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Emerging Practices of Design and Economic as Studio-Ceramic Entrepreneurial Concept

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Abstract
This research attempt to re-designing craft entrepreneurial practices from the conventional approach in the design process and design activity, integrating new technology such as the Internet of thing (IoT) into online visual communication between user-designer. Product design often emphasizes aspects of design elements that result in a good product and a balance between design and economics (Designnomic).Purchasing the product will impact the products to be marketed and give new exposure to the user-designer in Designomic ecosystems.

Keywords: Design; economic; studio-ceramic

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1.0 Introduction

Entrepreneurship is challenging because it requires mental and physical preparation, especially in visual arts. In venturing into the field of entrepreneurship, several methods or models can be used by creative practitioners to start a business. An artist or designer to start a business after graduation is very difficult because they do not have comprehensive experience and training in the real world of entrepreneurship. Studio Artist is such that he is self-reliant and self-employed, which is very different from the common educational schemes geared toward making students heavily dependent on 'white-collar' jobs. (Okogwu 2018)

As a creative entrepreneur, several approaches and exposures must be emphasized, such as the design process, design thinking, and design theory. In the design process, designers use several methods to produce a product. But which approach is suitable for a studio-ceramic entrepreneur in producing products with an accurate and effective flow. Several studies have been done by experts on design methods and design processes. (Daniel Fallman 2008) in his study on 'design issues,' has come out with the model of interaction design research by the shape of a triangle. This tringle presents a two-dimensional space for plotting the position of a design research activity drawn up in between three extremes: "design practice," "design studies," and "design exploration." (See Figure 1)

The development of the studio-ceramic industry in Malaysia can be seen to be greatly reduced due to the competition in the production of industrial ceramic products nowadays. However, the product produced from the ceramic studio approach is very popular among its fans in Malaysia because the design process requires attention from the design elements and the design process and design practice used by a ceramic artist or designer. Product design often emphasizes aspects of design elements that result in a good product. (Yassin et al., 2018)

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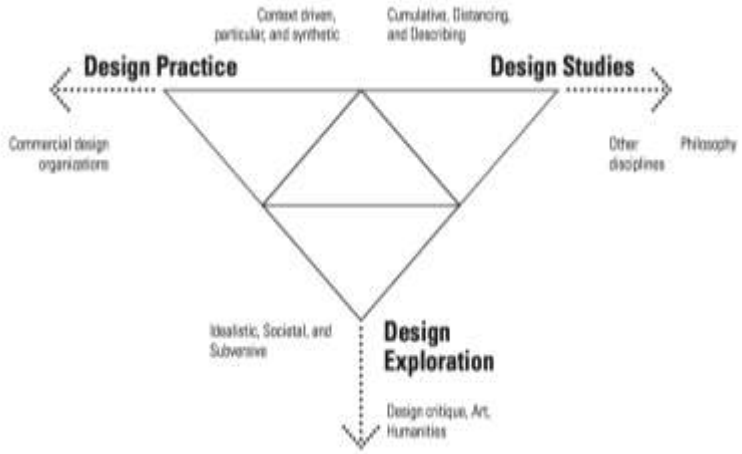

Fig. 1: The model of interaction design research in its most basic
(*Source: Fallman, 2008*)

Fig. 2: Jeremy Ayers studio ceramic artist and entrepreneur working in the studio
(Source: ceramicartsnetwork.org, 2014)

"The biggest piece of advice I have for those interested in making a living as a potter would be to take business classes. I was wholly unprepared to run a small business after college, and have spent so much time learning how to do so through trial and error."(Ayers, 2014)

The design process used in the production of ceramic products by ceramic studio designers is not documented until today. The process design approach is based on the experience and practice gained through learning at the university level. A skills-based design capability is distinct from an innate aptitude for designing and development as a designer comes from experiential learning and is linked to the individual's personal development. (Micklethwaite P. 2003)

The Star (2019) has reported that Bendang Studio's beautiful ceramic tableware is a hit among restaurateurs. Local artisanal ceramic tableware producer Bendang Studio has become incredibly popular since its inception nearly ten years ago and now makes tableware for local restaurants as well as having Bendang Artisan, a retail space in KL. (See Figure 3)

Fig. 2: Rozana Musa, studio ceramic entrepreneur in Malaysia and the owner of 'Bendang Studio'

2.0 Revisit Studio-Ceramic Practices For Future Growth

The unfinished Covid-19 pandemic has changed the pattern of the country's economy and affected craft entrepreneurs in particular. This is because the Movement Control Order (MCO) and the closure of borders for tourists from abroad to enter our country have little effect on local marketing products. Therefore, craft entrepreneurs need to think creatively and critically to improve the quality of their product and business design through appropriate platforms and in accordance with the latest technology to help them improve their sales and marketing of local products. According to Tourism, Arts, and Culture Minister Datuk Seri Nancy Shukri, The Ministry of Tourism, Arts and Culture (MOTAC) has introduced an online marketing initiative to help craft entrepreneurs sustain their businesses as the country battles the Covid-19 pandemic. She said the platform is aimed at promoting and marketing local crafts from various local entrepreneurs, such as textile, ceramic, metal, and more. The initiative, aptly called e-kraf Bazar on Facebook, was launched by Kraftangan Malaysia recently. "Moreover, with the current technology and marketing trend, they can run their businesses by using only their smartphones. And so we hope more entrepreneurs will join our platform and help each other sustain the industry," she said. (NST, April 2020).

In line with that, the government helps craft entrepreneurs improve their business through several methods, such as online platforms and so on, to ensure that these craft entrepreneurs are skilled in marketing their products locally and globally through technology. "The evolving promotion and marketing environment in the crafts industry will make crafters competitive, resilient and innovative in manufacturing identity branded products and services." "It is with the hope that with the current performance of handicrafts, the industry can be an important contributor to the country's income," (Datuk Seri Nancy Shukri, NST January 16, 2021)

Today's technology has changed the business pattern for some craft entrepreneurs, and through technology also, the result of art products can be modernized. Craft entrepreneurs also need to design products that can be profitable without using high capital due to frequent demand according to current trends. The design must be understood as a word that describes both a process and an outcome in turning ideas into material things (Angela Dumas, 2000); a designed object communicates social meaning through its symbolic value (Micklethwaite P., 2002). As creative entrepreneurs, they need to think that every design product produced will be commercialized in the market and profitable. There has been a significant recognition of the economic impact of designs and the value it brings to other industries. (Hashim at el. 2015)

As the craft industry grows and becomes more complex, entrepreneurship draws more attention to the need to emphasize makers, especially those who lived in small and medium enterprises. Good craftpreneurs are not dependent on the product philosophy and aesthetic value of their production; however, it emphasizes how to utilize the minimum resources to fulfill the maximum consumer requirement towards the product demand in a market.

In addition to designs with high aesthetic value, craft entrepreneurs must ensure that each design does not require minimal processes and resources in product production. (Sofian, at el. 2011). Craft makers are much more artistic and creativity reliant, and it is one of the most common entrepreneurial characteristics (Ghouse, 2008; Azlan et al., 2016; Anwar et al., 2018)

Fig. 3: Simplified business model canvas

Most craft entrepreneurs still use conventional methods in the design process. Demand comes through their preferences where everyone has their taste in buying a product, such as ceramic products, a product's aesthetic design plays in consumers purchase decisions (Yan L. et al., 2017). Therefore, studio-ceramic entrepreneurs should make changes to ensure that each design of ceramic products can meet customers' tastes through different methods and platforms. the design process should be in line with the latest technology and the use of the Internet of Things (IoT) and real-time enabled IoT platforms (M. Kim et al., 2019)

Design and Economic challenges can empower the industrial transformation and entrepreneurial practices. (Colombo et al., 2017) agree with digitalization, adaptive, networked, and knowledge-based industry with significant long-term impact on the economy, environment, and society. Business and supply chain models need to embrace the opportunities of IoT technologies (Meneghello et al., 2019) and should represent the foundation for the design and economic models (Heskett, J. 2008).

This study is relevant to National Creative Industry Policy Malaysia (2011). The outcome of the study also contributes to supporting the Ministry of Tourism and Culture's policy objective, specifically objective number 3, in the area of strengthening arts heritage, promoting Malaysia's uniqueness, and developing knowledge, skills, creative and innovative human capital arts, culture and heritage to achieve the ministry's vision of building national identity. In addition, the agencies that can be involved and collaborate on the implementation of this study are MIDA, MRM (Design Council), and SME Corp.

3.0 Mitigating Ceramic Design Issues

This ceramic studio entrepreneur does not clearly show the design process of a product is possible because the secrecy of the design process of each designer can not be shared with the public. However, as a contribution to new knowledge for novices, it is necessary to study the design process used by ceramic studio entrepreneurs to guide those who want to venture into entrepreneurship. There is a need to investigate investigate the design process of Studio-Ceramic Entrepreneur (SCE) in developing a new method for a novice. The lack of study on design practice in Studio-Ceramic Entrepreneur (SCE). Today, ceramics design is not associated with any particular school of thought, but many designers collect thoughts and organize them to create novel designs. (B. Almamari. 2017; Anwar et al., 2015). Insufficient development model as a new method for a studio-ceramic practitioner. Design economics is considered the most important technological enabler for the future design of the materials and information flows in production and logistic. (Markus et al. 2016).

In conceptualizing Studio-Ceramic Entrepreneur as a design model, this study will be conducting design experiments through the ceramic practitioner to measure and develop the design activities and design thinking in producing a ceramic product (tableware) through several approaches. The craft makers are much more artistic creativity reliant and are one of the most common entrepreneurial characteristics. (Ghouse, 2008; Azlan et al., 2015) In the local context, there is no research or study about the design process for Studio Ceramic Entrepreneur (SCE) in developing a new method of the design process. The impact of this study will contribute to and benefit NOVICE as a body of knowledge in this research field. In this study, several approaches to identify the effectiveness of design theory, design practice design process, and design thinking as a ceramic designer to develop new design models to become a Studio-Ceramic Entrepreneur (SCE).

4.0 Conceptual Framework of Design and Economic for Entrepreneurial: A Potential Gap of Study

Based on the research trend, this idea began to be discussed around 2010 and has been increasing since 2015. With 178 works citing this research. This work starts to be patented in February 2021 and requires 3 years of development and process since it was filed in 2018. Allen Vanguard Corp becomes the only body that published patent limits to these keywords. The Designomic model shows the initial idea came from Korea and expanded to Malaysia and started to be applied by TVET design project.

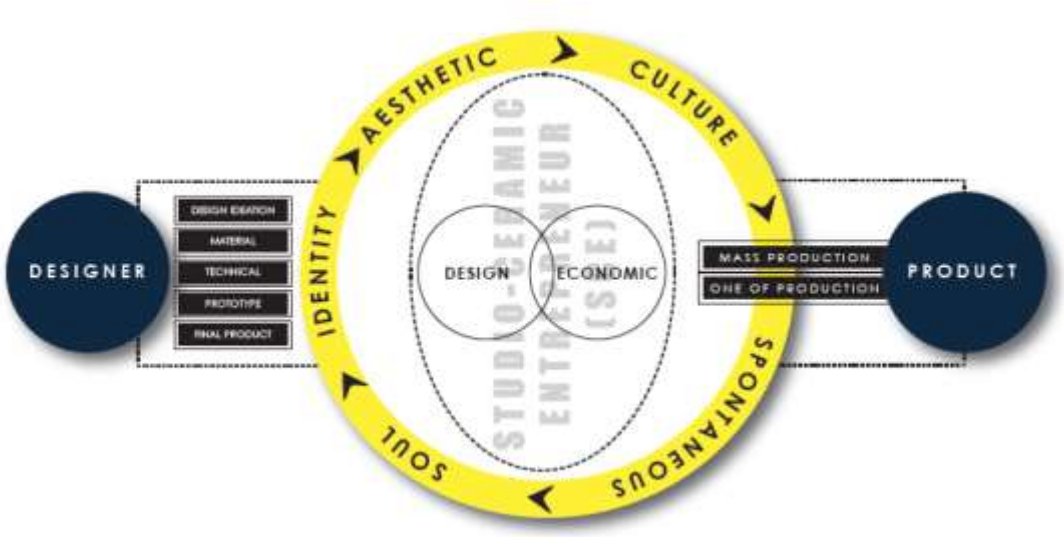

Fig. 4: Conceptual framework of Studio-Ceramic Design Economic

This study will provide an empirical investigation of design and economic toward studio-ceramic entrepreneurial practices and will claim to pursue both strengthening designomic integration and narrowing development gaps (Anwar et al., 2015). This conceptual framework (Figure 4) is based on new waves of ceramist design for production theory. The comprehensive fragmentation theory and new entrepreneurial studio practice. The findings on the Malaysian Design timeline and the visual character style of Modern Malaysian products, seen from a historical perspective, can become an important National Design Heritage comparable to that of the developed neighboring nation such as Korea, Japan, and China. Similarly, how the understanding of their nation's design philosophy has helped in branding their nation's image through products and services, Malaysia can use this as a guideline towards aligning the image and branding of the creative industry in Malaysia at a national level such as;

[i] Enhance manufacturing capabilities;
[ii] Widen the range of products, particularly high value-added and premium products;
[iii] Branding initiative and establishing Intellectual Property Right in new overseas markets.

The conceptual frameworks in Fig. 4 create qualitative inquiries that will be employed in order to formulate the engagement of metaphor selection during product development from the context of concept development, the metaphorical visual form elements involved and the designer's cognition of the selection as the form synthesis takes place, reflected through design activities. For the qualitative inquiry, there were no rules to follow concerning sample size, and it tended to depend on what was deemed to be required (Patton, 1990); Stake, 1995); (Yin, 1994) and (Adelman, 1976). Patton (1990) states the purpose, use, credibility, and available resources also dictated this size. Representatives rather than scale were primary concerns, as indicated by Anwar (2016), Oppenheim (2000), and Erdos (1970). '…a survey based on a comparatively small number of questionnaires does not necessarily mean that it is poor; Conversely, very large numbers do not guarantee excellence.' (Erdos, 1970) '…common sense suggests that a larger probability sample will give a better estimate of population parameters than a smaller one, but will also be more costly. A sample's accuracy is more important than its size.' (Oppenheim, 2000) (Adelman, 1976). This study consists of four stages: Criteria, Descriptive Study I, Prescriptive Study, and Descriptive Study II.

4.1 Criteria (Literature Review And Framing Research Strategy)

In this beginning stage of the methodology, the research aims to find probable link between the research problem and success. Each link and assumption are compared against the literature to set the expected research aim and the focus of the research project. Permitted to know to which degree these have been studied and accepted by the research community. It allows us to formulate and identify the link, including observable indicators and success criteria.

Aside from a thorough literature review to define the design research method to be employed, another area of concern that will need to be established is how visual analysis of formally archived Industrial Design artifact representation can be illustrative of the Industrial Design activity in the nation. The identified artifact/ visual artefact representation, in this case, will refer to the current 8,916 registered Industrial Design Rights in Malaysia under the 32 product classes as well as the Malaysian Design Council's archived artefacts/ visual artefact representation under the Good Design Mark or Annual Design Competition. The preliminary result will convey to the design protocol analysis that can offer and draws out the intangible areas deemed as the mysterious skills of design thinking (Cross, 2011) in formulating metaphorical element in product design. In order to calibrate and study the applicable setup of the protocol, a pilot test will be conducted to determine the suitability of the artificial environment effectiveness and efficiency setting. The selection of the respondents will be based on their experience (product designers), including the representation of regions in Malaysia. This will be established through a literature review as well as a preliminary interview towards achieving the first objective and answering the first research question (RQ1).

4.2 Descriptive Study I (Visual Analysis Model For Design Content Analysis)

This stage of the methodology emphasizes the importance of descriptive studies to increase our understanding of design in order to inform the development of the design support. It also identifies the factors that influence the formulated measurable criteria and explains how they influence them. It provides a basis for the development of support to improve the design. Finally, it provides more details that can be used to evaluate the developed design support.

The design will be implementing reflective practice and participatory strategy in the data collection. However, in what stage could the association of metaphor by the designers be influenced? Are the institutional training or their source of inspiration through their cultural environment setting? Does the mechanism of our thinking are rooted in our sensory experience? Thus, this calibration of the significance criterion is required to generate a valid comparison of the respondents. Based on the studies that value the correlation of eye movement, cognitive behavior, and sketching, the experiment setup will observe through recording devices that capture the sketching activity and the behavior that justifies and explains each action.

4.3 Prescriptive Study (Visual Analysis Model For Design Content Analysis)

This stage emphasizes the importance of developing an impact model (or theory) as the basis for systematic development. It develops an impact model or theory based on the reference model or theory from the Descriptive Study stages, describing the expected improved situation. Furthermore, it develops the support systematically. Finally, it evaluates the support with respect to its in-built functionality and consistency.

There is a design protocol used where researchers will include a sketching or drawing tablet and software for efficient sketching data recording, an eye-tracking device to record visual focus movement and the designer's attention and frequency of fixation during the sketching process, and a digital video camcorder to record specific angles to analyze the designer's body language and behavior and their verbal explanation. With this in mind, syntactic pattern of formgiving for design content analysis is use to study the collected artefact/ visual

artefact representations. This will be established through group interviews (during design protocol analysis) towards achieving the second objective. The main objective of this data collection and analysis is to provide the answer to the second research question (RQ2), which seeks to uncover the form (design) structure pattern of modern Malaysian artifacts based on form, content, and context analysis.

4.4 Descriptive Study Ii (Verification And Validation)

This final stage of the methodology emphasizes the need for different types of evaluation to assess the developed support and the need to evaluate more aspects than functionality. The goal is to identify whether the support can be used in the intended and that it addresses the factors it is supported to address (application evaluation). Finally, an evaluation is made on whether this indeed contributes to success, thus addressing the impact and the reference model.

To avoid biases, the visual analyst will evaluate the sketches obtained in the previous experiment. This is the verification process to gauge whether the representation intended by the designers could be perceived similarly by the audience and accepted. Verification of the design research will be based on logical verification and verification by acceptance. The visual analyst will confirm the success of representation by the designers. This is how one part of the data will be validated. The result of the pattern developed from the content analysis exercise will be compared to the grounded theory result of the expert interview. If the two data sources correspond, this will validate the study's conclusion, simultaneously answering the third research question (RQ3).

Furthermore, if the two data sources relate, this will again justify the findings from the first research question. This is because the pattern of design styles of modern Malaysian artifacts is congruent with the design practice of the Malaysian Industry. Conclusively, the following list presents four expected Validity Evidence in order to increase the strength of the formulating of the metaphorical element;

5.0 Conclusion and Future Works Recommendation on Developing Studio-Ceramic Entrepreneurial Concepts

Ceramic Design Methodology. The production of ceramic design is through standard processes and methods. From the design study or research to developing an idea and the next forming process using clay materials, the bisque firing process, and finally, the glazing firing process. The Process of designing ceramic products requires sketching a two-dimensional view, followed by creating a three-dimensional model using materials such as clay, Plaster of Paris, and other materials depending on the desire and objective of a designer. (Yassin. et al. 2018). Design and Economic Challenge in Cyber-Physical System can probably empower the industrial transformation and entrepreneurial practices at large. (Colombo et al., 2017) agree with digitalization, adaptive, networked, and knowledge-based industry with significant long-term impact on the economy, environment, and society. Business and supply chain models need to embrace the opportunities from IoT technologies (F. Meneghello et al., 2019), and real-time enabled IoT platforms (M. Kim et al., 2019) should represent the foundation for the design and economic models (Heskett, J. 2008). For that reason, the focus is on future research demand on [1] investigating the current design methodology used by studio-ceramic entrepreneurs in design production; [2] analyzing the design economic approach that can be used for studio ceramic practitioners; and; developing Studio-Ceramic Entrepreneur design economic model.

5.1 Design & Economic

The design must be understood as a word that describes both a process and an outcome in turning ideas into material things (Angela Dumas, 2000); a designed object communicates social meaning through its symbolic value (Micklethwaite P., 2002). A creative entrepreneur needs to think that every design product produced will be commercialized in the market and profitable. There has been a significant recognition of the economic impact of designs and value it brings to other industries. (Hashim at el. 2015)

5.2 Entrepreneur Practice

The craft industry grows and becomes more complex, entrepreneurship draws more attention to the need for emphasizing on craft makers, especially for those who are involved in the small and medium enterprise. A good craftpreneurs are not depended on the product philosophy and aesthetic value of their producing, however, it emphasizes on how to utilize the minimum resources to fulfil the maximum requirement of consumer towards the product demand in a market. (Sofian, at el. 2011). Craft makers are much more artistic creativity reliant and are one of the most common entrepreneurial characteristics. (Ghouse, 2008)

5.3 Entrepreneur Model

To become successful entrepreneurs, several models, theory and method have been developed and implemented by previous researchers. This approach can be used by novices who will use this model as a guide, especially university students after graduation. However, the body of knowledge on entrepreneurship, through appropriate teaching method and finally to establish success indicators and method of evaluation and impact measurements. The building entrepreneur needed not only knowledge (science), but new ways of thinking, new kind of skills and new modes of behaviors (arts) (Rengiah, at el, 2014).

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