- Cohen, N., Sicher, E., & Yavuz, S. U. (2020). Designing with microbial cellulose to feed new biological cycles. *International Journal of Food Design*, 4(2).
- Collet, C. (2017). Grow-Made Textiles. *Alive, Active, Adaptive, EKSIG International Conference on Experiential Knowledge and Emerging Materials*.
- Cumulus. (2008). *Power, effect and sample size using GPower: practical issues for researchers and members of research ethics committees*. Cumulus International Association of Universities and Colleges of Art, Design and Media.
- Cunha, A. M., Campos, A. R., Cristovão, C., Vila, C., Santos, V., & Parajó, J. C. (2013). Sustainable materials in automotive applications. *Plastics, Rubber and Composites*, 35(6–7), 233–241. <https://doi.org/10.1179/174328906X146487>
- Donna Angelina. (2020). The Jewelry design from natural environment based on tropical nature of Indonesia. *Ideology Journal*, 5(1), 23–32. <https://ir.uitm.edu.my/id/eprint/30021>
- Ellen MacArthur Foundation. (2013). *Towards the circular economy (volume 1): Economic and business rationale for an accelerated transition*.
- Emma Sicher. (2018, November 15). *Using Microbial Cellulose as Sustainable Packaging Material*. <https://materialdistrict.com/article/microbial-cellulose-packaging-material/>
- Geiser, K. (2001). *Materials Matter: Toward a Sustainable Materials Policy*. MIT Press. <https://doi.org/10.5811/westjem.2011.5.6700>
- Ghalachyan, A. (2018). *Evaluation of Consumer Perceptions and Acceptance of Sustainable Fashion Products Made of Bacterial Cellulose*. <https://www.proquest.com/docview/2116957560?pq-origsite=gscholar&fromopenview=true>
- Ginsberg, A. D. (2014). Design evolution. In A. Ginsberg, J. Calvert, P. Schyfter, A. Elfick, & D. Endy (Eds.), *Synthetic aesthetics: investigating synthetic biology's design on nature*. The MIT Press.
- Ginsberg, A. D., Jane, C., Schyfter, P., Alistair, E., & Endy, D. (2014). *Synthetic aesthetics investigating synthetic biology's designs on nature*. The MIT Press.
- Grant, P., & Mason, T. (2013). *New and advanced materials*. Government Office for Science.
- Greenbiz. (2009). *Green product trends: more launches, more sales*. [www.greenbiz.com/news/2009/04/24/green-product-trends](http://www.greenbiz.com/news/2009/04/24/green-product-trends)
- Halada, K., Yamada, K., Ijima, K., & Soeno, Y. (2003). Analysis of the current status of ecomaterials in Japan. *Materials Transactions*, 44(7), 939–945.
- Halada, K., & Yamamoto, R. (2001). The current status of research and development on ecomaterials around the world. *MRS Bulletin*, 26(11), 871–879.
- Hilal Mazlan. (2020). Biomimicry In Creative Contemporary Art Making Process. *Ideology Journal*, 5(1), 130–133.
- Jurgita Domskiene, Florentina Sederaviciute, & Judita Simonaityte. (2019). Kombucha bacterial cellulose for sustainable fashion. *International Journal of Clothing Science and Technology*, 31(5), 644–652.
- Karana, E., Barati, B., Rognoli, V., & Laan, A. Z. van der. (2015). *Material Driven Design (MDD): A Method to Design for Material Experiences*. 9(2), 35–54.
- Karana, E., Barati, B., Rognoli, V., & Zeeuw Van Der Laan, A. (2015a). Material driven design (MDD): a method to design for material experiences. *International Journal of Design*, 9(2), 35–54.
- Karana, E., Barati, B., Rognoli, V., & Zeeuw Van Der Laan, A. (2015b). Material driven design (MDD): a method to design for material experiences. *International Journal of Design*, 9(2), 35–54.
- Karana, E., & Nijkamp, N. (2014). Fiberness, reflectiveness and roughness in the characterization of natural and high quality materials. *Journal of Cleaner Production*, 68, 252–260. <https://doi.org/10.1016/j.jclepro.2014.01.001>



- Kattwinkel, D., Song, Y., & Bender, B. (2018). Analysis of Ecodesign and Sustainable Design in Higher Education. *DS 92: Proceedings of the DESIGN 2018 15th International Design Conference*, 2451–2460.
- Ki, C. W., & Kim, Y. K. (2016). Sustainable versus conspicuous luxury fashion purchase: Applying Self-Determination Theory. *Family and Consumer Sciences Research Journal*, 44(3), 309–323. <https://doi.org/10.1111/fcsr.12147>
- Lee, J. (2015). *Material alchemy: Redefining materiality within the 21st century*. BIS Publishers.
- LoreVeelaert, E. D. B. I. M. E. K. (2020). Experiential characterization of materials in product design: A literature review. *Materials & Design*, 190(May 2020), 1–16.
- Luchs, M. G., Naylor, R. W., Irwin, J. R., & Raghunathan, R. (2010). The sustainability liability: Potential negative effects of ethicality on product preference. *Journal of Marketing*, 74(5), 18–31. <https://doi.org/10.1509/jmkg.74.5.18>
- Meikle, J. L. (1997). Material doubts: the consequences of plastic. *Environmental History*, 2(3), 278–300. <https://doi.org/10.2307/3985351>
- Melchiorri, J. (2014). *Silk leaf*. <http://www.julianmelchiorri.com/Silk-Leaf>
- Mhd Nor Osman, Anwar Fikri Abdullah, & Muhamad Abd Aziz Ab Gani. (2018). Sustainable Housing Landscape Concept as a Source of Wrapping Materials for Preserving Culture Activities in Malay Traditional Food. *Ideology Journal*, 3(2), 263–274. <http://ideologyjournal.com/>
- Mikkonen, K. S., & Tenkanen, M. (2012). Sustainable food-packaging materials based on future biorefinery products: Xylans and mannans. *Trends in Food Science & Technology*, 28(2), 90–102. <https://doi.org/10.1016/j.tifs.2012.06.012>
- Miodownik, M. a. (2007). Toward designing new sensoaesthetic materials. *Pure and Applied Chemistry*, 79(10), 1635–1641. <https://doi.org/10.1351/pac200779101635>
- Mohanty, A. K., Misra, M., & Drzal, L. T. (2002). Sustainable bio-Composites from renewable resources: opportunities and challenges in the green materials world. *Journal of Polymers and the Environment*, 10(1–2), 19–26. <https://doi.org/10.1023/A:1021013921916>
- OECD. (2013). *Material resources, productivity and the environment: Key findings*. OECD Publishing.
- Oxford Dictionary of English (3d.)*. (2010). Oxford University Press.
- Packard, V. (1960). *The Waste Makers*. Longmans.
- Papanek, V. (1972). *Design for the real world: Human ecology and social change*. Pantheon Books.
- Parsons, T. (2009). *Thinking: Objects: Contemporary approaches to product design (Vol.18)*. AVA Publishing SA.
- Poletto, M., Luiz, H., Júnior, O., Visakh, P. M., & Arao, Y. (2016). Composites and nanocomposites based on renewable and sustainable materials. *International Journal of Polymer Science*.
- Ramirez, M. (2012). Ethics and social responsibility integration within industrial design education in Oceania. *Design Research Society 2012, 04*, 1565–1580.
- Rogers, H. (2005). *Gone Tomorrow, The Hidden Life of Garbage*. The New Press.
- Rognoli, V., Bianchini, M., Maffei, S., & Karana, E. (2015). DIY materials. *Materials and Design*, 86, 692–702. <https://doi.org/10.1016/j.matdes.2015.07.020>
- Rognoli, V., Karana, E., & Pedgley, O. (2011). Natural fibre composites in product design: An investigation into material perception and acceptance. *DPPI'11 - Designing Pleasurable Products and Interfaces, Proceedings*. <https://doi.org/10.1145/2347504.2347543>
- Schmeer, J. (2014). *Bioplastic fantastic — between products and organisms*. <http://johannaschmeer.com/bioplasticfantastic>
- Sicher, E. (2017). *From Peel to Peel: An experimental design approach for packaging*. Bozen-Bolzano: UNIBZ.
- Stefano Parisi, M. H. V. R. (2021). Paving the way to post-digital smart materials. Experiments on human perceptions of a bio-inspired cellulosebased responsive interface. *Cumulus Conference Proceedings Roma*, 2(07/2021), 1308–1324. <https://www.sciencedirect.com/science/article/pii/S0264127520300769>
- The Merriam-Webster Dictionary*. (2013). Merriam-Webster Incorporated.

- Thilmany, J. (2014). *The maker movement and the U.S. economy*. Mechanical Engineering-CIME. <https://www.highbeam.com/doc/1G1-393874522.html>
- Torres, F. G., Commeaux, S., & Troncoso, O. P. (2012). Biocompatibility of Bacterial Cellulose Based Biomaterials. *J. Funct. Biomater.*, 3, 864–878.
- Umezawa, O., Shinohara, Y., & Halada, K. (2014). New aspects of ecomaterials from the viewpoints of the consumer and regional communities. *Materials Transactions*, 55(5), 745–749. <https://doi.org/10.2320/matertrans.MB201302>
- Utsugi, N., Yiyin, S., Abe, M., & Shiraishi, T. (2007). Visual character of board-formed environment conscious materials. *International Association of Societies of Design Research The Hong Kong Polytechnic University*.
- Vincent, B. B. (2011). Materials as Machines. In N. A. Carrier M. (Ed.), *Science in the context of application. Boston Studies in the Philosophy of Science* (Vol. 274, pp. 101–111). Springer, Dordrecht.
- Zhu, C., Li, F., Zhou, X., Lin, L., & Zhang, T. (2013). Kombucha-synthesized bacterial cellulose: Preparation, characterization, and biocompatibility evaluation. *Biomedical Materials Research*, 102(5), 1548–1557.
- Zhu, Y., Romain, C., & Williams, C. K. (2016). Sustainable polymers from renewable resources. *Nature Climate Change*, 540. <https://doi.org/10.1038/nature21001>

# An Investigation into Safe Printmaking Methods. With Etching Without Acid, for Art & Design for Higher Education Institutions in Pakistan

\*Fazal Ellahi Khan<sup>1</sup> & Nigel Power<sup>2</sup>

<sup>1,2</sup>King Mongkut's University of Technology, Thonburi Graduate Program in Design and Planning, School of Architecture and Design 110/1 Thannon Krung Thon Buri, Bang Lamphu Lang, Thon Buri, Bangkok, 10600 THAILAND  
Author's email: [fazal.khan@mail.kmutt.ac.th](mailto:fazal.khan@mail.kmutt.ac.th)

\*Corresponding author

Received: 20 November 2021, Accepted: 25 March 2022, Published: 1 April 2022

## ABSTRACT

*The purpose of this research was to explore healthy, environmentally friendly, effective, and economical alternatives to traditional acid-base printmaking practices. The research took place in Pakistan, where chemicals and acids are widely used for printmaking in Art & Design higher education institutions as well as in artist's workshops. These approaches pose serious health and safety issues for teachers, students, and practitioners alike as well as causing environmental damage. However, no research on safer alternatives had been previously carried out in the country. The investigation filled this gap using a mixed-methods research design: a practice-led project focused on the design, development, and testing of an electro-etching machine made entirely from economical and locally available components; the opinions and ideas of experts and practitioners were gauged through questionnaires and structured interviews; and, finally, the technical and aesthetic qualities and possibilities of the proposed machine were tested and evaluated through a print workshop involving students, professors, and print artists. The research found that the proposed method met the inquiry's main objectives, namely: to produce high-quality artistic prints using a safe and economical alternative to acid. The researchers conclude by arguing that the research has the potential to move educational and artistic practices in Pakistan away from unhealthy and damaging methods and towards safe and sustainable forms of print production.*

**Keywords:** *Printing acid-free, Health and Safety, Electro etching, Sustainability*



eISSN: 2550-214X © 2022. The Authors. Published for Idealogy Journal by UiTM Press. This is an Open Access article distributed under the terms of the Creative Commons Attribution-NonCommercial-NoDerivatives License (<http://creativecommons.org/licenses/by-nc-nd/4.0/>), which permits non-commercial re-use, distribution, and reproduction in any medium, provided the original work is properly cited, and is not altered, transformed, or built upon in any way.

## 1. INTRODUCTION & BACKGROUND TO THE PROJECT

This research investigated and evaluated healthy, environmentally friendly, effective, and economically viable alternatives to traditional acid-based and toxic printmaking practices in Higher Education. According to University (2003) guidelines “A toxic substance is a poison that can damage your body's organ systems when you are overexposed to it. Some substances are so toxic that just one exposure to a tiny quantity can produce harmful effects.” Many art institutions worldwide have adopted safe printing techniques and opted to use safer etching methods. For example, Groce (2016) “reports on developments in the USA: “The big news on this end is that the new University of Maine Print Studio dedicated to safer printmaking is up and running beautifully – we're thrilled! We're set up for Acrylic Resist Etching, Photopolymer Films, Water Based Screen (photo and handwork), Polyester Plate Litho, Relief, Letter Press, Monoprinting, Collagraph, Digital applications, etc. And we're also making use of

the IMRC [Innovative Media Research and Commercialization] labs next door – laser cutters and CNC (wood and metal)”.

This inquiry was conducted in Pakistan, a country where chemicals and acids are still used widely for printmaking both in Art & Design institutions as well as in artist's workshops. The use of these methods poses serious health and safety risks to students, teachers, and practitioners, as well as causing environmental damage. Despite this, however, no research has previously been conducted in the country that would suggest or argue for the need to introduce safer alternatives. As a result, students, faculty, and technicians working in Pakistani print studios and classrooms are adversely affected by the toxic environment created by printmaking materials and processes and suffer from a range of potential health problems.



**Figure 1:** Common side effects of toxic materials  
(Source: First Author)

For example, the first author is a printmaker and has been involved in the field of printmaking for sixteen years. The researcher exhibits at national and international art fairs and teaches printmaking graduates as well as participating in domestic and international printmaking workshops. Chemicals used in traditional printmaking affected the researcher's health. In June 2017, the researcher suffered breathing difficulties, burning eyes, and skin allergies from acid etchings. Despite this, the researcher was not able to protect himself as the current curriculum requires the use of traditional printing methods. Likewise, the researcher observed health issues that have arisen after students used traditional toxic mediums to make etchings in educational institutions aiming to specialize in this field. Whilst existing safety measures such as the use of goggles, gloves, and protective aprons mitigate the effects to some degree, they are ineffective in the face of prolonged exposure.

The aim of this research was to address this problem by investigating alternative printing technologies, materials and processes suitable for use in Pakistani higher education institutions. In particular, the inquiry explored the potential of a new hybrid/modified method of printmaking (Electro Etching) through research, analysis, and experimentation. The project is the first initiative in Pakistan to research, develop and test safe, healthy and sustainable printing methods for students, educators, and artists. It is hoped that the outcomes of the research will make a significant contribution to the understanding and practice of safe printing in education and practice in Pakistan.

## 2. LITERATURE REVIEW

Print art is traditionally made using a variety of chemicals and acids. However, as noted above, the use of these substances is unsafe for students, artists, and professionals. For example, nitric acid is widely used in print studios as part of the etching process yet according to the Centre for Safety in the Arts “concentrated nitric acid is a strong oxidizing agent and can react explosively with other concentrated acids, solvents, etc. Nitric acid gives off various nitrogen oxide gases, including nitrogen dioxide which is a strong lung irritant [though odourless] and can cause emphysema. Large acute overexposures may cause pulmonary edema (chemical pneumonia), and chronic exposure may cause emphysema. During the etching process, flammable hydrogen gas is also produced.” Along with these health issues a number of researchers also point to the environmental problems caused by toxic print materials. Ademeyer and Özsoy (2020), for example, discuss the negative ecological effects of a variety of printing materials. However, as Jemai et al (2021) note, “In general, organic solvents are one of the most underrated hazards in art materials. Organic solvents are used in printmaking to dissolve and mix with oils, resins, varnishes, and inks, and to clean plates, rollers, tools, and even hands.” As a result, the researcher’s inquiry focuses in particular on solvents.

In the late 1990s, a number of researchers and practitioners began to question the health and ecological problems associated with fine art printing. According to Pengelly (1997), for example, “There is generally a recognition that safe handling and good work practices are a key to minimizing the risks associated with known hazardous materials” and that, “an increasing awareness of health and safety issues has consequently called into question the appropriateness of many printmaking materials and methods currently in use in practice.” However, Pengelly (1997) also notes that “The researcher would suggest that the onus for change must therefore ultimately rest with the individual, at a personal level but based on an increasingly informed understanding of the risks and hazards which link current legislation to their own creative process, in order to establish one's own 'reasonably practicable' practice.” This suggests that whilst practicing printmaking in a studio with traditional hazards, it is crucial to address health and safety issues whilst taking into account local needs and constraints.

In higher education institutions of art and design in Pakistan, traditional printmaking methods are still used and there is no research available into safer alternatives for the country. So, whilst it is clear that unhealthy materials and processes should be replaced with safe alternatives, the question remains which of these are practicable in the Pakistani context? Widely used alternative methods like photopolymer and solar plates are effective but expensive and rely on supplies delivered from overseas. The literature review suggested that electro-etching might offer an economical, sustainable, healthier, and safer alternative. According to Alfonso & Noone (2018), for example, “Electro-etching [...] is an electrical etching technique that can be practiced conveniently and safely at home without the need for expensive equipment or the use of harmful acids.” Moreover, as Green (2013) noted, “The greatest advantage of electro-etching etching is that with the same equipment, plates can be either bitten down or built up to give a much wider variety of results and that qualities of tone and texture can be produced that are not possible with other methods of etching.”

The literature did point to some potential problems associated with the method. For example, Alfonso & Noone (2018), noted that “The fact that it does not use resin dust or asphalt dust limits the possibility of achieving a flat, even tone of different intensities as with traditional aquatint, which we have used for several centuries.” The researcher noted these disadvantages as challenges to be addressed through practice and experimentation with electro-etching.

## 3. METHODOLOGY

The research topic formed a complex problem that combined health, environmental, economic, technological, and aesthetic dimensions. As a result, the researcher adopted a research design that combined various methods that would enable these issues to be addressed individually and as a whole (see Figure 2, below). At the heart of the research design was a practice-led approach to inquiry.

According to Candy (2006), practice-led research occurs more commonly in programs of the arts in higher education, where practice-based research is conceived in order to answer specific research questions. Such a research method is considered capable of inquiring in an imaginative and insightful manner. “Is concerned with the nature of practice and leads to new knowledge that has operational significance for that practice.” In this inquiry, the practice of printmaking was, therefore, both the subject of and a major method in the inquiry, and the knowledge produced was intended to contribute to the development of printmaking in Pakistan. This meant that the researcher’s own printmaking practice and those of other experienced and novice printmakers were used to test the processes and outcomes that the researcher proposed and developed in response to other methods.

The research design consisted of three main areas of inquiry. Firstly, expert interviews about health and safety issues in regard to printmaking. Secondly the design and production and testing of a non-hazardous printing apparatus (electro-etching machine). Thirdly, the exploration of the creative possibilities of this apparatus through a creative workshop. In this section, I will discuss each of these methods in turn.

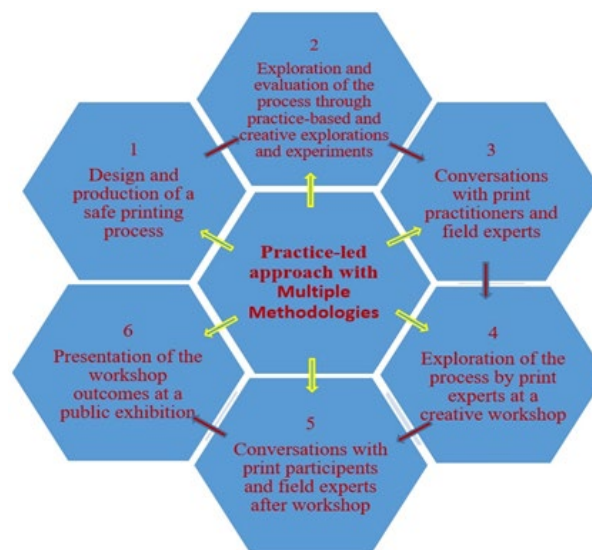


Figure 2: Practice-Led Approach with Multiple Methodologies

### 3.1 Expert Interviews

The researcher carried out semi-structured interviews online with three leading Pakistani printmaking practitioners and educators. The interviews explored health and safety issues associated with traditional printmaking methods. Firstly, the researcher wished to gauge the current state of knowledge about the health and environmental hazards posed by traditional printing methods. Secondly, the researcher wanted to find out the state of knowledge about alternative safe printing technologies and processes. And, thirdly, the researcher wanted to generate interest in his research by connecting with opinion formers in the discipline.

According to Pathak & Intratat (2012) “semi-structured interviews are used when the research would benefit from a fairly open framework. They are also used when more useful information can be obtained from focused yet conversational two-way communication with the participants.” Semi-structured interviews are a flexible and reliable way to conduct conversational research. Unlike structured interviews that use fixed questions, semi-structured interviews are more open and enable ideas and issues that are raised by the participants to be recognized and explored further. The researcher felt that this approach was important because this method provides more useful data when the sample size is relatively small. In addition, it allows for thematic analysis of qualitative data. Interviews took place online using Zoom, the reason for this was due to covid situation the researcher was unable to meet experts face to face. Interviews lasted for one hour and data was captured using an audio recorder. All

participants were fully informed about the nature of the research and were offered the opportunity to be anonymized in any final publications.

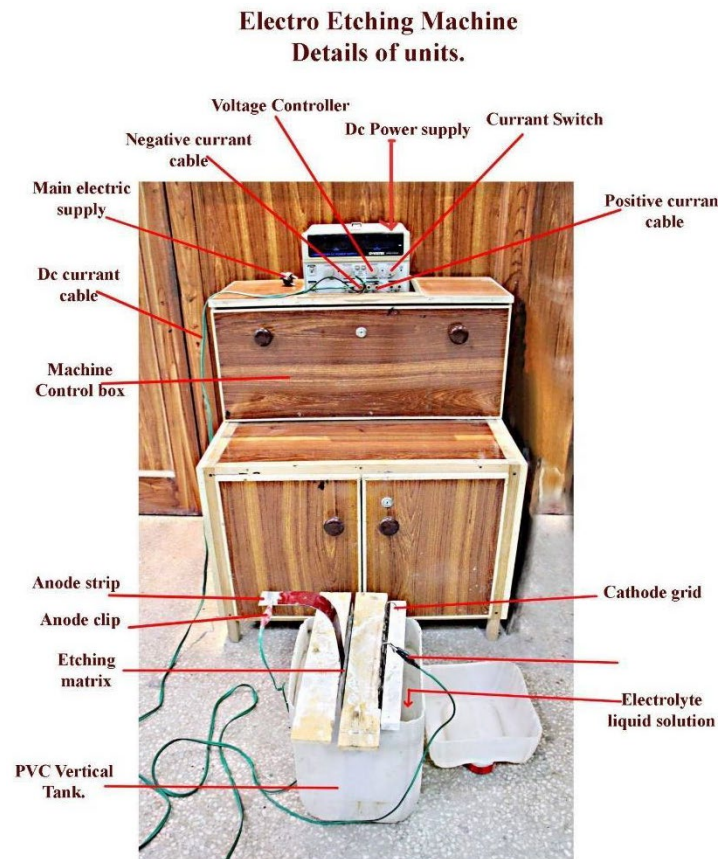
Recorded data were transcribed, typed, and printed out. The researcher analysed the data in the following way: Firstly, data from the expert interviews were transcribed carefully using MS Word, after that it was categorized into three major themes and several codes were generated manually. The process included highlighting the keywords in the transcribed data. Secondly, all the selected data through the above-mentioned process were analysed to answer the research questions.

### **3.2 Design, Production, and Testing of The Electro Etching Machine**

In order to assess the feasibility of safe printing methods in Pakistan the researcher needed to be able to test the technical and aesthetic possibilities of non-toxic printing processes. Based on the information identified in the Literature Review, the researcher hypothesized that the most appropriate safe printing method for the Pakistani context was electro-etching. Essentially, electric etching is a hybrid etching method that uses an electric current in conjunction with electrolyte water for etching onto a variety of plates. This method is not only safe and healthy, but it is also environmentally friendly and cost-effective. Unlike alternatives such as solar plate and photopolymer printing, this method does not require the use of expensive imported material but is possible with locally sourced and relatively cheap components.

The researcher's electro-etching unit is a modified version of existing approaches (see, for example, (Alexander, 2008)). The system is made up of a number of the readily available components shown in Figure. 3. After the system was designed, the researcher scoured local markets to identify candidate components. The researcher selected zinc plates for etching as these are readily available on the local market and cheaper than alternatives. In terms of method, it was decided to examine the electro-etching machine using the intaglio technique of line etching. Line etching is the basic technique of intaglio printmaking and can be investigated by focusing on the line quality of the etching. The plate making process involved the following steps:

- 1) An etching test was done on a plate that was 3 x 6.5 inches in size.
- 2) An anode metal strip was connected to a matrix, and the reverse side and anode strip were covered with plastic stickers. A steel needle was used to transfer the line drawings onto the front side of the matrix with single and crossed lines. The front side of the matrix was covered with stopping-out varnish.
- 3) The researcher measured the current and voltage using a DC power supply. The voltage was measured in volts (V) and the current was measured in amperes (amps). The first test was started with 1.0 V and 1.5 amperes.
- 4) The interval (bath) timing was set for 30 minutes for the first test.
- 5) The matrix was positioned six centimetres away from the cathode grid in the vertically oriented PVC tank already filled with an electrolyte solution.
- 6) The matrix anode strip was connected to the (+) anode crocodile clip, and the cathode grid was connected to the (-) cathode crocodile clip.
- 7) Both negative and positive current cables were connected to the DC power supply
- 8) The interval of time for biting was set for 30 minutes for the etching experiment.
- 9) After 30 minutes, the researcher verified that the test had been successful, and the matrix had been etched.
- 10) The results of this experiment were evaluated and modifications to variables in the above process were adjusted accordingly.

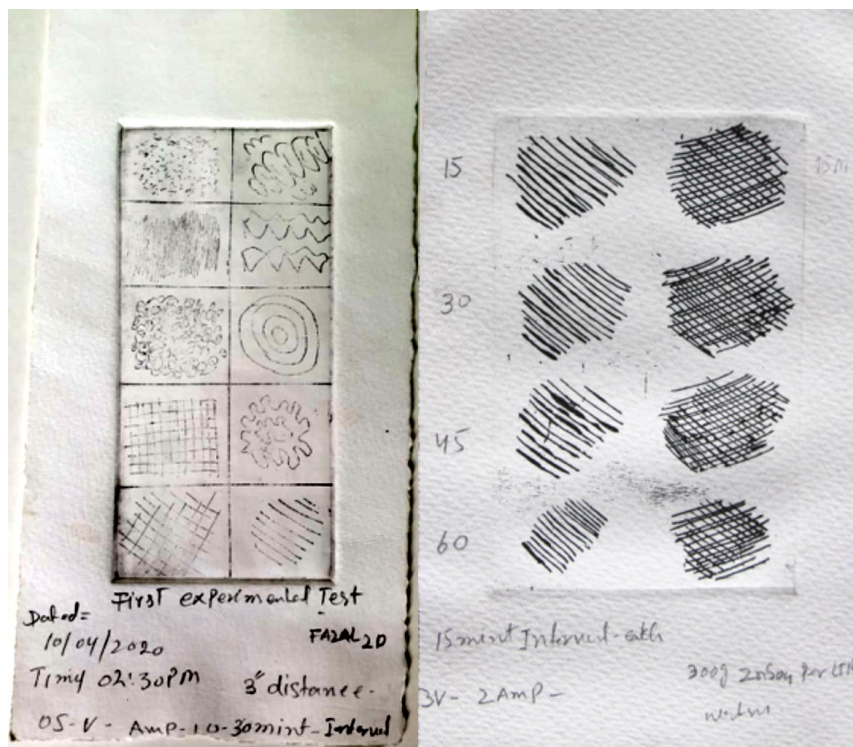


**Figure 3:** The researcher's Electro Etching Machine

During this stage of the inquiry, the researcher tested the technical components and aesthetic possibilities of the unit by producing a series of experimental prints using plates made using the unit. In terms of the former, the researcher examined the efficiency and safety of the unit. In terms of the latter, the researcher carried out five etching experiments that aimed to discover if the machine was capable of producing the range of formal properties required for fine art printing, for example, areas of flat solid colour, fine lines, subtle gradients, and so on.

Figure 4, for example, shows the outcomes of visual experiments that explored line quality and texture. The researcher conducted a detailed analysis of the results of these experiments and sought comment on and verification of the quality of the prints from subject experts. With the results of these experiments in mind, the researcher conducted experiments using a range of common printing techniques such as open bite, soft ground, and bubble drop (see Figure 5). Again, the researcher analysed the results of these experiments and sought professional feedback from others. Throughout this period the researcher made minor modifications to the system in response to these experiments and suggestions from peers.





**Figure 4:** Visual Experiment to Test Print Quality



**Figure 5:** Visual Experiment to Test Print Quality

### 3.3 CREATIVE WORKSHOP

The researcher designed a ten-day workshop to explore the creative and aesthetic possibilities for the electro-etching machine (see Figure 6). The workshop took place at Shaheed Allah Buksh Soomro University of Art, Design and Heritages in Jamshoro, Sindh province. Ten printers from various locations in Pakistan took part in this workshop – three renowned artists/ experts, three university professors, and four print students.



**Figure 6:** Creative Workshop: Explaining the Process

The workshop consisted of an introduction to and demonstration of the electro-etching process. This was followed by daily creative activities in which participants created print responses to creative prompts from the workshop leader. Each participant was invited to create and print images using A4 zinc plates using intaglio techniques. These prompts encouraged participants to produce works that tested the aesthetic potential of the machine by, for example, printing fine lines, complex textures, and flat blocks of ink. After the workshop was complete, the researcher gathered further data from the participants by using a simple questionnaire. This method was completed by a public exhibition of the outputs of the workshop.

## **4. FINDINGS**

Overall, the research demonstrates that moving away from traditional arts printing methods and towards safer alternatives in Pakistan is necessary and feasible. Moreover, the results of the researcher's own experiments with electro-etching and those of workshop participants, show that such a move can be achieved without sacrificing the aesthetic qualities associated with traditional methods. In this section, I will discuss how the major findings from each phase of the research support this claim.

### **4.1 Expert Interviews**

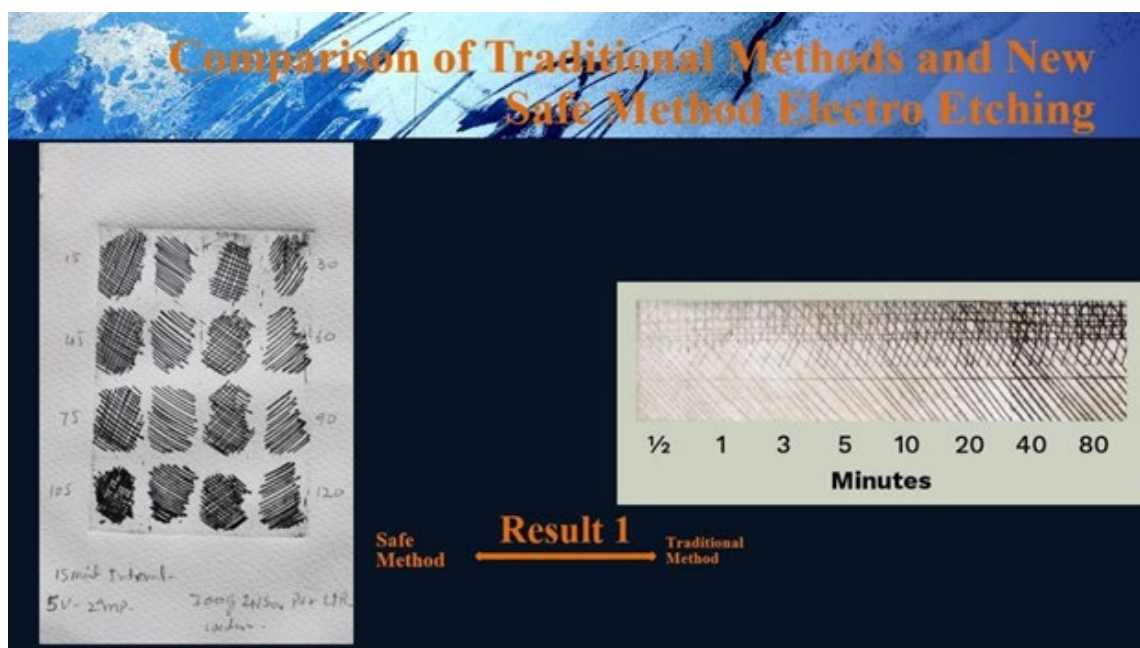
The researcher found that most respondents were aware of health & safety concerns regarding chemicals and their effect on health, but they were not aware of safe alternatives to traditional printing. According to Interviewee 3, for example, "I have been involved with printmaking for fifteen years". I work in my studio and teach students of printmaking and like other printmakers have problems using chemicals and acids, the same issues and problems that I have faced during studio practice are due to lack of opportunities in Pakistan". Interviewee 1 reiterated this point: "But despite all our efforts in Pakistan, we have not yet been able to take any significant steps for health and safety, which poses an alarming threat to artists, especially printmakers' health in Pakistan". For one participant – Interviewee 2, the health issues associated with the traditional print studio had led them to avoid the practice altogether: "I have stopped using traditional methods of printmaking. For health reasons I could not work with more chemicals, so today I use digital technology to create my artwork."

In general, there was a positive response to the researcher's work in addressing health and safety issues in the printmakers' studio. For example, Interviewee 2, was clear about the potential value of the research: "It is good that after a long time, I have seen that an artist is researching safe studio practice in the field of art and design especially, for safe printmaking studio practice. As a printmaker and teacher, I am happy to see this research in Pakistan and believe it can [...] play a significant role in securing the health of printmakers in Pakistan and beyond,"

Overall, the expert interviews demonstrated that serious concerns about traditional printing materials and methods already exist amongst leading artists and teachers in Pakistan. In other words, the field is ready to explore alternatives to toxic materials and processes. Likewise, the interviewees expressed strong support for the research project and its potential to provide an alternative approach that would fit local needs.

## 4.2 Design, Production, and Testing of The Electro Etching Machine

Through the construction and testing of the electro-etching machine, the researcher demonstrated a safe and environmentally friendly alternative to traditional acid-based printmaking is feasible. The new methods do not require any chemicals or solvents for the etching process. Based on non-toxic elements such as DC electric current and water-based electrolytes, the approach is totally safe for health and makes a minimum ecological impact. Moreover, the development and realization of a design that relied on economical and locally sourced materials, demonstrated that such an approach is suitable for the Pakistani context. As a result, the researcher argues that two of the major aims of this project has been met. This stage of the research also suggested strongly that the third aim of this inquiry – the production of prints of a high technical and aesthetic quality – was also feasible. Comparisons between traditional methods and electro-etching demonstrated that quality prints could be produced using the researcher’s electro-etching system (see Figures 7 and 8). With these results in mind, the researcher was able to test findings of the technical and aesthetic potential of the proposed system through the Creative Workshop.



**Figure 7:** Comparison Traditional Methods Line Etching Result with Electro Etching



**Figure 8:** Comparison Traditional Methods Soft Ground Result with Electro Etching

### 4.3 Creative Workshop

The Creative workshop provided the researcher with the opportunity to test the aesthetic potential of the innovative method of electro-etching. Overall, this workshop demonstrated that the method was capable of producing high-quality print outcomes that met the aesthetic needs of the printmaking community. During the workshop, the researcher analysed these outcomes with the help of experts, teachers, and students participating in the workshop. Once the workshop was complete, the researcher gave participants a further opportunity to comment on their experiences using the process and, therefore, contribute to the inquiry. Respondents largely agreed that the electro etching method can replace acids in Pakistani printmaking studios. Respondent 3, noted, “I have learned a different process of etching without acid.” Respondent 4, also described how he had learned “new mediums and techniques so I could now do my work safely at home.” Respondent 5’s contribution was even clearer: “Yes, this electro-etching method can replace the role of acid in the printmaking studio practice, and I say this as a printmaker that uses traditional acid-based methods which are so damaging to our health. So, electro etching is a unique alternative to acid and can be adopted [...] to save our lives and the environment.”

In terms of print quality, there was a general agreement that the new method delivered results that were as good as or, in some cases better than, traditional methods. For example, Respondent 5, argued that “The line quality of line etching is unique as compared to acid-base etching and the soft ground technique results more than meets expectations of print quality standards.” She continued, “As a printmaker, I prefer electro etching for my practice with a safe environment.” Respondent 9, agreed, suggesting that “The quality achieved by electro-etching is almost the same as achieved through traditional printmaking.” However, the workshop did reveal a number of concerns for the participants. For example, a number of respondents commented that the electro-etching process was somewhat slower than traditional methods. Respondent 9, for example, noted that the process was “a little more time consuming than etching using acids that act very fast but are health hazardous.” This issue will be discussed briefly in the conclusion.

## 5. CONCLUSION AND SUGGESTIONS FOR FURTHER DEVELOPMENTS

In conclusion, the research demonstrates that the proposed electro-etching system enables a safe, environmentally friendly, economical printmaking method that also provides a high level of aesthetics in prints. Given that the proposed system is constructed entirely from easily available, locally sourced, and relatively inexpensive materials, the system has the potential to make a significant contribution to the development of the field of healthy printmaking in Pakistan and other similar countries. The researcher proposes to build upon the success of the inquiry so far in a number of ways. Firstly, by addressing concerns raised by workshop participants, for example, the speed of the process compared to traditional methods by consolidating and improving the performance of the machine. Secondly, by using the results of this research to demonstrate that safe alternative to traditional methods is not only possible but essential. Fears that loss of tradition might somewhere harm creative approaches to printmaking are addressed by Sabour (2017), who argues that “non-toxic printing methods have opened the door wide for the imagination of the contemporary artist.”

## CONFLICT OF INTEREST

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

## REFERENCES

- Alfonso, C., & Noone, E. (2018). *Electro-Etching Handbook* (1st Ed.). Alfonso Vega Crujera.
- Alexander, D. (2008) “*Electrolytic Etching*”, Snag Technical Bulletin, 2nd Quarter
- Green, C. (2013). *A Handbook on Some New Methods for Non-Toxicintaglio Etching And Metal Plate Printmaking* (18th Ed.). Ecotech Design.
- Groce, S. (2016). *Environmental Printmaking: Professor Susan Groce, Pioneer Of Safer Printmaking in The Usa*. Retrieved 8 October 2021, From <https://www.jacksonsart.com/blog/2016/06/10/environmental-printmaking-susan-groce/>.
- Aydemir, C., & Ayhan Özsoy, S. (2020). *Environmental Impact Of Printing Inks And Printing Process*. Retrieved 1 October 2021, From [https://www.grid.uns.ac.rs/jged/download/v11n2/jged\\_v11\\_n2\\_p2.pdf](https://www.grid.uns.ac.rs/jged/download/v11n2/jged_v11_n2_p2.pdf).
- Jemai, H., Badri, A., & Ben Fredj, N. (2021). *State Of the Art and Challenges for Occupational Health And Safety Performance Evaluation Tools*. *Safety*, 7(3), 64. <https://doi.org/10.3390/safety7030064>
- Pathak, A., & Intratat, C. (2012). *Use Of Semi-Structured Interviews to Investigate Teacher Perceptions Of Student Collaboration*. *Malaysian Journal Of Elt Research*, 8 (1), 2012, 04. Retrieved 5 October 2021, From [https://melta.org.my/journals/majer/downloads/majer08\\_01\\_03.pdf](https://melta.org.my/journals/majer/downloads/majer08_01_03.pdf)
- Sabour, W. (2017). *The Non-Toxic Contemporary Approach To Teaching Printmaking Art*. iiste.org. Retrieved 1 September 2020, From <https://www.iiste.org/journals/index.php/ads/article/view/39053>.
- Candy, L. (2006). (Pdf) *Practice Based Research: A Guide*. Researchgate. Retrieved 15 November 2020, From [https://www.researchgate.net/publication/257944497\\_practice\\_based\\_research\\_a\\_guide](https://www.researchgate.net/publication/257944497_practice_based_research_a_guide).
- University, N. (2003). *Toxicology And Exposure Guidelines*. Ehs.Unl.Edu. Retrieved May 2020, From [https://ehs.unl.edu/documents/tox\\_exposure\\_guidelines.pdf?fbclid=IwAR1boh6fcdoidgv3kxokqq3a-Rhdpaivrviewobrnizjs5jusy7whxyubi3c](https://ehs.unl.edu/documents/tox_exposure_guidelines.pdf?fbclid=IwAR1boh6fcdoidgv3kxokqq3a-Rhdpaivrviewobrnizjs5jusy7whxyubi3c).
- Pengelly, J. (1997). *Environmentally Sensitive Printmaking: A Framework for Safe Practice*. Robert Gordon University Aberdeen. Retrieved 8 November 2020, From <https://www.openair.rgu.ac.uk>

# Identifying the Teaching Aid Effect That Parents Use to Enhance Reading Skill of Their Children

\*Muhammad Syazwan bin Mohamad Sharil<sup>1</sup>, Norhayati Che Daud<sup>2</sup>, Dr. Haszlin Shaharudin<sup>3</sup>  
Faculty of Art & Design, Universiti Teknologi MARA (UiTM), 40450 Shah Alam Darul Ehsan Malaysia  
Authors' email: \*wansyazwan696@yahoo.com<sup>1</sup>, norhayatichedaud@gmail.com<sup>2</sup>, haszlin@uitm.edu.my<sup>3</sup>  
\*Corresponding author

Received: 20 November 2021, Accepted: 25 March 2022, Published: 1 April 2022

## ABSTRACT

*This research paper aims to identify the teaching aids that parents use to enhance reading for their children. At the beginning of every school session, few students in primary school in Malaysia will enrol in special recovery classes. Students in primary school will take a particular recovery class because they have a few problems in their studies, such as reading, writing, and calculating skills. The researcher will focus on parents' teaching aid to enhance their children's reading skills in this research. Base on a Utusan Malaysia at 19<sup>th</sup> March 2019, Dr. Mahathir Mohamad say 'Marilah jadikan sekolah kebangsaan hebat semula'. From these slogans, we can see that every primary school must upgrade their learning system to solve the students' problems in studies. Besides that, the parent must help the government to reach a goal. Parents can use teaching aids to teach their children, such as electronic, non-electronic teaching aids and other manual activities. The outcome of this research paper purposely will be helping the parents on how to teach their children using teaching aids and what the perfect teaching aid that parents can use to solve the reading problem. The study would benefit the education system to arrange the guild line for teachers to improve their teaching skills for students with reading problems.*

**Keywords:** Teaching Aids, Electronic Teaching Aids, Non-Electronic Teaching Aids, Activity, Parents, Reading Skills



eISSN: 2550-214X © 2022. The Authors. Published for Idealogy Journal by UiTM Press. This is an Open Access article distributed under the terms of the Creative Commons Attribution-NonCommercial-NoDerivatives License (<http://creativecommons.org/licenses/by-nc-nd/4.0/>), which permits non-commercial re-use, distribution, and reproduction in any medium, provided the original work is properly cited, and is not altered, transformed, or built upon in any way.

## 1. INTRODUCTION

At the beginning of every school session, most primary schools will take few students for special recovery classes annually. Based on the research, students in primary school will take special recovery classes because they have a few problems in their study, such as reading, writing and calculation skills. Primary schools in Malaysia have two different categories: exceptional recovery and special education schools. Implementation of the Special Recovery Program by the 'Ministry of Education Malaysia (MOE)' begins in the 1960s to assist students in elementary schools who face problems in learning and have difficulty with reading, writing, and calculating skill. The Ministry of Education established the Special Education Schools for primary school students as 'special needs students. According to the Ministry of Education Malaysia (MOE), special needs students who are certified by medical practitioners or opticians, audiologists or psychologists according to any of them whether in government or private services as students that have a problem such as visual impairments, hearing impairments, disabilities speech, physical inability or any combination of disability. Before children start studying in primary school, the parent must perform their responsibility to teach their children. This teaching needs to be done by parents before schooling to prevent their children from learning problems. This issue arises when children have problems in learning, it will be difficult for them to get excellent results in class or at school.

The parents can personally teach their children to ensure they can learn well in school later. For example, the parents can use teaching aid as a medium to teach their children. This research will focus on how the parent can enhance the reading skill of their children using teaching aids. The Department of special education, in the booklet on the implementation of the Programme of special recovery report that “based on the research report shows between ten to fifteen per cent among school children still face the problem of failing to master the basic skills of reading, writings and counting “(Ministry of education 1999). Besides that, the Department of Education conducted a Special Recovery Programme established in every primary school to eliminate children’s reading, writing, and calculation problems. In *‘Pelan Induk Pembangunan Pendidikan (PIPP)’* 2006-2010, also included in Third Core: Empowering National Schools and Fourth Core: Close up the Education Gap. Several action plans are listed through this core to ensure students will overcome the preliminary reading, writing, and calculating at level 2.

Last year on 19 March 2019, Sinar Harian newspaper released an article entitled *‘Marilah jadikan Sekolah Kebangsaan hebat semula’* explaining the more extensive innovation about education to make the national school great again and further providing a quality workforce. Utusan Malaysia (9 October 2006) citing disclosure General Secretary National Union for Teaching (NUTP), n. Siva Subramaniam stated the number of students that do not conquer the essential skill for education. There are more than 500,000 students, mainly from the standard six students. As we can see, the issue of reading problems in society is never outworn to people talk. Although our society is undergoing a current of change in the world of globalization and rolling with information technology and computing, the importance of reading cannot be ignored (Mohamad Sofee 2007). Through reading, a generation of knowledgeable and visionary only will be produced.

An excellent society is a society that makes a habit of reading as a foundation of knowledge. To ensure people can make reading a hobby, parents need to nurture their children while young so that the practice of reading can result in their children.

## **2. BACKGROUND OF RESEARCH PROBLEM**

Reading is an activity that can bring various benefits and information to the reader. The practice of reading activities through the newspaper, books, and other resources can enhance knowledge among readers. However, there is always a student in primary school who has reading problems which make parents and teachers worry. Often, students who have problems in learning, especially reading, need to get into special recovery classes in primary school. It aims to sharpen the talents of reading skills to prevent them from failing in exams. In 2016, UPSR public examination test results showed 452,751 students in primary school set for examination in Malaysia. The result shows that half of the number of students who sit for the UPSR examination get satisfactory results, with 290,087 candidates who got D and E results (annual report of the ministry of education Malaysia 2016). The poor result of students’ performance relates to their deficiency of understanding the question provided in the exam. Parents need to hone children’s reading skills starting at home to prevent them from having problems when they started schooling in primary school. Parents can use several methods or steps to improve their children’s reading skills at home, such as teaching aids. Teaching aids is an effective method to teach children in learning, especially in reading. Nor Syamimi Samsudin 2018, teaching practices will be more effective if student/children are given the possibility to explore and emphasize on their understanding into practicality. According to Gu & Guo 2017, with the continued growth of multimedia learning resources, it is crucial to offer methods to help the student explore and obtain relevant learning information effectively.

### **3. LITERATURE REVIEW**

#### **3.1 Teaching Aids**

There are many different opinions on the classification of teaching aids. Teaching aid, also known as education media, is defined as visual audio and materials related to implementing something in a lesson (Et.al Heinich year 2002). Brown J.W, 1983 states that teaching aids are a piece of equipment used by teachers or students to assist them in delivering lessons in the classroom. There are three categories of teaching aids: electronic teaching aids, non-electronic teaching aids, and manual activity.

#### **3.2 Teaching Aids Electronic**

Electronic teaching aids refer to media that use electrical sources. These electronic teaching materials are becoming increasingly popular used by teachers because they are simple and attract students. Examples of electronic teaching materials include radio, television, computers, Liquid Crystal Display (LCD) projectors, Compact Disc (CD), Digital Video Disc (DVD) player, et cetera.

#### **3.4 Non-Electronic Teaching Aids**

Non-electronic teaching aids are the earliest teaching materials used by teachers in schools before electronic teaching materials. The Ministry of Education Malaysia (1987) recommended using teaching and learning materials in printed materials as guidelines for teaching aids. Printed materials such as fiction and non-fiction books and periodicals materials such as newspapers.

According to J.S.Farrant (1981), teaching aids consist of basic teaching aids such as workbooks, pictures, maps, charts, and others. At the same time, W.F. Connell (1981) stated that teaching aids consist of blackboards, printed books, audio-visual aids and new invention tools such as multimedia.

#### **3.5 Activity**

The type of experiential teaching materials dramatically affects the students in the teaching and learning process. This teaching approach exposed students to real-life experiences such as going to a museum. It will attract students to improve their knowledge. Students like to do outdoor activities instead of having to face the blackboard all day in class.

#### **3.6 Special Recover Class**

The Special Recovery Programme has been implemented by 'Ministry of Education Malaysia (MOE) 'since the 1960s to assist students in elementary schools who face problems in learning and have difficulty with reading, writing, and calculating skill.

#### **3.7 Parents**

Parents need to help in their children's learning and education while at home. Parents need to know the methods that can enhance their children's learning by using teaching aids to facilitate the delivery of information related to their children's lessons. It aims to help their child in learning, especially for children who have trouble reading. At the primary school level, children need help, support, attention, and encouragement from their parents to not be deficient in schools.



#### 4. RESEARCH OBJECTIVE AND RESEARCH QUESTION

This study is to identify the practice of using teaching aids among parents. This study also aims to identify the effectiveness of teaching aids used by parents to teach their children who have learning difficulties, especially reading. The research questions identified are ‘What the effects of teaching aids that parents use in teaching their children early education ‘.

#### 5. RESEARCH METHODOLOGY

This research paper employs quantitative methods and observation in analysing the data to achieve the research objectives. Quantitative research methods implicate obtaining the results from data sources. The researcher uses survey questions as a research methodology to find the research objective questions used to gain detailed insights from respondents about a related research topic. The answers received from these questionnaires are analyzed, and a research report is generated based on this quantitative data.

##### 5.1 Research instrument

The questionnaire consists of 2 sections A and B, with three closed-ended and six statements. Section A gather information about the demographic data of respondents which include, gender, age and jobs. Meanwhile, in section B, there is 6 statements with a set of 1-5 Likert scale questionnaire. The respondents must answer the level of the agreement base on 5 points scale from ‘strongly agree’ to ‘strongly disagree’.

##### 5.2 Procedure for data collection

The surveys are among parents with children who undertake special recovery classes in primary school because of reading problems. The researcher gives questionnaires to parents as the respondent who participates in the research.

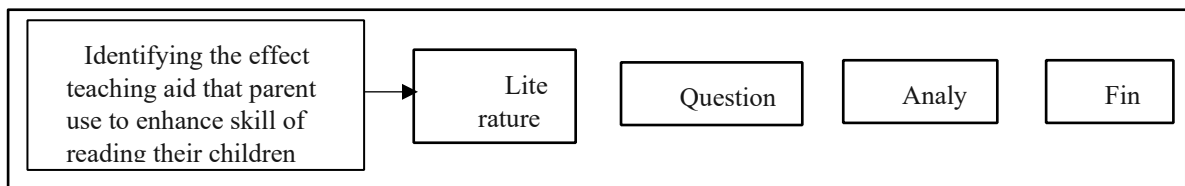
##### 5.3 Procedure for data collection

The data was analysed based on descriptive analysis such as frequency, per cent, and valid per cent using Statistical Package for Social Science (SPSS).

#### 6. RESEARCH DESIGN

Research design is a design for the researcher conducting the research, and it can help the researcher find the answer to the research objective by focusing on the research question (Lang and Heiss. 1998 as cited in Norfadilah Kamaruddin, 2012).

**Table 1:** Research design overall



**Table 2:** Table of research design

	<b>Study</b>	<b>Objective</b>	<b>Research method</b>
What are the effects of teaching aids that parents use in teaching their children for early education	Part 1	To identify the effects teaching aids that parents use to teach their children	Give questionnaire to the parent to know how far teaching aid can help children to increase reading skill

The researcher follows the research design above to make sure the research is entirely successful during the research. The concept of research has to be understood by a researcher to understand which research methods and techniques to adopt, how to use them and where they will fit in the overall research process (Jongbo, 2014). The researcher uses the questionnaire method to identify the effects of teaching aid parents use to teach their children to answer the research question. Researcher using survey data from small scale in area Tangkak, Johor. The parent selected by the researcher to conduct the questionnaire is a parent who has children who attended primary school.

## 7. FINDING

The researcher ummarized the finding of this research to show an overview of the frequency and per cent of the teaching aid that parents use to enhance the reading skill of their children in the area Tangkak, Johor.

### 7.1 Sample for data collection

The total number of respondents to answer the research questionnaires is fifty people with children who have learning problems. According to data collect, fifty-two per cent more female (52%) than forty-eight per cent male (48%) parents answer the question. The table shows demographic respondents selected by the researcher to conduct the data-related research study. In this demographic question, the researcher gives a few questions to the respondent, such as gender, age, and work. Table 1 shows the demographic profile of the respondent with frequency and percentage (%).

**Section A**

Table 1: Demographic Profile Of Respondents

	Frequency	Percent (%)
<b>Gender</b>		
Male	24	48
Female	26	52
	<b>50</b>	<b>100</b>
<b>Age</b>		
20-29	2	4
30-39	28	56
40-49	18	36
50 or more	2	4
	<b>50</b>	<b>100</b>
<b>Jobs</b>		
Self-employed	14	28
Privet employed	14	28
Government employed	10	20
Does not work	12	24
	<b>50</b>	<b>100</b>

**Section B**

The table below was summarized based on frequency, percentage, good per cent and cumulative per cent from section B in the questionnaire.

Statement 1: Are parents interested in teaching their children with teaching aid?

	Frequency	Per cent	Valid Percent	Cumulative Percent
Strongly agree	13	26.0	26.0	26.0
Agree	29	58.0	58.0	84.0
Not sure	3	6.0	6.0	90.0
Disagree	3	6.0	6.0	96.0
Strongly disagree	2	4.0	4.0	100.0
Total	50	100.0	100.0	

Statement 2: Do respondent children like to study?

	Frequency	Per cent	Valid Percent	Cumulative Percent
Strongly agree	13	26.0	26.0	20.0
Agree	27	54.0	54.0	80.0
Not sure	8	16.0	16.0	96.0
Disagree	1	2.0	2.0	98.0
Strongly disagree	1	2.0	2.0	100.0
Total	50	100.0	100.0	

Statement 3: Does the use of teaching aids can help respondent children understand what respondents want to teach?

	Frequency	Per cent	Valid Percent	Cumulative Percent
Strongly agree	17	34.0	34.0	34.0
Agree	20	40.0	40.0	74.0
Not sure	9	18.0	18.0	92.0
Disagree	2	4.0	4.0	98.0
Strongly disagree	2	4.0	4.0	100.0
Total	50	100.0	100.0	

Statement 4: Does using teaching aids can encourage respondents' children to study?

	Frequency	Per cent	Valid Percent	Cumulative Percent
Strongly agree	13	26.0	26.0	26.0
Agree	27	54.0	54.0	80.0
Not sure	5	10.0	10.0	90.0
Disagree	2	4.0	4.0	94.0
Strongly disagree	3	6.0	6.0	100.0
Total	50	100.0	100.0	

Statement 5: Does the teaching aids need to be there for the purpose teaching and learning process?

	Frequency	Per cent	Valid Percent	Cumulative Percent
Strongly agree	11	22	22	22
Agree	27	54	54	76
Not sure	6	12	12	88
Disagree	4	8	8	96
Strongly disagree	2	4	4	100.0
Total	50	100.0	100.0	

Statement 6: Do respondents know what teaching aids are appropriate for the children?

	Frequency	Per cent	Valid Percent	Cumulative Percent
Strongly agree	3	6.0	6.0	6.0
Agree	15	30.0	30.0	36.0
Not sure	31	62.0	62.0	98.0
Disagree	1	2.0	2.0	100.0
Total	50	100.0	100.0	

## 8. DISCUSSION

This study aims to identify the effect of teaching aid that parents use to enhance their children reading skills. Meanwhile, the result aims to answer the research question, ‘What are the effects of teaching aids that parents use to teach their children in early education ‘.

The statement above shows that most respondents agree that teaching aids can help their children understand what parents are teaching to increase the children’s reading skills. The statement of teaching aids can help children to understand what their parents want to present scored more than eighty per cent (80%) in descriptors agreement of ‘strongly agree’ and ‘agree’. We can conclude that the learning outcome can make children understand what they learn through teaching and the parent. Therefore, the majority of parents are interested in teaching their children using teaching aids. This interaction is positively helpful because teaching aids help children explore and obtain relevant learning information effectively. The result shows that eighty-four per cent (84%) of respondents are interested in using teaching aid to enhance their children reading skills.

Next, in another statement above, teaching aid can encourage children to study. The result shows that eighty per cent (80%) majority of respondents strongly agree that using teaching aid can encourage children to study—most teaching aid designerly fun to use and with playful elements. Usually, the majority of children are interested in studying while playing. By using teaching aid, children can enjoy learning while playing. In this way, parents can encourage their children to study, thus improving their reading skills. Additionally, by using teaching aid, the parent can help the teacher reduce the number of children with reading problems in primary school.

## 9. CONCLUSION

By using teaching aid for children in the learning process, children can gain more experience through teaching and learning from the parent. This interaction between parents and children makes learning more accessible that allows children to get information, and natural teaching aid is more effective than learning and teaching through speech and imagination. Thus, this result from this study is significantly valuable for the design industry to provide baseline information to develop new tools for children teaching aids and be the guideline for the parent to teach their children better.

## REFERENCES

- Aids in Malaysian Tertiary Education. Faculty of Art and Design Universiti Teknologi MARA Shah Alam, *Asian Journal of Education and e-Learning*  
Available online at <https://headtopics.com/my/marilah-jadikan-sekolah-kebangsan-hebat-semula-dramahathir-4821993>
- Farrant J.S 1977. *Prinsip dan amalan Pendidikan*, Kuala Lumpur: Dewan Bahasa Dan Pusaka.
- Gu, P., & Guo, J. (2017). *Digital case-based learning system in school*. PloS one, 1-15.
- Guru cemerlang, kementerian pelajaran Malaysia [KPM], 2011
- Heinich, R., Molenda, M., Russell, J.D., & Smaldino, S.E. (2002). *Instructional media and technologies for learning*. Ed. ke7. Columbus: Merrill Prentice Hall.
- Jongbo, O. C. (2014). *The role of research design in a purpose-driven enquiry*. Review of Public Administration and Management, 3(6), 87 - 94
- Kementerian Pelajaran Malaysia (2010). *Sekolah Wawasan di Malaysia: Konsep, Cabaran, dan Pelaksanaan*. Putra Jaya: KPM
- Kementerian Pendidikan Malaysia (2016). Laporan Tahunan Pelajaran Kementerian Pelajaran Malaysia 2016
- Ministry of Education Malaysia (MOE), Obtaining General Information on Special Education Primary

- Schools. Available online at: <https://www.malaysia.gov.my/portal/content/29488>
- Mohamad Sofee Razak. 2007. Intelek Kurang Membaca. Utusan Malaysia, 26 November Norfadilah Kamaruddin (2012). A Conceptual Framework of Interface Design Roles for Teaching
- Nor Syamimi Samsudin (2018) Improving Students Learning Approach in Mathematical Thinking through Constructivist Learning Approach with Creativity for Architecture Students. Faculty of Architecture, Planning and Surveying, Universiti Teknologi MARA Cawangan Perak. *Idealogy Journal*, [S.l.], v. 3, n. 2, p. 61-68, sep. 2018
- Utusan Malaysia (2006). *Murid-Murid Tingkat Satu Tidak Boleh Membaca*, Oktober. Halaman 8 Utusan Malaysia (2019). *Marilah Jadikan Sekolah Kebangsaan Hebat Semula - Dr. Mahathir*. 19 Mac.
- W.F. Connell (1981) *Asas Pendidikan. Education, Primary.; "Education, Secondary."* Kuala Lumpur: DBP, 198

# A Study on Wayfinding System in National Museum Kuala Lumpur

\*Muhammad Fikri bin Saidi Othman<sup>1</sup>, Nur Fatin Athirah Binti Mohd Narawai<sup>2</sup>,  
Muhammad Salehuddin Zakaria<sup>3</sup>

College of Creative Arts, Universiti Teknologi MARA, Perak Branch, Seri Iskandar Campus, 32610  
Seri Iskandar, Perak, MALAYSIA

Department of Design and Visual Communication, Ibrahim Sultan Polytechnic, 81700 Pasir Gudang,  
Johor, MALAYSIA

Authors' email: \*fikrisaidi91@uitm.edu.my<sup>1</sup>; nurfatinathirah@pis.edu.my<sup>2</sup>;  
msalehuddin@uitm.edu.my<sup>3</sup>

\*Corresponding author

Received: 1 March 2022, Accepted: 25 March 2022, Published: 1 April 2022

## ABSTRACT

*Wayfinding is an important element that has long existed since the 15th century again to help people to go to places of interest through visuals that are icons, symbols, signboards, and navigation. However, today there are still areas of public attractions that have wide space as museums still do not take full advantage of the benefits of the wayfinding system to the community. This has been proven through pilot studies conducted in several large-capacity museums such as the National Museum, Sultan Alam Shah Museum and Perak Museum. Based on the questions given to the visitors, more than 80% said they faced the confusion to understand historical storytelling while in the museum. This study will provide improvements to the existing wayfinding system at the selected museum, the National Museum to give visitors the benefits and attractions of the museum.*

**Keywords:** wayfinding system, national museum, public attraction



eISSN: 2550-214X © 2022. The Authors. Published for Idealogy Journal by UiTM Press. This is an Open Access article distributed under the terms of the Creative Commons Attribution-NonCommercial-NoDerivatives License (<http://creativecommons.org/licenses/by-nc-nd/4.0/>), which permits non-commercial re-use, distribution, and reproduction in any medium, provided the original work is properly cited, and is not altered, transformed, or built upon in any way.

## 1. INTRODUCTION

Museum culture can be categorized as a high culture belonging to a nation which is the basis of the existence of a civilization. According to scholars of civilization, a civilization exists when a society has a culture of knowledge, a writing system and a governmental civilization. These three elements will then be taken care of by the museum institution (Abd Jalal, 2021). Among other things, the function of the museum is first, an effort to appreciate the importance of history in human life. Second, efforts to record and document the tangible and intangible heritage of a nation. Third, the effort to study the heritage that results from the process of documenting knowledge.

Having existed since the 15th century, the system of wayfinding has changed in terms of innovation and consumerism, but the power of conveying information through visuals causes the system wayfinding to survive and become an important element of today's human being. Signage and wayfinding are 2015 most commonly expressed in unified sign programs that informationally and visually knit together a site, a collection of related sites, such as regional parks or global corporate facilities or networks, such as a transportation system (Calori & Eynden, 2015). Effective wayfinding is not only by paying attention to the many factors that affect wayfinding, rather than just focusing on signs, that it is possible to understand what is going on when people move around the site, and to do something to influence, or even better control, people's behaviour ("Effective Wayfinding", 2005). In addition, presentation techniques in the museum also need to be improved such as the example of a

static presentation to actual motion presentation that can give an impact to a presentation of information given to visitors (Mazlan, 2019).

At each stage in this sequence, the visitor must make decisions based on the available, and readily visible information. The job of the wayfinding designer is to present information in public spaces that helps facilitate a seamless visitor experience. In other words, the necessary sequence of movement should feel as effortless and simplified as possible so that ten steps, for instance, seems to require only two or three (Gibson, 2009). This first section explores the strong theoretical and empirical links between cognitive maps (or the internal representation of environmental information), the cognitive mapping process itself, the internal manipulation of information in the form of spatial choice and decision making, and the directed acts of human wayfinding through simple or complex environment. In the context of technology, for the tourism industry, the use of creative technology content through the use of smartphones is becoming a trend although many tourists still use the old method of using booklets and maps that have been printed which will make it difficult for new tourists to start a lifestyle. as a tourist (Azizi et al., 2020). This evidence is clear and overwhelming that human wayfinding is directed and motivated, and follows sets of procedural rules whose content and structure are the focus on much ongoing research (Golledge, 1999).

## **2. WAYFINDING IN NATIONAL MUSEUM**

In recent years, relatively new technologies, such as GPS, have revolutionised the way in which we navigate and collect information on journeys. In museums, handheld guides have made the transition from early radio broadcasts to multimedia guides operating on PDAs and Smartphones. These two aspects are now starting to converge, such as in the American Natural History Museum Explorer application in 2010 and the Museum of London's Street Museum (Rains & Barros, 2011). Wayfinding is an active process, requiring mental engagement and attention to the environment one is trying to navigate (Calori & Eynden, 2015). Effective communication depends on the message as well as the medium. You will be successful if you can provide a comprehensive range of objective reasons that support your wayfinding campaign. These can focus on benefits for economic development, transportation, health, safety, tourism, and recreation (Hunter et al, 2016).

Wayfinding design provides guidance and the means to help people feel at ease in their surroundings (Gibson, 2009). In order to attract and hold audiences, museums must provide resources and technologies that acknowledge various cultures and abilities. Museums cannot operate under the old paternalistic model, a paradigm that implies they know what's best for their visitors (Tallon, 2008). Applying this theory, the process of individuals using maps to solve wayfinding tasks within the City of Fremantle, Western Australia was observed. The study involved observing 30 international students who use three maps, each of which presents iconic and symbolic representations, to locate four destinations in the city (Kueh, 2007). According to Rovine and Weisman (1989) conducted a study to explore the relationship between the environment as represented in sketch maps and resultant behaviour within that environment. Forty-five participants (21 males and 24 females) were individually taken to the downtown area of Bellefonte, Pennsylvania, and given a tour of it. During the tour, the experimenter pointed out twenty buildings. After the tour was completed, each participant was asked to draw a map of the area including everything remembered and was told to include the buildings pointed out. Subsequently, a wayfinding task was performed in which the participants had to find eight of the 68.3 Proceedings. 4th International Space Syntax Symposium London 2003 twenty buildings.

## **3. METHODOLOGY**

The methodology used for this study is exploratory research which is conducted for a problem that has not been studied more clearly, establishes priorities, develops operational definitions, and improve the final research design (Shields et al., 2013). Exploratory research is chosen as it helps the researcher to choose the best design for improving existing wayfinding systems in terms of platforms, interfaces, and compositions. According to Passini (1984) the wayfinding process for solving problems with 3



important parts of which are information processing, decision making and actions. It takes cognitive ability to achieve this goal. Moreover, it can be summarized the components of Wayfinding Process as follows:

**Table 1:** Wayfinding process

---

Wayfinding Task
Environmental Information
Information Processing or Cognitive Process
Cognitive Memory
Wayfinding Decision
Behavioral Action

---

The above elements will be explained to illustrate the process of how the efficiency of the wayfinding process can be achieved. The objective of this study is to determine the material on the system of the wayfinding and the question used in this research is “What platform or material is easy to understand by users in the system wayfinding?”

#### 4. A CONTENT ANALYSIS ON WAYFINDING MATERIALS

Content analysis has been conducted through a visit at 5 museums with large exhibition space capacity and has a large number of visitor attendance records. This analysis is proving that museums in this country use a system of wayfinding but it still records a high percentage of confusion among visitors to history storytelling in the museum.

**Table 2:** List of wayfinding system in selected museums of Malaysia

Number	Wayfinding System	Museums	Respondents
1	Booklet Map	National Museum Kuala Lumpur	15
2	Signboard	Perak Museum, Taiping	4
3	Pamphlet	Sultan Alam Shah Museum, Shah Alam	6
4	Voice navigator	Samudera Museum, Malacca	5
5	Spatial navigation	Proclamation of Independence Memorial, Malacca	5

There are 5 types of wayfinding systems in several large-capacity museums in Malaysia that have been used as samples to improve the design of the materials used. Table 2 above shows the sample collected from the various museums with different type of wayfinding system to guide people in the museums.

#### 5. CONTENT ANALYSIS OF 5 SAMPLES WAYFINDING SYSTEM

A content study of 5 samples was selected according to the record of visitor attendance to the museum and the highest number of respondents at the National Museum of Kuala Lumpur. Some things have been identified in the existing wayfinding material system within the National Museum, including the size of the booklet, interface map, and usability of the booklet.

Few new designs have been generated through surveys conducted on some visitors in the National Museum through interview and questionnaire instrument to get the data on the new design of the map booklet. The questions are divided into several parts, namely interface design, colours, pictures, usability and navigation sketch on the map.

**Table 3:** Result of questionnaire

Questionnaire	Yes	No
Is this booklet's fascination attractive to you?	12	3
The design compositions used make it easy for you?	11	4
Is the color used in the booklet interesting?	12	3
Visual use makes it easy for you to understand?	12	3
Do you need a notes space in this booklet?	13	2

As a result of survey and questionnaire sessions, researchers have identified improvements to the National Museum's original booklet to more convenient, compatible and understandable booklet maps. The notes provided will help the students to keep the note as a reference material for learning. Map creation in this pocket-sized booklet will also make it easy for users to explore the entire museum well and can understand the storytelling that has been arranged through the illustrated navigation on the visual map. Appropriate visual use on the front and back of the booklet also identifies the National Museum as one of the major museum institutions in Malaysia while providing information on museums.

## 6. CONCLUSION

Technology changes in terms of usability, design, information, and practicality that have been through the wayfinding system since the 15th century have given the today's world the convenience to not only reach the destination but also to facilitate humanity to live a story journey. Along with today's sophisticated technological advance such as smartphones will impact on traditional wayfinding systems such as booklet. However, the production of booklet can restore the spirit of exploring amongst Gen Y so that they would not depend on the gadget but should always be ready to explore the use of wireless technology instead. Based on the results of the study, it shows the importance of visual design today towards wayfinding system such as the use of colours, icons, symbols, composition, and fonts are capable to give a full impact of communicating with users.

## REFERENCES

- Abd Jalal, A., Abdul Rahim, R., Abd Razak, M., & Awang Pawi, A. (2021). *Ideology Journal*, 6(1), 49-64. doi:10.24191/ideology.v6i1.261
- Azizi Ahmad A. K., Baharom S. N., Abdul Rahaman A., Abdullah M. & Abdul Aziz M. N. *Ideology Journal*, 2020 Vol. 5, No. 2, 17-24
- Calori, C., Eynden, D. (2015). *Signage and Wayfinding Design*. New Jersey: John Wiley & Son
- Effective Wayfinding and Signing Systems: Wayfinding is not just a sign* (2005). United Kingdom: The Stationery Office
- Gibson, D., (2009). *Information Design for Public Places*. New York: Princeton Architectural Press
- Golledge, R., G., (1999). *Human Cognitive Maps and Wayfinding*. Baltimore: The John Hopkins University
- Mazlan H., (2019). *Letter to Editor: The Idea on Motion*, *Ideology Journal of Arts and Social Science*, Vol. 4, No. 2, 34-36
- Rains, T., & Barros, J., *Wayfinding and visitor tracking in museums: accuracy assessments of hybrid positioning services*, Birkberk: University of London Press
- Hunter, Rebecca, H., Anderson, Lynda, A., Belza, & Basia, L., *Communicate. Community Wayfinding: Pathways to Understanding*. Switzerland :Springer
- Tallon, L.,(2008). *Digital Technologies and the Museum Experience*. Plymouth: Altamira Press
- Kueh, K. T., (2007). *A sociocybernetic approach to wayfinding map studies: The systems of people-map-space interactions*. Perth: Emerald Group Publishing Limited
- Rovine, M. J. and Weisman, G. D., 1989, "Sketch-map variables as predictors of way-finding performance", *Journal of Environmental Psychology*, Volume 9(3), Sep., pp. 217-232
- Wayfinding and environmental cognition in the designed environment (PDF Download Available). Available from: [https://www.researchgate.net/publication/242174266\\_Wayfinding\\_and\\_environmental\\_cognition](https://www.researchgate.net/publication/242174266_Wayfinding_and_environmental_cognition)

in the designed environment [accessed Jan 02 2018].  
Shields, Patricia & Rangarjan, N. (2013). *A Playbook for Research Methods: Integrating Conceptual Frameworks and Project management*. Stillwater: New Forums Press

## A Mediamorphosis on the Book of Yaseen

Zamzami Almakki  
zamzami.almakki@umn.ac.id

Received: 20 November 2021, Accepted: 25 March 2022, Published: 1 April 2022

### ABSTRACT

Most Indonesian Moslems would customarily hold a particular *tahlilan* ceremony for the deceased family member. Throughout the ceremony, it has been a common tradition to print out a handful amount of the book of Yaseen in order to pay an homage for the deceased. This customized book will be hand out to the guests of the ceremony on every 40<sup>th</sup>, 100<sup>th</sup> day of the deceased date. The book contains not only Surah Yaseen, but there are also *tahlil* recites, prayers and a complete worship arrangement guides with the picture of the deceased on the cover, the full name of the deceased and the list of their close family. As you might expect, on every deceased people, there is a considerable chance of stacking book of Yaseen on every houses. The main expectation of the host of the book of Yaseen is that the guests would read it and hoping it would bring a good merit to the referred deceased person. Hence, it is not meant to be piling and stacking for granted. Another issue would be piles of worn-out papers from the book, shed out from the binding because of the weather or bugs. Therefore, this research is aimed to answer: Is there a possibility of changing the printed version of the book of Yaseen into a digital one? What are the chances and the challenges so it could fulfill the existed media today? The mixed research method will be used to deliver this research with survey as the data collecting tool and proceed with observations and documents. The conclusion of this research is the mediamorphosis of the book of Yaseen is happening and is still going.

**Keywords:** *deceased, mediamorphosis, the book of Yaseen*



eISSN: 2550-214X © 2022. The Authors. Published for Ideology Journal by UiTM Press. This is an Open Access article distributed under the terms of the Creative Commons Attribution-NonCommercial-NoDerivatives License (<http://creativecommons.org/licenses/by-nc-nd/4.0/>), which permits non-commercial re-use, distribution, and reproduction in any medium, provided the original work is properly cited, and is not altered, transformed, or built upon in any way.

## 1. INTRODUCTION

Every living thing will eventually die, including humans. Humans have various ways to handle their own body and spirit. As occurred to most of Indonesian Moslems, when a family member passed away, they usually hold a ceremony to pray together for the deceased, this ceremony is called *tahlilan*. The word *tahlilan* is incorporated in the Great Dictionary of Indonesian Language website which stands for a reciting Holy Quran activity in a group of people in order to pray for God's blessings and forgiveness for the referred deceased. According to Shihab (2001:V), *tahlil* has been a tradition of Moslem community as an affectionate way to accompany the late dearest one. Generally, *tahlilan* will be held on the first night after the burial, and it will continue every night for the first week, two-weeks, a month, a 40<sup>th</sup> days, a 100<sup>th</sup> days, annually and 1000<sup>th</sup> days. On those long periods, the family of the deceased usually print out the book of Yaseen to be hand out to the guests on the *tahlilan* ceremony. On the online survey, with 168 respondents spread out from Riau, North Sumatera, South Sumatera, West Sumatera, Lampung, Banten, DKI Jakarta, West Java, Central Java, DI Yogyakarta, East Java, NTB, North Kalimantan dan Central Kalimantan, it is discovered that there are *tahlilan* ceremony on those regions with different local terms, but not all of them print out the book of Yaseen on the occasion.

The book of Yaseen is also stated as a book which contains certain surah from the Holy Quran and particular worshipping guides. The book is given by the bereaved families to their close neighbourhood

and the guests on the *tahlilan* ceremony. The book of Yaseen is aimed to pay an homage to the deceased and also an appreciation for the condolences, prayers and supports for the deceased throughout their life. The book of Yaseen also contains wishes from the bereaved families who asks for forgiveness for every fault that the deceased have ever made. The bereaved families also wish that Surah Yaseen, *tahlil* and prayers will continuously pray upon in hoping that God's forgiveness and good merit will be earned for the deceased on their afterlife. Hereby, the book of Yaseen is also exist as a communication form which comes from the bereaved families to the neighbourhood for their support throughout the moment of grief. The benefit for the neighbourhood is not only for complimentary of the book itself, but they also receive guides and prayers that can be useful on religious event in the future. The benefit for the bereaved families is the memory preservation and a good merit if they use the book themselves properly.

From the gathered survey, it is discovered the top 5 of how the 102 respondents treat their book of Yaseen are put it aside on the shelves at home, store it in the drawer, leave it on nearby mosque, put it on glass cabinet at home and give it out to other people. The top 5 of how the 102 respondents use their book of Yaseen are they brought it along when they pay visit to the graveyard, they read it occasionally to find some particular prayer guide, they brought it along whenever there is a religious event, they read it every Thursday night and the brought it to *taklim* assembly. This survey result shows that expectations and reality are work according to plan, which means the given book of Yaseen is used as their fundamentally intended to in diverse circumstances. The concerned issue is how the treatment on the book of Yaseen, which resulting in the poor condition of the book such as splitting half. There is also some who keep it as personal collection (stacked, stored, displayed) and some who do not keep it to themselves as they move it or give it out to other people. This issue is understandable, considering that a new book of Yaseen will always come up every time someone in the neighbourhood is passed away and a number of the book of Yaseen will be indisputably piling up even more. As well as the condition of the book itself, the paper will slowly be distorted and deteriorated. The top 3 of the survey result shows that related to the condition of the book, 102 respondents would clean it, leave it as it is and burn it.

## 2. DISCUSSION

Fidler (1997:22-29) asserts the term mediamorphosis to mean a transformation of communication media, usually brought about by the complex interplay of perceived needs, competitive and political pressures, and social and technological innovations. The example he brought is the transformation on radio which is slowly replaced by television, and also newspaper, magazines and movies. Shortly, the emerge of new forms of media it is not happened on their own and it is always linked to the previous media, in other words it is a metamorphosis from the preceding format. Mediamorphosis principle is based on three concepts, they are coevolution, convergence and complexity, and then identifies into six base principles, which are coevolution and coexistence, metamorphosis, propagation, survival, opportunity and need, delayed adoption. Attributed to the book of Yaseen, before this research is conducted, 10 Yassen and *tahlil* apps are already found in App Store and more or less of 125 apps in Play Store. There also numerous websites which provide Yaseen and *tahlil* ready to download documents. Based on those findings, it is clear that the 3 base concepts of mediamorphosis by Fidler is happening and it is still going. Nonetheless, the available apps and websites about Yaseen are not specifically compiled to the deceased, unlike the book of Yaseen which respectively compiled to the deceased. At most, there is only 1 app which meet the need.

In an online article from [Republika.co.id](http://Republika.co.id) (2015), the book of Yaseen has been a public demand since the late 1980 in South Jakarta area. If we take a closer look on Indonesia graphic design timeline in 1980, Kardinata (2015:168) states that in 1980, a large-scale offset printing machine and the upgraded colour separation technique has made a better quality of book covers and magazines. Those subjects are obviously not related directly, however, the advance of technology is the sole purpose of dynamic change in human history. The change is noticeably happened in the latest version of book of Yaseen

today, there are a lot of options ranging from the looks of the cover (soft cover or hard velvet cover with gold corner accent), the paper materials (from HVS, art paper to matt paper), sizes (pocket size to book size) and the bindings. Based on the observation of a dozen book of Yaseen in the past 10 years (2011-2021), all the observed documents show an improved in printing quality and colour. On the other hand, 10 years prior (2001-2011), the quality printing remains unexceptional with regular type of papers and one-color print.

The steady development of the book of Yaseen complements the overall *tahlilan* procedure. Before the book of Yaseen exists, there is no communication media to preserve memory about the deceased person, except for national heroes and other significant figures which has been immortalized into public monument or a title of city street. The bereaved families do not have any approach to ask their neighbourhood and other relatives to join their prayers. In this fashion, by printing and giving out the book of Yaseen, the bereaved family will prolong the memory of their loved ones who passed away, not only for the neighbourhood and relatives but also for their future descendants.

A digital version of the book of Yaseen, which currently still unavailable for personalized and customized, will be an extend development of the book itself. Based on the 6 fundamental principles of mediamorphosis, adjustments into digital version and screen-operated must be the main considerate. New media format must pay more attention from their precedent's media format, therefore their appearance will bring a sense of refining the previous version, instead of deconstructing or rebuilding the old one. These days, the book of Yaseen do not have any sense of personalization, as they mostly look similar and the name of the deceased is the only element that make them apart. The similarity is often contributed by the printing industry which provides the printing service. The main contents of the book are already prepared beforehand. The designs and small content only act more like an accessory and it is possible to add after. Customization is available only for exceptional price and the process will be longer.

The main purpose for the book of Yaseen is that it will always be carried around and to be read anytime. Therefore, new format of the book must include new features to make the owner have easier access and settings, such as adjustable letter size, audio support and adjustable or adaptive brightness level. On top of that, the picture of the deceased is possibly having a chance to be upgraded as a brand-new feature by adding up some audio and visual support and some origin story. The issue of worn-out and deteriorated paper of the book will also be solved once the digital version takes action. The potentials and demands are positively feasible, as the oldest generation are the passive user of technology, while the much younger generation are the active user and more familiar with advanced technology.

Possible challenges and difficulties which may emerge are more about evolving from the romanticized ancient tradition. Furthermore, before the book of Yaseen becomes a trend in 1980, there is no such concept to have a similar role as the book of Yaseen, which means the book of Yaseen has only been around for 30 – 40 years. The following challenge is the inferior perception of using a smartphone, although it is not entirely accurate. For the last five years, reading a Holy Quran becomes quite a topic to discussed and it is examined legally. On the contrary, the Holy Quran has been through a swift media evolution. Transforming voices into writings, into tapes, CDs and today into apps. These challenges are pointing out the last principle of the six fundamental principles of mediamorphosis, which is the delayed adoption, which means a new media format could not be easy or quick to adjust and it needs time to grow. On calculation, it needs one generation period of time which approximately 20 to 30 years.

### 3. CONCLUSION

A mediamorphosis on the book of Yaseen is happening and is still going, although it is not yet on a personalized and idealized formation as refer to the six fundamental principles of mediamorphosis. It needs further consideration to examine today's book of Yaseen. The major principle for a new media format is not entirely original, it is also not random or incidental. The emerge of new media format is a development from its precedent, therefore the new media format must consider its approach to complementing on how it will be ordered, designed, and distributed to the bereaved families and how it is going to be used by the neighbourhood and relatives who give their condolences and pray for the deceased.

### ACKNOWLEDGMENT

No acknowledgement to anyone is necessary.

### FUNDING

This research is sponsored by Universitas Multimedia Nusantara.

### AUTHOR CONTRIBUTIONS

There are no other author contributions

### CONFLICT OF INTEREST

There are no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

### REFERENCES

- Fidler, Roger. (1997). *Mediamorphosis – Understanding New Media*. California: Pine Forge Press.
- Horison-buku-yasin-yang-tak-lagi-biasa. Diakses pada tanggal 15 November 2021.
- Kardinata, Hanny. (2015). *Desain Grafis Indonesia dalam Pusaran Desain Grafis Dunia*. Banten: DGI Press.
- Red. (2015). *Horison – Buku Yasin Yang Tak Lagi Biasa*. <https://www.republika.co.id/berita/no8h871/>
- Shihab, Quraish. (2001). *Perjalanan Menuju Keabadian – Kematian, Surga Dan Ayat-Ayat Tahlil*. Jakarta: Penerbit Lentera Hati.

# The Aesthetics of Contemporary Arabic Calligraphy in Duaa Alashari Painting: The Story of Love

## *Estetika Kaligrafi Arab Kontemporari dalam Lukisan Duaa Alashari: Kisah Cinta*

Duaa Mohammed Alashari  
Islamic Civilization Academy, Universiti Teknologi Malaysia, 81310 Johor Bahru, Malaysia  
duaa1983@graduate.utm.my

*Received: 20 November 2021, Accepted: 25 March 2022, Published: 1 April 2022*

### ABSTRACT

Arabic calligraphy is known as Islamic calligraphy. Alashari artworks introduce Arabic calligraphy as an art form to contemporary viewers and show them how to identify, understand and appreciate its varied styles and modes. This paper aims to present the aesthetics of contemporary Arabic calligraphy and the spirituality in the Alashari painting. The method used in this study is the descriptive-analytical method. The study concluded that this painting expresses movement, rhythm and dynamism as seen through the calligraphic marks and dripping.

**Keywords:** Aesthetics, Contemporary, Arabic Calligraphy.

### ABSTRAK

*Kaligrafi Arab dikenali sebagai kaligrafi Islam. Karya seni Alashari memperkenalkan kaligrafi Arab sebagai bentuk seni kepada penonton kontemporari dan menunjukkan kepada mereka cara mengenal pasti, memahami dan menghargai gaya dan mod yang pelbagai. Kertas kerja ini bertujuan untuk mempersembahkan estetika kaligrafi Arab kontemporari dan kerohanian dalam lukisan Alashari. Kaedah yang digunakan dalam kajian ini ialah kaedah deskriptif-analitik. Kajian merumuskan bahawa lukisan ini mengekspresikan pergerakan, irama dan dinamisme seperti yang dilihat melalui tanda kaligrafi dan titisan.*

**Kata Kunci:** Estetika, Kontemporari, Kaligrafi Arab.



eISSN: 2550-214X © 2022. The Authors. Published for Ideology Journal by UiTM Press. This is an Open Access article distributed under the terms of the Creative Commons Attribution-NonCommercial-NoDerivatives License (<http://creativecommons.org/licenses/by-nc-nd/4.0/>), which permits non-commercial re-use, distribution, and reproduction in any medium, provided the original work is properly cited, and is not altered, transformed, or built upon in any way.

## 1. INTRODUCTION

My work deals with the Arabic language, influencing me and directing my aesthetic. The Arabic calligraphic marks with their repetition represent the infinite sense of spirituality behind my work. I use the words from the holy book, the Quran, poems, or songs. My writing uses Islamic cultural heritage but can be considered as contemporary style. It is divided into angular and cursive lines and different types based on tradition. However, I do not follow any rules or use conventional tools or techniques to create my art. As the words progress in the painting process, they lose their legibility to gain a new kind of inertia and meaning that embraces a visceral sacred space rather than a literal description. In the final product, I hope to convey a sense of universal spirituality based on meditation on the meaning behind the words. My paintings evoke language and echo classical tradition; they often incorporate contemporary calligraphy and Quranic colours such as white, black, red, blue, green, silver and gold, which are prominent in ancient Eastern societies. However, I use contemporary methods to illustrate the importance of building upon history with life as a source of inspiration.

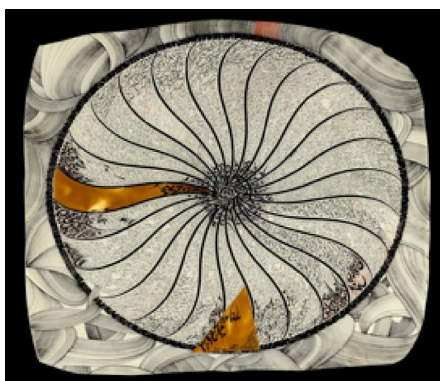


## 1.1 Background

Duaa Alashari was born in Jeddah, Saudi Arabia and lived there for many years. Then, she moved to the United States to get her painting MFA from the Savannah College of Art and Design in Savannah, Georgia. In 2021 Alashari She earned a PhD degree in Philosophy, majoring in Islamic Art and Architecture from Universiti Teknologi Malaysia in Malaysia. She received her Bachelors of Islamic Art Education from King Abdu Aziz University in Jeddah, Saudi Arabia, in May 2007. Alastair's work is displayed in King Abdu Aziz University and Arabia Calligraphy Gallery in Jeddah, Saudi Arabia, and the Savannah College of Art and Design in Savannah, Georgia. Alashari's art, which often combines Islamic calligraphy with representations of the Islamic decorations, addresses the complex composition of show identity from the unique perspective of personal experience. In much of her work, she returns to her Arabic language and culture, looking back on it as an artist caught somewhere between past and present and as an artist, exploring the language in which to "speak" from this uncertain space. Her paintings often appropriate Arabic calligraphy and Islamic art tradition, thereby inviting viewers to reconsider the beauty of Islamic art. She has worked in numerous media, including painting, glass, metal, and fabric. "In my art, I wish to present myself through multiple images, as an artist, as Saudi, as a traditionalist, as Muslim. In short, I invite the viewer to experience different art from the Middle East and show them how to identify, understand, and appreciate its varied styles and modes."

## 1.2 Artistic Influences

Like myself, many contemporary Arabic artists deal with the origins of the Arabic script in western and eastern contexts. Some of them link their work to the religion of Islam, while others focus on social and political issues relating to their own One strong influence for me is the work of Nja Mahdaoui. His paintings are considered abstractions that use Arabic letters as an essential element, yet the words are not a linguistic symbol; they are a kind of music. Nja Mahdaoui is a Tunisian artist and considers himself 'an explorer of signs. He has also been described as a choreographer of letters.' In 1967, he graduated from the Academy of Arts of Santa Andrea in Rome and the Ecole du Louvre. He receives inspiration from the Arabic language, leading to abstract compositions. He does meticulous work by creating on parchment. The concept beyond his works is based on the choice of materials and medium and how these elements play significant roles in conveying the work's messages. He explores multiple contemporary and traditional materials such as canvas, vellum, papyrus, arches paper, silkscreen prints, books, posters, designs, sculptures, aluminium, brass, melamine, drums, textiles, embroidery, tapestry. As stated in the book *Artist of the Modern Middle East*, " Nja Mahdaoui does not paint, he writes, but he does not write... Arabic calligraphy yes and no. Yes, in the fluidity of the shapes. No, in its reading, Mahdaoui says, To a non-Arabic speaker, it appears as coherent text. Even Arabic speakers assume at first it's a text with meaning. But when they start reading it, they realize it is not an actual word.



**Figure 1:** Nja Mahdaoui, *Untitled*, Parchment, china ink, gold and silver, 90 x90 cm, 2007.  
(Source: nja-mahdaoui.com).

Similarly, the message from my art is to convey the principles of peace, mercy, faith, love, and heaven based upon Islamic belief. Art has the power to facilitate communication between Eastern and

Western cultures and can create harmony. I want my art to be a viaduct of communication between different societies and present its spirit.

## 2. STUDIO ARTWORK EXPERIMENT

Poems also play a particularly vital role in my art. These traditional poems predate Islam in Arabic culture: “in Arab tribal kingdoms [...] oral tradition existed that ensured the survival of a remarkable body of Arabic Poetry which continues to be cherished and learnt today.”<sup>24</sup> Ancient Arab poets were astonishingly eloquent, and poems that they created were relevant to their way of living in such a harsh environment like the desert, battling for honour, or expressing the values of generosity and hospitality in beautiful writing. But again, these points are only references for me. I deconstruct the poem so that it is no longer a poem, and the words become multiplied and turned into their abstract composition. In doing so, I hope to create a work that conveys a message that is universal and accessible to everyone but also conveys a surface-level aesthetic and understanding of Arabic culture that places the work in a distinct cultural context.

For example, in *The Topic of Love*, I was inspired by an early twentieth-century poem from Oum Kalthoum. The poet describes the fear of love and the oppression of love to all those who possess it and how love can change someone’s whole life. Oum Kalthoum - *The Topic of Love*

Throughout my life, I've feared love  
And the topic of love  
And the oppression of love to all those who possess it  
And I know stories filled with sighs, tears and groans  
And lovers falling in love and never turning back  
Throughout my life, I've said no to desire and nights of desire  
As well as no to tormenting my heart  
I met you and found that you changed my whole life  
I don't know how I loved you I don't know how my life  
From a whisper of love, I found myself loving and falling in love night and a day at its mercy.



**Figure 2:** Duaa Alashari, *The Story of Love*, Acrylic on canvas, 60x 72 inches, 2015.

I used this poem as the basis for my work to represent my love for calligraphy and how the love of this art has changed my whole life. Using the words of the poem as a starting point, through the process of repetition, the word loses its meaning. By transforming its legibility, the word moves beyond language. The calligraphic marks and the layers of intense and transparent washes of colours of paint that cover the surface of the painting give the work a metamorphic subtlety and profundity regarding both spiritual and sublime. The multidimensional sense of space in *The Story of Love* is achieved by using superimposed layers of calligraphic marks. Equally important to achieving this is a sense of space. However, space is designed, so the viewer's perceptual shift of the work ranges from infinite to finite to facilitate meditation. In *The Story of Love*, there is both an invitation into the space of that space. To enhance their contemplative theme, I combine light and dark areas to strongly contrast the value in a way that encourages the viewer to see the painting as a symbolic progression of thought. Low resolution and merging colours nod to the infinite, while the surface is asserted over these colours with striking marks.

My exploration of the language and the application of multi-layered metallic paint with dripping transform the work from a flat painting into a sculptural object. When installed, the piece is hung on the wall with a two-inch separation, so it casts a shadow. This adds more dynamic complexity to work and forces the viewer to extend the meditative space into the physical world rather than only keeping it confined to the world of a canvas.

### 3. CONCLUSION

Alashari artist creates work intended to convey a universal sense of spirituality, orchestrating movement and complexity in each composition. If her work is too easy to read or understand, she has not made the viewer enter a meditative state. Even people from her nation cannot read Arabic because of the complex layering and expressionism. She believes that language, in a sense, must lose its known meaning to become the starting point of expression and to present an accurate emotional message for her to deliver her ideas about faith. Alashari said, " my artwork is kind of practice of worship". Some Arabic Artists still influence Alashari since her works incorporate language, but she is also inspired by how they convey it through an abstract composition.

### REFERENCES

- Alashari, Duaa. 2015. Engendering Contemporary Calligraphy Through Islamic Heritage: The Spirit of Arabic Calligraphy. A Thesis Submitted to the Faculty of the Painting Department in Partial Fulfillment of the Requirements for the Degree of Master of Fine Arts in Painting Savannah College of Art and Design
- Chen, S. J., & Chen, S. M. (2007). Fuzzy risk analysis based on the ranking of generalized trapezoidal fuzzy numbers. *Applied Intelligence*, 26(1), 1-11.
- Oum Kalthoum, "The Topic of Love," Arabic Song Lyrics and Translations, accessed April 24, 2015, <http://www.arabicmusictranslation.com/2008/03/oumkalthoum-topic-of-love-seerat-el.html>.
- Rene, "Nja Mahdaoui: Strokes of Liberation," *The Stimuleye*, April 11, 2011, accessed April 17, 2015, <http://thestimuleye.com/?s=nja+mahdaoui>.
- Venetia Porter and Isabelle Caussé, *Word into Art: Artists of the Modern Middle East*. (2009) London: British Museum Press.

# Unravelling Discarded Second-Hand Winter Knitwear into Reusable Recycled Material.

\*Wan Nadhra Ixora Binti Wan kamarulbaharin <sup>1</sup>, Suriati Saidan <sup>2</sup>, Husna Saaidin <sup>3</sup>,  
Muhammad Hisyam Zakaria <sup>4</sup>

<sup>1,2,3,4</sup>College of Creative Arts, Universiti Teknologi MARA, Shah Alam, Selangor, MALAYSIA

Authors' email: \*wannadhraixora@uitm.edu.my<sup>1</sup>, suria509@uitm.edu.my<sup>2</sup>,  
husnasaaidin@uitm.edu.my<sup>3</sup>, mdhisyam@uitm.edu.my<sup>4</sup>

\*Corresponding author

Received: 20 November 2021, Accepted: 25 March 2022, Published: 1 April 2022

## ABSTRACT

*Textile waste has become a worldwide problem. Malaysians dumped approximately 195,300 tonnes of fabric waste, causing Malaysian landfills with discarded textile to account for about 6.3% of the total 3.1 million tonnes of solid waste filling up landfills. The excessive amount of clothing in thrift shops is due to the fast fashion industry mass-producing clothing at rapid speed in a short time frame making the value of one garment plummet to dirt cheap with lower stitching quality. The objective of this study is to identify available discarded preloved winter knitwear as a suitable sustainable material and to propose an effective method for unrevealing knitwear into a reusable recycle material. The researcher applies qualitative research by preparing a semi-structured interview question and experimentation to gather the required data. The research resulted in a potentially reusable material able to use in producing new items. This study will help the consumers to reduce the number of textile waste in landfills by understanding the method of unveiling woven garments into a reusable recycle material for a potential new product.*

**Keywords:** recycle sustainable material, preloved garment, winter wear.



eISSN: 2550-214X © 2022. The Authors. Published for Idealogy Journal by UiTM Press. This is an Open Access article distributed under the terms of the Creative Commons Attribution-NonCommercial-NoDerivatives License (<http://creativecommons.org/licenses/by-nc-nd/4.0/>), which permits non-commercial re-use, distribution, and reproduction in any medium, provided the original work is properly cited, and is not altered, transformed, or built upon in any way.

## 1. INTRODUCTION

In Malaysia, the rise in fast fashion has created a wasteful shopping habit causing approximately 195,300 tonnes of fabric waste causing Malaysian landfills with discarded textile to account for about 6.3% of the total 3.1 million tonnes of solid waste filling up landfills (Chu, 2019). According to Mathilde Charpail (2017), fast fashion produces cheap, disposable clothing at a rapid pace with countless new collections per year making public consumers constantly out of date and encouraging them to keep purchasing new pairs of ready-made clothing. As stated by YouGov staff (2017) Malaysians have thrown away 27% of clothing after wearing it just ones caused by 37% of millennials that purchased at least half of the clothes that they own in the past 12 months and keep their clothes for under a year before throwing them away.

Textile waste is creating an environmental crisis. According to the conscious club (2019), Clothing that is mostly made of natural plant-based materials such as silk, linen, and cotton can act as a food waste once it is buried in a landfill. However, unlike plant-based material, most old unwanted clothing could not be composted and act as a food source for the land because 65% of all fibers used in the fashion industry are made from synthetic material (Charpail, 2017). Most garment nowadays has gone through a lot of unnatural processes such as bleaching process, chemical dye, printed on, and permanent bath, causing water pollution that is harmful to the aquatic life and the health of millions of people living by riverbanks (Charpail, 2017).

With the rising number of textile waste in Malaysia, the existence of donation boxes and the local second-hand store give a second chance for unwanted garments to be purchased by consumers preventing them from becoming accumulating as waste products and unnecessarily contributing to the landfill. However, donating old clothing to local donation boxes and the local second-hand store can cause issues. According to Tan Cheng Li (2015), the majority of clothing received by the local sorting center arrived from first world countries such as Japan, Australia, and America came in huge mixed bundles of various items such as dresses, children's t-shirts, shirts, blouses, coats, sweaters, jeans, baseball caps, bed sheets, curtains, shoes, handbags, belts, and soft toys.

Unlike jeans and t-shirts that could be easily sold locally, most winter clothing such as knitwear, acrylic sweaters, woolens, and coats, generally has poor demand in Malaysia. Hence, winter wear such as these are sent to India where they are shredded to extract fibers for use in making things like blankets and carpet underlay (Li, 2015). The objective of this research is to identify discarded knitwear and to process it into a reusable component through an effective method of unraveling. The intent of which is to repurpose the materials into products such as bags, masks, indoor shoes, rugs, decorations and could be sold locally or internationally. The process can also be taught to other developing countries to resolve the same issues of unused excessive knitwear waste.

## 2. DEFINITION OF THRIFT STORES

A thrift shop is a place that sells a wide range of second-hand used items donated by the local community, charity bins, obtained through massive import from developing countries, or received by outdated inventory from the fast fashion industry in various conditions (Bunquita, 2011). Most items in local thrift shops are being sold significantly cheaper than the original price of the original garment and in some instances, rare branded items were available at a fraction of their actual price (McDonald, 2017). Buying second-hand clothing that are still wearable and buying back second-hand garments can help to reduce the amount of landfill waste and help consumers to understand the value of clothing through hand-me-down garment (McDonald, 2017). On November 4<sup>th</sup> 2017, the researcher visited a local thrift shop named *Jalan Jalan Japan* which sourced their items from Japan to obtain material to recycle, shown in Figure 1.0. It is located 11.2km from UITM Shah Alam in Subang Jaya, Selangor.



**Figure 1:** The local thrift shop in Subang Jaya, Selangor  
(Source: Picture taken by researcher, 2017, Copyright Consent: Permissible to Publish)

## 2.1 Type of Second-Hand Winter Garment Available in Local Thrift Shop

A wide variety of winter wear were available in the local thrift shop. Most of the winter wear garments are reusable, cheap and in good condition to be recycled in representing reusable recycled material. Cardigan is a knitted vest or sweater with a buttoned front fasten (Watson, 2015). The button front opening allows the cardigan to be worn close or open as a replacement form jacket, allowing for a transition from indoor to outdoor wear. Cardigan is a versatile garment that can be worn in a different range of seasons depending on the type of material (Watson, 2015). A down jacket is a jacket that has insulated with the soft and warm under feather from duck or geese to create a tiny air pocket which traps air and retains heat and keeps the wearer in warm condition (Watson, 2015). An overcoat is a heavy coat that is worn over a suit or middle layer jacket.it usually slightly between above the knee to all the way down to the ankle-length with double or mostly a single-breasted with a collar (Watson, 2015). A sweater is a garment made to cover the torso and mostly the upper body part. Jumpers are used to describe a sweater in British but in America, a pullover may also call a sweater. The garment is worn by adult and children with a shirt, blouse, or t-shirt that fit closely to the skin. Sweaters were made traditionally knitted with wool but can be mixed between synthetic fiber and cotton (Watson, 2015).

## 2.2 Definition Of Winter Wear

Winter wear is clothing used to protect people against the cold weather (ymcaPony, 2016). During winter seasons, it is common to wear multiple layers of clothing such as coats, jackets, hats, scarves, gloves, and socks. Most winter wear garments have sufficient water resistance with multiple layers of insulation against harsh winter temperatures (ymcaPony, 2016).

## 2.3 The Clothing Layers in Winter Wear

In winter, the most effective way to protect people from the cold element is to wear multiple layers of clothing that can be added or removed depending on the weather condition (ymcaPony, 2016). the 3 layering system is an essential way of layering garments together to ensure people's comfort during outdoor activity (ymcaPony, 2016).

The base layer is the first layer that fits directly to the skin with two main functions that is regulating body temperature and transporting any moisture away from the skin to regulate body temperature (ymcaPony, 2016). the base layers material can't be cotton due to the characteristic of the material to absorb moisture, a synthetic fiber such as polyester and nylon, or a natural fiber such as merino wool and silk work best as base layers material (ymcaPony, 2016).

The middle layer is insulation layers that help retain the body heat that radiated throughout the body and this layer is efficient to trap heat based on suitable materials such as fleece, wool, and fur (ymcaPony, 2016). The thickness of the middle layer can generate warmth to help increase the insulation of body heat (ymcaPony, 2016).

The outer layer is a protective layer as a shell from wind, rain, and snow and most outer layer such as jacket and topcoat allow at least a small amount of perspiration to escape with a durable water repellent finish to make water roll off the fabric (ymcaPony, 2016). the outer shell is an important piece to prevent stormy cold weather, harsh wind, and watery snow to penetrate inner layers (ymcaPony, 2016).

## 2.4 Type Of Material in Winter Wear

Material blends will take a natural product like wool or cotton and team it up with man-made fabrics like polyester to keep costs down and produce different clothing items (Icewear, 2021). In general, blends won't keep you as warm as 100% wool, but they can provide better heating insulation than cotton (Icewear, 2021). Wool is a breathable material which the ability to absorb and release moisture from the surrounding air generating enough heat to prevent condensation in construction cavities by maintaining the damp condition (Attireclub, 2014). Wool fibers create a natural heat stabilizing and insulation to retain natural body heat.

## 3. METHODOLOGY

This research uses semi-structured interview questions and experimentation to gather the required data and to address the research objective. The data consist of an analysis of corresponded with several interviews with the local thrift store manager and owner regarding available material in the thrift store.

### 3.1 A Semi-Structured Interview

The researcher conducted several interviews with the owners or managers of five local thrift stores located in the Klang Valley area. A semi-structured interview question was prepared and memorised by the researcher to ask the interviewees as it helps to clarify the issue and gave the interviewees the sense of assurance to discuss the topic. This is to ensure that they would be comfortable enough to talk on a topic that may be considered confidential business matters. Some questions that were asked can only be discussed within the staff to protect their business operations. Data collection from this interview would only use to complete the study and any unnecessary excess information from the respondent's feedback will remain confidential.

### 3.2 Research Experiment

There are several effective methods for unrevealing knitwear into a reusable recycled material. A few winter-wear will be tested to determent multiple ways on unrevealing winter knitwear. The researcher started the experiment by understanding clothing patterns, materials, and types of clothing fastening in order to salvage every strand of yarn. Embroidery scissors were used to remove clothing fastening, tags, and seams at the garment to divide the knitwear into several pieces of knit fabric. The sweater in figure 2.0 has been deconstructed by searching the main knitted source and pulling the yarn row by row and forming a ball as a means of length measurement and to be easily used in the future.



**Figure 2:** Deconstructing sweater at UiTM fashion department studio, Shah Alam, Selangor (Source: Picture taken by researcher, 2018, Copyright Consent: Permissible to Publish)



## 4. PROJECT OUTCOMES

The researcher found out that most winter knitwear regarding the type of material can be salvaged thought out the experiment. Figure 3 below shows five balls of wool yarn that have been dismantled and the quality of the yarn is in good condition to be reused.



**Figure 3:** Finished deconstructed sweater at UiTM fashion department studio, Shah Alam, Selangor (Source: Picture taken by researcher, 2018, Copyright Consent: Permissible to Publish)

## 5. CONCLUSION

The study aims to identify available discarded preloved winter knitwear as a suitable sustainable material and to propose an effective method for unrevealing knitwear. This study will help the consumer to reduce the number of textile waste in landfills by introducing a more effective method of dismantling woven garments, which then turn into a form of reusable material. These materials can then be repurposed into usable products such as bags, masks, indoor slippers or to produce newly designed knitweares to be sold back to countries with winter seasons.

## ACKNOWLEDGMENT

This study was conducted at College of Creative Arts, Universiti Teknologi MARA, Shah Alam, Selangor, Malaysia. Fully appreciate for providing the facilities, equipment, and expertise to complete this research. Special thanks to the FSSR research initiative group for the assistance given for the research can be carried out successfully.

## REFERENCES

- Attireclub. (5 December, 2014). *10 Materials to Wear in the Winter*. Retrieved from <https://attireclub.org>: <https://attireclub.org/2014/12/05/10-materials-wear-winter/>
- Bunquita. (28 March, 2011). *urban dictionary*. Retrieved from [www.urbandictionary.com](http://www.urbandictionary.com): <https://www.urbandictionary.com/define.php?term=thrift%20store>
- Charpail, M. (14 May, 2017). *What's wrong with the fashion industry?* Retrieved from [www.sustainyourstyle.org](http://www.sustainyourstyle.org): <https://www.sustainyourstyle.org/en/whats-wrong-with-the-fashion-industry>
- Chu, M. M. (23 10, 2019). *Huge amount of fabric waste dumped*. Retrieved from [www.thestar.com.my](http://www.thestar.com.my): <https://www.thestar.com.my/news/nation/2019/11/23/huge-amount-of-fabric-waste-dumped>

- CLUB, T. C. (11 May, 2019). *PLASTIC & CLOTHING*. Retrieved from [www.theconsciouschallenge.org](http://www.theconsciouschallenge.org):  
<https://www.theconsciouschallenge.org/ecologicalfootprintbibleoverview/plastic-clothing>
- Icewear. (29 March, 2021). *Cold Weather Clothing Guide: Fabrics that Retain Heat*. Retrieved from [www.icewear.is/](http://www.icewear.is/):  
<https://www.icewear.is/us/blog/2021/03/29/cold-weather-clothing-guide-fabrics-that-retain-heat/#acryl>
- Li, T. C. (16 February, 2015). *Where do old clothes go?* Retrieved from [www.thestar.com.my](http://www.thestar.com.my):  
<https://www.thestar.com.my/lifestyle/features/2015/02/16/where-do-old-clothes-go/>
- McDonald, A. (16 December, 2017). *Here's Why You Should Definitely Be Shopping At A Thrift Store*. Retrieved from [www.huffpost.com](http://www.huffpost.com):  
[https://www.huffpost.com/entry/thrift-store-shopping\\_n\\_5175646](https://www.huffpost.com/entry/thrift-store-shopping_n_5175646)
- staff, Y. (6 December, 2017). *Fast fashion: 27% of Malaysians have thrown away clothing after wearing it just once*. Retrieved from [my.yougov.com](http://my.yougov.com):  
<https://my.yougov.com/en-my/news/2017/12/06/fast-fashion/>
- Watson, C. (14 December, 2015). *Types of Winter Clothing*. Retrieved from [www.leaf.tv](http://www.leaf.tv):  
<https://www.leaf.tv/articles/overcoat-vs-trench-coat/>
- ymcaPony. (22 December, 2016). *What to Wear for Canadian Winters*. Retrieved from <http://nextstopcanada.ca/>:  
<https://nextstopcanada.ca/winter-clothing/>