



Institute of Creative Arts and Technology

**Aesthetic Perception: Visual Complexity and Art Knowledge of Design
Motifs Applied on Pua Kumbu Textile**

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**Doctor of Philosophy
2023**

Aesthetic Perception: Visual Complexity and Art Knowledge of Design
Motifs Applied on Pua Kumbu Textile

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A thesis submitted

In fulfillment of the requirements for the degree of Doctor of Philosophy

(Design and Ergonomics)

Institute of Creative Arts and Technology
UNIVERSITI MALAYSIA SARAWAK

2023

DECLARATION

I declare that the work in this thesis was carried out in accordance with the regulations of Universiti Malaysia Sarawak. Except where due acknowledgements have been made, the work is that of the author alone. The thesis has not been accepted for any degree and is not concurrently submitted in candidature of any other degree.



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Date: 22 August 2023

ACKNOWLEDGEMENT

My PhD started as a curiosity. I wanted to know what a PhD is all about. I never expected this experience would launch me forward and change me for the better. I am glad that it made me stronger. I would not have completed this incredible journey without the people around me who gave me support in everything I do. Therefore, I would like to take this opportunity to thank everyone who contributed to this fantastic experience.

Firstly, I believe I owe it to Allah SWT for always being there and walking me through this arduous and challenging academic journey. With his will, nothing was impossible.

Secondly, this journey would not have happened without the excellent guidance of my supervisors, Associate Professor Dr Saiful Bahari Mohd Yusoff and Dr Noorhayati Saad. They have been ideal teachers, mentors, and thesis supervisors, offering advice and encouragement with a perfect blend of insight and humour. I am proud of and grateful for the opportunity to work with them. Moreover, Dr Noorhayati's interpretation of the PhD as *pergi hibur diri* [go entertain yourself] journey has changed how I viewed this long journey. Thanks to her, I have always thought of this PhD as a fun way to seek knowledge.

Thirdly, I must thank my family as they are my backbone. My parents, Wahed Hasan and Sharifah Asma Syed Hashim al-Idid, are my biggest supporters. They always kept track of my progress, asking if I was doing well or needed help, and they lent me an ear whenever I needed them; they never left me alone. I am grateful, and I appreciate their love and care. Without their tremendous understanding, love, and encouragement over the past few years, it would have been impossible for me to chase my dream and complete my studies.

Next, my appreciation goes to my participants, including Pua Kumbu weavers, Malaysian academics in the fields of textile and art history, Malaysian fashion designers, and Art Reception Survey-Revised (ARS-Revised) participants. This research is possible because of them. Despite their anonymity, I acknowledge that their insights and candid feedback and the works of other inspirational academics, industry players, and researchers who came before me have helped form this thesis.

Also, I am indebted to the College of Creative Arts and Universiti Teknologi MARA Sarawak. I would like to take this opportunity to express my gratitude to both parties for their roles in my success. Thank you for trusting and supporting this study by providing me with an excellent research management facility, financial grants, and administrative considerations that allowed me to undertake this research part-time.

Apart from that, my sincere gratitude goes to the Centre for Graduate Studies (CGS) and the Institute of Creative Arts and Technology (I-Create) staff for their advice and support during my study period at Universiti Malaysia Sarawak. Since the first day I enrolled in this course, the CGS and I-Create staff have never failed to assist me. I would also like to thank the management of Universiti Malaysia Sarawak for making it possible to complete my studies here in Sarawak. Thank you all.

Finally, I also take great pleasure in expressing gratitude to everyone who has contributed to the completion of this research, either directly or indirectly. My journey was never lonely because everyone I met in these three and a half years left a mark on my life in one way or another. Thank you from the bottom of my heart.

ABSTRACT

This study examines the human aesthetic perception of the legendary Pua Kumbu textile. The research problem is introduced by highlighting the unique characteristics of the textile and its cultural significance. Specifically, the study investigates how individuals perceive the aesthetic qualities of the textile, and what factors may influence these perceptions. Human aesthetic perception differs based on their understanding of visual complexity and visual art knowledge. An effective aesthetic perception process may contribute to a positive aesthetic perception, influenced by their environment, knowledge, and cultural perspective, among other factors. This study explores the perceivers' aesthetic perception of the intangible cultural heritage (ICH) of Pua Kumbu design motifs. This study has four objectives: to measure the aesthetic perception of participants about the design motifs, examine the aesthetic perception of visual complexity, investigate the design motifs' art knowledge among weavers and academics, and formulate a novel framework for safeguarding the ICH of Pua Kumbu textile. This legendary textile belongs to the Iban indigenous tribe in Malaysia and is sacredly safeguarded by the Iban people, particularly the older generation. The Pua Kumbu is weaved beautifully with design motifs inspired by nature, Iban culture, ancestors, and mythology. However, the complexity of the Pua Kumbu design motifs contributes to the current lack of interest in this art form, particularly among Sarawak's younger population, tourists, and people of other races. As a result, this beautiful art form has been misused and neglected. The researcher employed a triangulation concurrent mixed-method design, including quantitative and qualitative data collection. Through a quantitative approach, 400 participants were required to respond to the Art Reception Survey-Revised (ARS-Revised) questionnaire. In contrast, two phases of interviews were conducted among five Pua Kumbu weavers and four Malaysian academics from the field of textile, art, and culture through the

qualitative approach. The perceivers' positive aesthetic perception of Pua Kumbu textile was influenced by gender, background, and the participants' art knowledge. The visual complexity of the design motifs comprises five distinct categories: flora, fauna, humanoid, abstract, and contemporary. Each category has unique features determined by the Pua Kumbu weaver's creativity in arranging the design motifs. The weaver's encrypted "message" was embedded in the Pua Kumbu textile. It was found that Pua Kumbu textiles do not receive proper community recognition. The community's acceptance of this beautiful textile is still minimal, and more attention is needed, particularly in "feeding" the perceivers with Iban local knowledge. The art knowledge of Pua Kumbu's ICH should be disseminated to the general public to preserve this historical textile. One significant contribution of this study is the development of the AKVC Aesthetic Perception Framework, which strives to eliminate the knowledge barrier while protecting the ICH of Pua Kumbu textile by integrating artificial intelligence (AI). Publicizing the ICH of Pua Kumbu textile and adopting digital technology can increase community acceptance, eliminate knowledge barriers, and contribute to the global preservation of this "unspoken" but profound knowledge, enabling Pua Kumbu to make its mark as a unique textile.

Keywords: Aesthetic perception, art knowledge, artificial intelligence, ICH, Pua Kumbu textile, safeguarding, visual complexity

***Persepsi Estetik: Kerumitan Visual dan Pengetahuan Seni Terhadap Motif Rekaan
Yang Diaplikasikan pada Tekstil Pua Kumbu***

ABSTRAK

Persepsi estetik manusia adalah berbeza berdasarkan pemahaman mereka terhadap kerumitan visual dan pengetahuan seni visual masing-masing. Proses persepsi estetik yang berkesan boleh menyumbang kepada persepsi estetik yang positif yang kebiasaannya dipengaruhi oleh faktor persekitaran, pengetahuan dan perspektif budaya individu. Kajian ini meneroka persepsi estetik manusia terhadap Warisan Budaya Tidak Ketara (WBTK) motif rekaan yang terdapat di tekstil Pua Kumbu. Kajian ini mempunyai empat (4) objektif utama: untuk mengukur persepsi estetik manusia terhadap motif rekaan Pua Kumbu, mengkaji persepsi estetik kerumitan visual, menyiasat pengetahuan motif rekaan Pua Kumbu dalam kalangan penenun dan ahli akademik, serta menghasilkan rangka kerja novel untuk melindungi Warisan Budaya Tidak Ketara (WBTK) tekstil Pua Kumbu. Tekstil legenda ini adalah kepunyaan masyarakat Iban di Malaysia dan dilindungi dengan baiknya oleh kaum ini, terutamanya oleh generasi yang lebih tua. Motif rekaan Pua Kumbu adalah diinspirasikan daripada alam semula jadi, budaya asli masyarakat Iban serta peninggalan nenek moyang mereka, dan mitologi. Namun begitu, kerumitan motif reka bentuk yang terdapat pada tekstil ini menyumbang kepada kurangnya minat masyarakat terutama dalam kalangan penduduk muda di Sarawak, pelancong, dan masyarakat dari bangsa lain. Oleh yang demikian, bagi mengupas permasalahan ini, penyelidik telah menggunakan 'triangulation concurrent mixed-method' bagi tujuan pengumpulan data kuantitatif dan kualitatif. Melalui pendekatan kuantitatif, 400 peserta dikehendaki menjawab soal selidik Art Reception Survey-Revised (ARS-Revised). Sebaliknya, melalui pendekatan kualitatif, dua (2) fasa temu bual telah dijalankan dalam kalangan lima (5) penenun Pua Kumbu dan empat

(4) ahli akademik Malaysia yang berkepakaran dalam bidang tekstil dan seni budaya. Data yang diperolehi mendapati kewujudan persepsi estetik positif adalah dipengaruhi oleh jantina, latar belakang dan pengetahuan seni individu. Kajian ini menunjukkan kerumitan visual motif reka bentuk Pua Kumbu adalah terdiri daripada lima (5) kategori berbeza: flora, fauna, humanoid, abstrak dan kontemporari. Setiap kategori itu mempunyai ciri-ciri unik yang ditentukan melalui kreativiti si penenun dalam menyusun motif rekaan di tekstil. 'Mesej' yang disulitkan oleh penenun telah disusun dengan sebaiknya melalui susunan rekaan motif yang terdapat di Pua Kumbu. Secara harfiahnya, Pua Kumbu tidak mendapat pengiktirafan masyarakat dengan sewajarnya. Penerimaan masyarakat terhadap tekstil ini masih minimum. Oleh yang demikian, perhatian yang lebih diperlukan, terutamanya bagi memastikan ilmu WBTK yang ada pada tekstil ini dapat disebar kepada masyarakat. Kajian ini telah berjaya membangunkan Kerangka konseptual; AKVC Aesthetic Perception yang juga merupakan sumbangan utama kajian ini. Kewujudan kerangka konseptual ini adalah untuk menghapuskan halangan pengetahuan yang berlingkar dalam kalangan masyarakat berkenaan penerimaan kepada Pua Kumbu, dengan mengintegrasikan penggunaan kecerdasan buatan. Dengan mengintegrasikan teknologi digital, ia dapat meningkatkan penerimaan masyarakat, menghapuskan halangan pengetahuan, dan menyumbang kepada pemeliharaan global pengetahuan 'tidak terucap' tekstil, dan secara tidak langsung, membolehkan keunikan Pua Kumbu ditonjolkan dengan lebih baik.

Kata kunci: Persepsi Estetik, Pemeliharaan, Pengetahuan Seni Visual, Tekstil Pua Kumbu, Kecerdasan Buatan, Kerumitan Visual, Warisan Budaya Tidak Ketara, WBTK

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LIST OF ABBREVIATIONS

AES	Aesthetic Experience Scale
AI	Artificial Intelligent
ARS	Art Reception Survey
ARS-Revised	Art Reception Survey- Revised
AR	Augmented Reality
AKVC	Aesthetic Knowledge Visual Complexity
AK	Aesthetic Knowledge
CCI	Cultural and Creative Industries
EU	European Union
ICH	Intangible Cultural Heritage
IKEA	Ingvar Kamprad Elmtaryd Agunnaryd
I-CREATE	Institute of Creative Arts and Technology
IR 4.0	Industrial Revolution 4.0
JRF	Jordan River Foundation
MACPA	Malaysia Arts Cultural Practitioners Association
MR	Mixed Reality
ML	Machine Learning
RWMF	Rainforest World Music Festival
SAAF	Scale of Aesthetic Appreciation of Film
SDG	Sustainability Development Goal
STB	Sarawak Tourism Board
STEM	Science, Technology, Engineering, and Math
TCH	Tangible Cultural Heritage

TIPR	Traditional Intellectual Property Right
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific, and Cultural Organisation
UNIMAS	Universiti Malaysia Sarawak
VAIAK	Vienna Art Interest & Art Knowledge Questionnaire
VIP	Very Important Person
VR	Virtual Reality
3D	Three Dimensions