Revitalising Traditional Malay Woodcarving through Design for Sustainability

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Abstract

In the age of global industrialisation and mass production, traditional crafts offer an example of long-standing 'local' approaches to material culture that are often socially, environmentally and economically reifying. However, evidence suggests that traditional crafts struggle to survive, and this is also the case in Malaysia. Moreover, there has been limited academic investigation into the meaning and manifestation of sustainable development among craftspeople, and the relationship of this to traditional Malaysian heritage. The central aim of this thesis is to investigate the potential and provide an in-depth understanding of the relationship between Malay craft and design for sustainability, focusing especially on traditional woodcarving. The key research question is; *How can woodcarving, as a culturally significant craft practice, be revitalised in Malaysia through effective design contributions and in accordance with sustainable design principles?* Data was collected via semi-structured interviews in Malaysia with 37 respondents from three groups of stakeholders in the craft industry: producers, supporters, and buyers; two case studies were also carried out in Malaysia. The relationships reviewed between various themes and sub-themes and organising them as a coherent whole constitutes an extensive qualitative study. Five main research findings are identified, which informed the development of a *Craft Revitalisation Framework for Malay Traditional Woodcarving*. This framework identifies key factors and their relationships that can inform context appropriate revitalisation strategies among the various stakeholders. The study recognises the need to involve appropriate stakeholders, including designers, in the development of such strategies. The conclusions from this study provide a better understanding on the significance, value and meaning of traditional Malay crafts, including woodcarving, in accordance with the principles of sustainability. In addition, it offers a useful tool and a well-founded direction to help ensure the future viability of craft practices.

Acknowledgements

Declaration

I declare that this thesis is my own work, and has not been submitted in substantially the same form for the award of a higher degree elsewhere. To the best of my knowledge it does not contain any materials previously published or written by another person except where due reference is made in the best.

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Shahrul Anuwar Mohamed Yusof

Table of Contents

List of Figures

List of Tables

Terms of Reference

Malay	An ethnic group of Austronesian peoples predominantly inhabiting the Malay Peninsula, eastern Sumatra and coastal Borneo, as well as the smaller islands which lie between these locations — areas that are collectively known as the Malay world. These locations today are part of the modern nations of Malaysia, Indonesia, Singapore, Brunei, and southern Thailand.
Besut	Besut is a district in Terengganu, an East Coast region of Malaysia. It is the northern gateway to Terengganu with Kampung Raja is the district capital. Besut was officially declared the "Wood Carving District" on August 12 1999, by the state of Terengganu. The recognition was awarded due to the well-known woodcarving community and quality woodcraft products from the area.
Malay Woodcarving	Wood carving is a part of classical Malay visual arts. The Malays had traditionally adorned their monuments, boats, weapons, tombs, musical instrument, and utensils by motives of flora, calligraphy, geometry and cosmic feature. The art is done by partially removing the wood using sharp tools and following specific patterns, composition and orders (Ismail Said, 2005).
Adiguru	Recognition scheme for the master artisan to appreciate their merits and contributions towards developing and uplifting the craft industry in Malaysia to be passed on to future generations. It has been introduced since 1987 by Kraftangan Malaysia. In 2019, Kraftangan Malaysia recognises 56 master artisan in their respective craft fields.

Kraftangan Malaysia	Kraftangan Malaysia or Malaysian Handicraft Development Corporation is an agency under the Ministry of Tourism, Arts and Culture. Kraftangan Malaysia is responsible for expanding and commercialising craft products through the development of marketing, products and entrepreneurship.
Keris	Is an asymmetrical dagger with distinctive blade-patterning achieved through alternating laminations of iron and nickelous iron (pamor). While most strongly associated with the culture of Indonesia the keris is also indigenous to Malaysia, Thailand, Brunei, Singapore and the Philippines.
Telepuk	'Telepuk' is a fabric that is gilded with floral and other motifs made from gold dust or gold leaf (kamus dewan, 2017, p. 1402). The patterned Telepuk design is transferred using a carved woodblock, usually in a floral design. Telepuk is considered an important textile heritage and is exhibited permanently at the National Textile Museum in Kuala Lumpur (Museum, 2018).
MRM	Majlis Rekabentuk Malaysia (Malaysia Design Council) A non-profit agency, MRM is under the supervision of the Ministry of International Trade and Industry and SIRIM Berhad. It spearheads design programmes in the country to boost the industry's design expertise, capabilities and standards.
Geographical Indication (GI)	a sign used on products that have a specific geographical origin and possess qualities or a reputation that are due to that origin registered to Intellectual Property Corporation of Malaysia (MyIPO)
Craftspeople	For this research, it refers to the craft industry stakeholders based on their primary roles, expertise, and experience. It was classified into three groups: producers, supporters, and buyers.

Chapter 1 Introduction

This chapter gives an overview of the Background to the Research (Section 1.1); The Research Problem (Section 1.2); The Research Process and Key Findings (Section 1.3); Validation of the Research Findings (Section 1.4); and an outline of the Structure of the Thesis (Section 1.5).

1.1   Background to the Research

1.1.1 Motivation for the doctoral study

Previously, the researcher was trained as an industrial designer with specific knowledge of furniture and product designs, and worked for several years as a designer for private companies. Areas of expertise included furniture, products, graphics, packaging and 3D modelling. In 2009, the researcher transitioned from being a professional designer to become a lecturer in the Faculty of Innovative Design and Technology (FRIT) , Universiti Sultan Zainal Abidin (UniSZA), Terengganu, Malaysia.

As an academic, the researcher was looking for the opportunity to disseminate the empirical knowledge gained from work-experience for design education as well as ensuring the development and retention of design skills and design thinking in his students. These aspirations aligned with the demands of the researcher's university and could be fulfilled through the process of doctoral study. So, an initial research proposal was developed for a doctorate in design to be undertaken.

1.1.2 Inspirations for research into craft and design for sustainability

The initial research proposal was inspired by the researcher's interest in the traditional crafts in Malaysia and concern about the decline in their production and popularity. Living and working on the east coast of Malaysia, where traditional craft was still being produced by the local people, the researcher found that local handicrafts were not aligned with market demands and seemed not to offer a viable income to the craftspeople. Buyers commented that local handicrafts were seen as outdated, impractical, of poor quality and did not meet customers' requirements. Craftspeople usually left traditional craft production for other jobs when they could not earn enough to make a living. Hence, the younger generation rapidly lost interest in being involved in local craft. This raised a question: "What can design do to help Malay traditional craft revitalisation and also improve its economic viability for craftspeople?"

The meaning of sustainability and its relationship to craft and design was of particular interest to the researcher. Furthermore, this relationship had yet to be explored in Malay craft. There were also recommendations from the university and stakeholders in the industry to undertake research into traditional craft in relation to community development.

1.2 The Research Problem

This research investigated the revitalising strategy in traditional Malay woodcarving through design for sustainability. Its aim is to develop a sustainable design framework as a tool to enable future viability of craft practices in Malaysia. In recent years, traditional crafts have been engaged in an increasingly desperate struggle to remain relevant in the modern world. Woodcarving is a form of handicraft that has long existed in parallel with Malay design (Silah Sumardianshah et al., 2016). Along with other major traditional crafts in Malaysia, woodcarving craft is facing a significant challenge to remain relevant and survive, and there is no doubt that it is in a significant state of decline (Kamarudin et al., 2020; Mohamed Yusof & Walker, 2018; Zainal Abiddin, 2016; Zumahiran Kamarudin et al., 2020). Furthermore, there is a lack of awareness of sustainable development concepts among stakeholders in Malaysian traditional crafts. Despite searches in the available literature using sustainability awareness and Malaysian crafts terms in 2020, to the best of the author's knowledge, no research has been conducted to explore the meaning and understanding of sustainable development among craftspeople, nor the relation between traditional heritage and sustainable design development in Malaysia. However, there is a significant relationship between craft and sustainability. Both are intricately connected with the way human beings create and interpret life through culture and social relations; relationships with natural materials; livelihood; and broader economic opportunities (Kamarudin et al., 2020).

These extrinsic and intrinsic values of Malay traditional craft need to be determined and highlighted in order for its revitalisation to be possible. A decline in traditional crafts involves the loss of skills, significant values, knowledge and meaningful cultural heritage (Mohamed Yusof & Walker, 2018; Sharih Ahmad & Walker, 2019). Finally, the role of design discipline in a craft revitalisation strategy needs to be addressed. Design strategy may offer a link to enable the future viability of the craft practice. However, studies about the role of design in craft revitalisation, especially in Malaysian traditional craft are still scarce (Sharih Ahmad & Walker, 2019). Design can add value to craft products. The intrinsic value of cultural heritage may provide a way of stimulating production and embrace a material culture that is culturally significant and meaningful (Walker, 2017; Zhan & Walker, 2018). Additionally, there has been little attention paid to the potential of design strategy in traditional craft revitalisation in Malaysia. Zumahiran Kamarudin et al. (2020) highlighted that further research and innovative ideas in woodcarving craft would benefit younger generations for sustainable development in the industry. The continuity of traditional craft heritage will promote sustained economic growth, higher levels of productivity and technological innovation for the downstream economy. The revitalisation of the craft industry plays a role in enhancing people's social well-being by improving their quality of life through the creation of job opportunities and income generation sources. Addressed through this research, this is also in line with the government's vision in KEGA 7 – Commodity Malaysia 2.0 in Shared Prosperity Vision 2030 (Ministry of Economic Affairs, 2019), craft revitalisation is an important economic development agenda.

1.3 The Research Process and Key Findings

The research areas comprised sustainability, design, and craft which is discussed in both an international and a local context. It focused on an in-depth investigation of the relationship between sustainability, design and craft, and the identification of the potential of design for sustainability using the traditional Malay woodcarving craft as the focus area.

The research aims were to:

- Develop an in-depth understanding of the relationship between sustainability, design and craft among the various stakeholders engaging in the handicrafts sector as producers, supporters (e.g. government agents, educational institutions, the private sector, associations and NGOs), and buyers;

- Recognise perceived values, current challenges and opportunities for change in Malay woodcarving craft as a focus area and exemplary case for sustainable craft revival;

- Identify potential areas in which design can contribute to the craft revitalisation framework, and simultaneously reinforce the implementation of sustainability, i.e. Walker's Quadruple Bottom Line of Sustainability.

The research methodology involved data collection from a literature review, semi-structured interviews with respondents in the craft sector and two case studies involving the craft community in a woodcarving village on the east coast of Malaysia. The data collected and presented in this thesis is qualitative because it seeks to develop an in-depth understanding of the relationship between sustainability, design and craft.

Main **research questions** were developed as guidelines for the field research:

1. What is the current level of awareness of sustainability among craftspeople in Malaysia and what is the perceived relationship between sustainability and craft?

2. Does Malay traditional craft hold the potential for revival and what is the perceived value of preserving it?

3. How can woodcarving, as a culturally significant craft practice, be revitalised in Malaysia through effective design contributions in accordance with sustainable design principles?

To answer the main research questions above, **six research objectives** were constructed:

1. To determine how 'sustainability' is perceived among artisans and associated stakeholders in Malaysian craft.

2. To identify one particular craft which is especially endangered, highly valued and has the potential for revival among Malaysian crafts.

3. To outline the benefits, challenges and potential for reviving woodcarving craft.

4. To identify those areas and appropriate methods for design to contribute to the sustainment of woodcarving in Malaysia.

5. To develop a framework to characterise the various elements of traditional woodcarving in Malaysia, which can inform a strategy for its sustainable revival.

6. To conduct an initial validation of the proposed framework.

Data collection from the field research included:

- Semi-structured interviews – conducted with 37 respondents in three groups based on their different roles and clusters in Malaysian design and craft industries: producers (n=15), supporters (n=16) and buyers (n=6) (Chapter 5).

- Two case studies – Case Study 1 (CS1) woodcarving community in Besut, Terengganu (east coast of Malaysia); and Case Study 2 (CS2), *Telepuk* woodblock stamp revival strategy by a master woodcarver (Chapter 6).

Five main research findings (Chapter 7) are identified from this research:

1. The level of awareness of sustainability among craftspeople in Malaysia can be improved.

2. The significance, value and meaning of Malay traditional craft, including woodcarving, in accordance with the principles of sustainability.

3. Opportunity for change and current challenges for Malay traditional woodcarving craft practice.

4. Nine Main Areas for revitalising of Malay Traditional Woodcarving Craft.

5. Factors to consider, potential approaches and role of design for a revitalisation strategy.

1.4 Validation of the Research Findings

Validation of the research findings was undertaken over the course of this study to check the accuracy and quality of information with respondents and peer reviewers and to elicit feedback and recommendations. The validation and feedback were sought through: (i) research papers and oral presentations at international conferences; and (ii) validation of the research findings via design workshops then initial feedback of the design proposals from key respondents. Details of the validation with peer reviewers are summarised below.

Subject title	Venue	Reviewers	Thesis sections
Research papers and oral presentation at international conferences			
<u>2018</u> Two birds with one stone: How woodcarvers are contributing to the survival of traditional Malay fabric gilding	DESIGNA 2018 TERRITORY, International Conference on Design Research, 29-30 Nov 2018, Covilhã, Portugal.	Two reviewers (double-blind peer review) Approximately fifteen attendees	Resulting from the Literature Review (Chapter 2) and Case Study 2 (6.3)
<u>2019</u> Sustainable development awareness among craftspeople in Malaysia.	Design Decoded - International Conference on Design Industries & Creative Culture, 19-20 June 2019, Sungai Petani, Kedah, Malaysia.	Two reviewers (double-blind peer review) Approximately fifteen attendees	Resulting from the Literature Review (Chapter 2), Interviews (Chapter 5) and Case Study 1 (6.2)
Validation and feedback			
<u>2020</u> Craft Revitalisation Framework for Malay Traditional Woodcarving	Terengganu – East coast of Malaysia	3 designers and 6 artisans participated in design workshops Nine Key respondents (2 producers, 3 buyers, 4 supporters) feedback for the design proposal	Resulting from the Discussion of Findings (Chapter 7) and Craft Revitalisation Framework (Chapter 8)

Table 1.1 Validation of the research findings

Publications resulting from this research

Two academic papers were published in conference proceedings as listed below.

- Shahrul Anuwar, M.Y. and Walker, S. (2018) *Two birds with one stone: How woodcarvers are contributing to the survival of traditional Malay fabric gilding.* In: DESIGNA 2018 TERRITORY, International Conference on Design Research, 29-30 Nov 2018, Covilhã, Portugal.

- Shahrul Anuwar M.Y. and Walker, S. (2019) *Sustainable development awareness among craftspeople in Malaysia.* In: Design Decoded - International Conference on Design Industries & Creative Culture, 19-20 June 2019, Sungai Petani, Kedah, Malaysia.

1.5   The Structure of the Thesis

This thesis comprises nine chapters:

Chapter 2 presents the Literature Review in two sections, Section A: Sustainability and Design (2.1 – 2.8), and Section B: Craft and Malaysian Craft (2.9 – 2.16). Section A provides an overview of sustainability as an overarching principle which informs design. It begins with the definition (Section 2.2), followed by the relationship between sustainability and development (Section 2.3), then discusses key theories of sustainability. Next, it discusses the relationship between sustainability, people and culture (2.5 and 2.6) followed by review of the connections between the principles of sustainability and design practice (2.7). Section B: Craft and Malaysian Craft provides an overview and understanding of craft in general and then focuses on Malaysian craft. It begins with the definition, history and development of craft in general (2.9-2.10). Then, it provides an overview of Malaysian craft including a discussion on production practice, significance values, and problems identified (2.11). Potential areas and justification from the Literature Review for design intervention in one selected craft, woodcarving, are presented in Section 2.12, followed by background, values, production and traditional practice of woodcarving craft in Malaysia (2.13 - 2.16). The chapter discussion (2.17) provides potential areas for design intervention in Malay woodcarving based on the Literature Review and constructed Research Questions. Finally, the chapter conclusion is presented in Section 2.18. **Chapter 3** explains how the research was carried out and why it was done in that way. The discussion of the research methodology for the study covers the relationship between sustainability, design and craft. It begins with further explanation of the research questions and research objectives (Section 3.2). Next, it presents available research methodology options in Section 3.3, including research approach, reasoning and methods, before summarising the selected route in Section 3.4. Research design further explains the selected methods for data collection (3.5) and is visualised in detail through the research framework (3.6).

Chapter 4 provides an explanation of the strategy for gathering and analysing the data. Then it discusses details of a literature review (4.2.1); pilot study (4.2.2.1); semi-structured interviews (4.2.2.2); case studies (4.2.2.3); an analysis of all the key findings from the three major data sources (4.3); and validation of findings (4.4). **Chapter 5** discusses the findings from the semi-structured interviews conducted with 37 respondents that have been separated into three clusters of craft stakeholders: producers, supporters, and buyers. This yielded three sections of findings grouped in themes. Section A: Craft and Sustainability (5.2); Section B: Overview of traditional crafts in Malaysia, and Malay traditional woodcarving as a selected focus area (5.3); and Section C: Potential areas and directions for design strategy (5.4). Finally, the chapter summary is presented in Section 5.5. **Chapter 6** discusses the findings from the case studies separately. Case Study 1 is about a woodcarving community located on the east coast of Malaysia: Besut (6.2). Case Study 2 discusses a revival strategy for a traditional woodblock stamp of Malay's ancient royal fabric known as 'Telepuk' by a Master wood carver (6.3). Findings from both case studies are compared and summarised in the chapter's conclusion (6.4) and contributed to support the main findings of the research. **Chapter 7** discusses the five main research findings (Sections 7.2 – 7.6) drawn from all the key findings from the three major data sources. These main findings are recapitulated in the discussion summary (Section 7.7). **Chapter 8** presents the development of a Craft Revitalisation Framework for Malay Traditional Woodcarving identified from the main findings in previous chapters (Section 8.2). Next, the revitalisation strategy and design solutions based on the framework and the result of validation are presented in Section 8.3. **Chapter 9** begins with an overview of the research including a recap of the research questions, objectives and a summary of the main findings (9.2). It then discusses revitalisation recommendations for traditional craft that are commensurate with sustainability principles (9.3); contribution to knowledge (9.4); followed by potential beneficiaries (9.5). Next, it discusses potential limitations (9.6); followed with the potential generalisability of the research findings (9.7). It then presents an agenda for further research that has emerged from this investigation (9.8). The chapter ends with concluding remarks regarding the body of research contained within this thesis (9.9).

Chapter 2 Literature Review

Section A: Sustainability and Design

2.1   Introduction

This chapter provides an overview of sustainability as a crucial principle in craft and design. It begins with the definition (Section 2.1), followed by the history and development of the 'sustainable' concept (Section 2.3), which also discusses key theories of sustainability. Sustainability and Cultural Heritage (Section 2.4) discusses the relationship between sustainability and culture. Design and Sustainability (2.5) discusses the connections between the principles of sustainability and design practice. Finally, the key findings are summarised (Section 2.6).

2.2   Sustainability and Sustainable Development

2.2.1 Sustainability; terms and meaning

The word sustainability is derived from the Latin 'sustinere' (tenere, to hold; sub, up), (Online Etymology Dictionary 2016). Sustain can mean "maintain", "support", or "endure" and in relation to the environment can refer to the idea that goods and services should be produced in ways that do not use resources that cannot be replaced and that do not damage the environment (The Shorter Oxford English Dictionary, 1964; the Cambridge English Dictionary, 2017).

I would like to address the definition of sustainability by Ehrenfeld which is:

> *"The possibility that humans and other life will flourish on Earth forever"*
> *(Ehrenfeld, 2008, p.49).*

Sustainability often relates to ecology and the environment. Some scholar refers to the ability of biological systems to remain diverse and productive indefinitely (Bossel, 1999; Glasbergen, 2000); business management (Maxwell & van der Vorst 2003, p.884); and business and environmental approaches (Santagata, 2002; Crul and Diehl, 2005; "Design and Spirituality: Material Culture for a Wisdom Economy Stuart Walker," 2013). In more general terms, sustainability is the endurance of systems and processes into the future.

Sustainability can also be understood in terms of climate change, the practice of recycling, or the challenges of cultural or economic survival. In the broader ecological context, sustainability concerns a restoration of balance for species' longevity, and, for this to be realised on global and local levels, human decisions and actions need to benefit the interactive workings of natural, socio-cultural, manufactured and economic systems (Murray et al. 2011, p.49).

Over the years, debates on "sustainability" have shifted from "weak" interpretations ─ in which natural capital can be replaced by other forms of capital, to "strong" conceptions of sustainability ─ in which absolute environmental constraints are acknowledged, but the importance of social and human aspects are also highlighted (Dresner, 2002).

Regardless of enormous governmental and private investments, there is concern as the ecological crisis accelerates at an unprecedented rate. Thus, many sustainability scholars are proposing to widen the terms of debate on sustainability, which includes critical analyses of the economic, social and humanistic project that lies at the core of this crisis (Orr, 2002; Assadourian, 2010, p. 5; Northrop, 2014, p. 441). An essential part of this "new" thinking is the explicit acknowledgement of the need for a deep change of the kind to which Albert Einstein was referring when he said that it is impossible to solve a problem within the same framework of thinking that gave rise to it in the first place (Orr, 2002).

2.2.1.1 Evolution of sustainability

The evolution of sustainability has been described by Elkington (2001, p.41) as a series of three pressure waves that have had significant effects since the 1960s (Bhamra and Lofthouse, 2007, p. 1). The waves describe how the environmental revolution has impacted on the business world. The first wave of environmentalism (1960s–1970s) (Elkington 1997, p.46); the second wave of "going green" (1980s–1990s) (ibid., p.56); and the third wave of sustainability (from 1999 to today) (ibid., p.61).
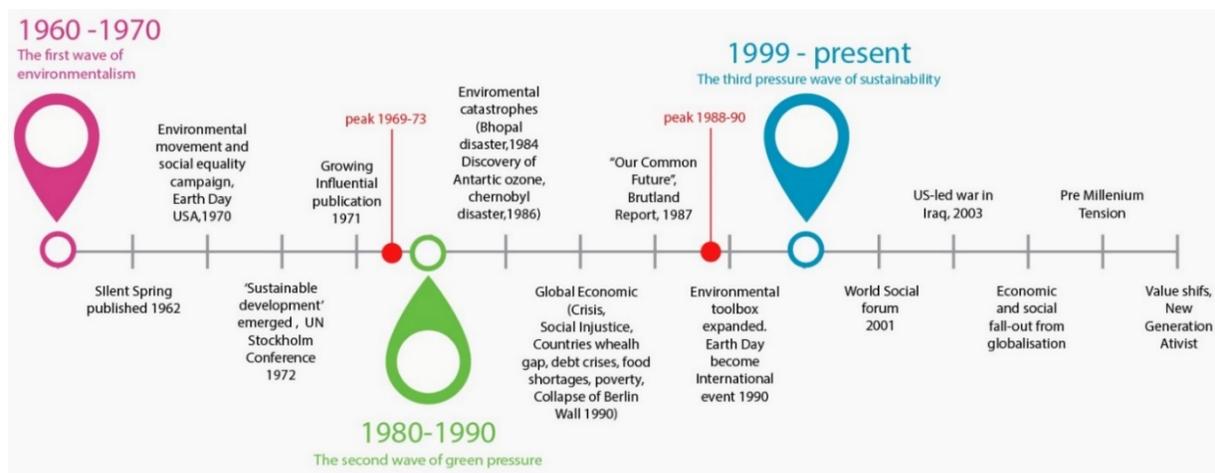
Figure 2.1 Wave of sustainability (Elkington 1997)

The first pressure wave of environmentalism (1960s–1970s)

The first pressure wave occurred in the 1960s and '70s, to raise concerns about social and environmental issues actively participated in by the younger generation in North America and Europe (Walker, 2006a, p. 20).

These movements (Bhamra and Lofthouse, 2007, pp. 1–9) established Green groups and non-profit organisation such as Friends of the Earth and Greenpeace, which organised campaigns, protests and publications. Their goals were to pursue a change for the better in government policy and regulation. Among the most important publications was *Silent Spring* (1962) by Rachel Carson which increased awareness of environmental issues relating to the chemical industry. Several legislations were passed at the peak of the first wave between 1969 and 1973 (Elkington 2004, p.8). Subsequently, social issues and human rights were addressed and eventually the notion of social justice became an acceptable concept in society and led to the emergence of the term 'sustainable development' (Walker, 2006a, p. 16). During the first wave, as a response to the environmental and social reforms of the 1960s, some influential publications emerged that criticised modern, unsustainable development. These events eventually led to the emergence of the concept of design for sustainability (Bhamra and Lofthouse, 2007, p. 3). Publications that provided principles and guidelines for alternative ways of designing in industrial and product design include *Design for the Real World – Human Ecology and Social Change* (Papanek 1971), *Small is Beautiful – Economics as if People Mattered* (Schumacher 1973); and ideas for the effective use of technology (Fuller, 1930s to 1970s cited in Walker 2006, p.22).

The second wave of green pressure (1980s–1990s)

The second wave that emerged in the 1980s was triggered by a wide range of environmental catastrophes, particularly the Bhopal and Chernobyl disasters and discovery of the ozone hole above the Antarctic (John Elkington, 1997a, pp. 50–56); and the global economic crisis (Bhamra and Lofthouse, 2007, p. 1) such as debt crises, the inequality between rich and poor countries and its relationship to environmental degradation and social injustice (Walker, 2006b, p. 23). This awareness prompted the implementation of several new legislations and environmental standards (Bhamra and Lofthouse, 2007, p. 1), such as the 'environmental management toolbox' for auditing and reporting, which became mainstream in business culture (John Elkington, 1997a, p. 58). This movement was known as 'green consumerism' (John Elkington, 1997a, p. 57; Bhamra and Lofthouse, 2007, p. 4). The second wave's important milestone was the publication of *"Our Common Future",* also known as the Brundtland Report, by the World Commission on Environmental and Development in 1987 (Elkington 2004, p.9; Scruton 2012, p.381). The report proposed "sustainable development", with an aim to promote harmony among human beings and between humanity and nature (World Commission on Environment and Development 1987, p.65). According to some writers such as Manzini (1990), Burall (1991), Mackenzie (1991) and Ryan (1993) (as cited in Bhamra & Lofthouse 2007, p.4), design should contribute to making radical changes since the second wave occurred together with the green consumer revolution. Commercial industry and business could be key mechanisms for achieving a more sustainable future (Paul Hawken1993 as cited in Walker 2006c, p.23).

The third pressure wave of sustainability (1990s up to the present day)

The third wave of sustainability took off in the new millennium and was driven by concerns about economic and social issues related to globalisation (Elkington 1997, p.62). Activists and NGOs organised the first ever World Social Forum, campaigning on economic and social issues such as trade justice and debt, poverty, water shortage and exploitation around the globe (Bhamra and Lofthouse, 2007, p. 2). The US-led war in Iraq had led to a growth in anti-globalisation or anti-Americanism in middle east and elsewhere (Bhamra and Lofthouse, 2007, p. 2), the gap between rich and poor countries had increased and there was a serious call for greater social justice for poorer countries (Walker 2006, pp.23–24). Elkington raised concerns that we need to consider the relationship between global production for economic growth and the possibly exploitation of regions for labour and natural resources (John Elkington, 1997a, p. 65). This changing understanding and development has affected product design and manufacturing sectors in many ways; for instance, the imposition of international standards and legislation to control air emissions, water pollution and the disposal of toxic and waste materials (Walker 2006, p.24). Research in design for sustainability has become established, and developed nations are actively covering issues such as the implementation of legislation, eco-innovations, corporate social responsibility, product service systems, eco-redesign, consideration of the impact of user behaviour, design for disassembly and reverse manufacturing (Bhamra and Lofthouse 2007, p.4).

2.2.2 Sustainable development

The Brundtland Report (1987) mentioned above in 'the second wave of green pressure (1980s–1990s)', defines sustainable development as designing our lives, work, products, social systems and relationships to meet "the needs of the present without compromising the ability of future generations to meet their own needs".   However, The World Conservation Strategy (IUCN et al. 1980) was one of the first to use the term "sustainable development". Murray et al. point out that the various meanings of the term 'sustainability' might have a negative effect; there is potential for it to lose value due to its application in multiple contexts and with various meanings (Murray *et al.*, 2011). The term "development" suggests broader potentialities to move 'gradually to a fuller, greater, or better state' (Duran *et al.*, 2015, p. 807). Sustainable development can also be understood as the simultaneous advance of environmental stewardship, social responsibility and economic viability (Dresner 2002). *Our Common Future* strongly linked environmental and socio-economic issues (Brundtland, 1987; Brien, 2005). Others argue that the organising principles of sustainable development consist of four interconnected domains: ecology, economics, politics and culture (James et al. 2015). Sustainable development has become a recognised goal for human society as a response to the deterioration of environmental conditions in many parts of the world (Bossel 1999). Therefore, humanity is forced to pay more attention to the environment, and this is becoming more and more important as modern industrial society places even more burdens on nature.

2.2.2.1 Scholarly definition of sustainable development

The concept of sustainable development is a complex approach occurring when environmental problems caused by various human activities require serious solutions. There are many definitions of sustainable development discussed by scholars. By analysing various definitions in literature, we can analyse and interpret the concept of sustainable development since its inception in 1987.

The definitions of sustainable development discussed by many scholars in various parameters are presented in Table 2.1. The definitions involve common and different imperatives and are sometimes specifically defined according to designated nations and societies. Most definitions integrate many buildings under development: expansion, growth, progress, development and satisfaction. Thus, all conceptualisations show a directly proportional relationship between economic growth and population satisfaction.

Source	Year	Origin	Parameter	Definition
WCED	1987	United States of America	Infuse environmental and socio economic	"Sustainable development is meeting the needs of present without compromising the ability of future generations to meet their needs." (WCED, 1987).
Pearce, D., Markandy A.and Barbier, E.	1989	United States of America	Improves Life quality	"Sustainable development involves devising a social and economic system, which ensures that these goals are sustained, i.e. that real incomes rise, that educational standards increase that the health of the nation improves, and that the general quality of life is advanced."(Pearce et al., 1989).
Harwood, R.R.	1990	United States of America	Evolving life system	"Sustainable development is a system that can evolve indefinitely toward greater human utility, greater efficiency of resource use and a balance with the environment which is favourable to humans and most other species."(Harwood, 1990).
Meadows, D. H.	1998	United States of America	social construct	"Sustainable development is a social construct, referring to the long-term evolution of a hugely complex system – the human population and economy embedded within the eco-systems and biogeochemical flow of the planet."(Meadows, 1998).
Van der Merwe, I. and Van der Marwe, J.	1999	Sud Africa	Process changer	"Sustainable development is a program for changing the process of economic development so that it ensures a basic quality of life for all people and at the same time protects the ecosystems and community systems that make life possible and worthwhile."(Van der Merwe & Van der Marwe, 1999).
Viorel, H.J.	2002	Romania	Ethical Economic growth	"Sustainable development is a form of economic growth which satisfies welfare needs of society in terms of short, medium and long term, it must meet the needs of the present without, however, compromising the of future generations."(Viorel, 2002).
Stefanescu, F.	2003	Romania	Ethical economic development	"Sustainable development must be understood as a type of economic development that ensures meeting the needs of present generations without compromising the ability of future generations to meet their own requirements and applicable measures aimed at long intervals and long-term effects." (Stefanescu, 2003).

Beck, U.and Wilms, J	2004	United Kingdom	Powerful Counter-narrative	"Sustainable development is currently a powerful global counter- narrative to contemporary western lifestyles and forms of governing societies." (Beck & Wilms, 2004).
Hopwood, B., Mellor, M. and O'Brien, G	2005	United Kingdom	understanding of humanity	"Sustainable development represents a shift in understanding of humanity's place on the planet, but it is open to interpretation of being anything from almost meaningless to of extreme importance to humanity." (Hopwood et al., 2005).
Vare, P. and Scott, W.	2007	United Kingdom	process of change	"Sustainable development is a process of change, where resources are being gathered, an investment direction is chosen, the development technologies directed and various institutions have convergent actions, increasing the potential for human needs and desires." (Vare & Scott, 2007).
Sterling, S.	2010	United Kingdom	Development reconciliation	"Sustainable development is seen as reconciliation between economy and environment on a new path of development that would sustain the human progress not only in a few places and for a few years, but on the entire planet and for a long future." (Sterling, 2010).
Marin, C., Dorobanțu, R., Codreanu D.and Mihaela R.	2012	Romania	Ethical system	"Sustainability development refers to the ability of a society, ecosystem, or any such existing system to operate continuously in an undefined future without reaching key resource depletion." (Marin et al., 2012).
Ivascu L.	2013	Romania	Ethical system	"Sustainable development can be defined as maintaining system stability by developing a balance of responsibilities: economic, social, environmental and technological support technique without compromising the needs of future generations." (Ivascu, 2013).

Table 2.1   Definition of sustainable development

Brundtland Report: a milestone

I would like to discuss more about 'Our Common Future' report (WCED), delivered on March 20 1987, on sustainable development and the pillar-approach to sustainable development, as one of the initial starting points in this research context. The Our Common Future definition of 'sustainable development' is:

> *"Sustainable development is development that meets the needs of the present, without compromising the ability of future generations to meet their own needs"* (Brundtland, 1987, p. 43).

Brundtland's definition and strategy outlines the responsibility of people to the environment to meet their needs and well-being in a much broader sense than only by exploiting and misusing resources. It defines how the "ecology and economy are becoming ever more interwoven locally, regionally, nationally and globally" (WCED, 1987, p. 5). Rather than having domination over nature, our lives, activities and society are embedded within the environment (Giddings et al., 2002). Furthermore, the report stresses how human existence, well-being, security and economy in the future rely on the environment. Also, the Brundtland Report claims that social equity between generations "must logically be extended to equity within each generation" (WCED 1987, p. 43). Thus, social equity as an integral part of sustainable development has two dimensions, time and space (Lafferty and Langhelle 1999). From this perspective, sustainable development has consequences for equity within and between generations both globally and locally. This definition is still commonly preferred, and also adopted by the new standard ISO 26000 (Seifi and Crowther 2011). The Brundtland Report identifies a much bigger range of issues to be included in sustainable development, as well as political, social, economic, and cultural issues. This broader approach — often called "broad sustainability' — offers more possibilities in sustainability rather than the environmental spectrum (Holden, Linnerud and Banister, 2014, p. 132). From its point of publication, the concept of sustainable development gained a significant foothold in the development of environmental bodies, agreements and NGOs. In other words, the report is crucial in linking environmental and socio-economic aspects.

2.3 The Relationship between Sustainability and Development

The terms "sustainability" and "sustainable development" are relatively recent concepts that emerged from environmental and social concerns dating back to the 1960s (Bhamra and Lofthouse, 2007, p.9). Both terms are often used interchangeably, however, each has its own meaning (Dessein et al. 2015, p.22). The difference between sustaining and developing can create tensions among various groups; these competing perspectives are impractical in encouraging a sustainable future that requires collaboration among various groups to deal with a series of divergent problems (Schumacher 1977, pp.120–130 cited in Orr 2003; Cadman 2009, p.34).

'Sustainability' is considered to have a more far-reaching set of objectives and values, one that can support de-growth and no-growth agendas as well as growth; one that might have social equity and justice rather than economic prosperity as its goal. For global corporations and some governments, 'sustainable development' is preferred as 'safer' term assuming it can tolerate any type of development as long as it is considered environmental in theory (Dessein et al. 2015, p.22). This is based on the number of governments and global business corporations that are prepared to discuss policies for sustainable development but pull back from sustainability. This explains the relationship between sustainability, sustainable development and social responsibility:

> *"The existing definitions tend to imply that all the attempts are to lead us to the long-term objective of sustainability and that you, therefore, act socially responsible in a company or organisation aligned with the greater aim of society called sustainable development and these are all to attain sustainability"* - *Seifi and Crowther (2011, p.36).*

The relationship between sustainability and development as a multi-directional and dynamic system would lead to attainable action for sustainability that deals with multiple contextual factors such as environment, society and economy (Cadman 2009, pp.34–35).

2.4 Discussion of Key Theory

2.4.1 Triple Bottom Line

The Evolution of sustainability has been described by Elkington (1997, pp.41–66) in his book, *Cannibal with Forks*. He describes the progress of the "greening" capitalism movement in its early stages and examines the three waves of environmentalism from 1970 until 1997 as a series of three pressure waves which have consequential impacts to this day (SustainAbility 2006 cited in Bhamra and Lofthouse 2007, p.1; Elkington 1997; Chudasri 2015,). Subsequently, Elkington introduces tools for sustainability accounting called the 'Triple Bottom Line' (1997, p.69).

Many describe sustainable development as having 'three pillars' — economic prosperity, environmental quality and social equality. These three pillars are the components of the concept of the 'Triple Bottom Line' which is used by organisations to assess their impact on society (John Elkington, 1997a, p. 70). It was initiated as an approach to drive business corporations towards sustainability and is also known as "people, planet and profits" (3Ps) (Elkington 2001, p.2; Bhamra and Lofthouse 2007, p.15; The Economist 2009).
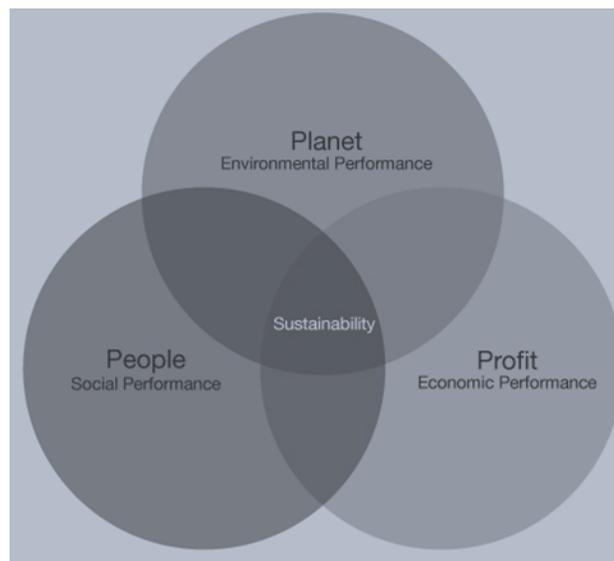
Figure 2.2   The Triple Bottom Line of Sustainability

(Reproduced as per the original in Walker 2011 based on Elkington 1997)

Environmental: The impact on the environment needs to be considered by organisations. This includes consideration of the consumption of resources through their use of renewable and non-renewable resources, emissions to air, land and water, and waste generated (John Elkington, 1997a).

Economic: Conventional accounting analyses a wide range of numerical data and this approach is often seen as a model for environmental and social accounting. However, many thinks that this traditional approach to reporting may need to change to reflect the new sustainable development agenda (Elkington 1997). For example, organisations need to consider how they can be economically sustainable in the long term. A business is sustainable if it has adapted its practices for the use of renewable resources and is accountable for the environmental impacts of its activities.

Social: An organisation must consider how it affects the social, ethical and political climate in the communities in which it operates. The social agenda for business has been around for a long time if we consider early controversies such as slavery, child labour and working conditions (John Elkington, 1997a). The notion is only complete if all three areas mentioned above are taken into consideration when making a decision (John Elkington, 1997a; Murray *et al.*, 2011). The Triple Bottom Line (TBL) is a method used in business accounting to further expand stakeholders' knowledge of the company. The most frequently seen factors used in performance measurement are: economic, environmental and social ("Global Reporting Initiative" 2006; Wang & Lin 2007). It goes beyond the traditional financial aspects and reveals the company's impact on the world around it. There are three main focuses of TBL: "people, planet, and profit" ("Global Reporting Initiative" 2006). It is a "concerted effort to incorporate economic, environmental and social considerations into a company's evaluation and decision-making processes" (Wang & Lin 2007). Elkington explores how effective, long-term partnerships will be crucial for companies making the transition to sustainability and offers approaches and examples of keen interest.

2.4.2 Quadruple Bottom Line of Design for Sustainability

The Quadruple Bottom Line of Design for Sustainability (QBL) (Walker 2011) has been introduced as a tool for understanding sustainability as human fulfilment and as an extension of TBL. The missing element of individuality in TBL as a fundamental aspect of being human should be nurtured at the personal level to foster a basis for responsible activity (Walker 2011, p.127). The focus of this additional element is on personal meaning, encompassing spirituality, the personal ethic and conscience. It cultivates the understanding of sustainability and brings a critical dimension of personal meaning, which can have a substantial and foundational effect (Walker 2012 p.40). Walker (2014) proposes a way of designing that is enriching and personal while nourishing human flourishing (p.76), and creates outcomes which are environmentally responsible and socially just, as well as meaningful and enriching at a personal level. According to Walker, these three elements correspond to the three fundamental principles of human existence in the world. The fourth element, economic means, reflects a "human construct rather than a premise and is therefore allocate a secondary role". Hence, to inform the sustainable development, then issues of economic significance should "being regarded as a means to an end rather than an end in itself" (Walker, 2014, p. 45).
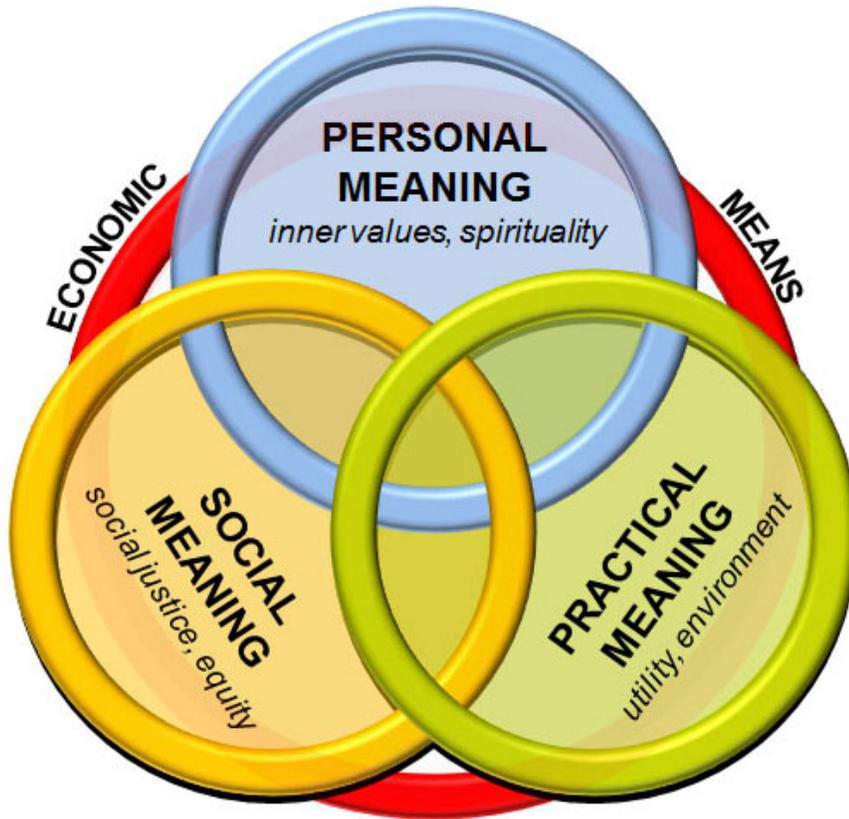
Figure 2.3 The Quadruple Bottom Line (QBL) (Walker 2011)

As extension to Elkington's triple bottom line, Walker's QBL which includes 'personal meaning' so these very personal values can also be taken into account, is more suitable key theory to inform personal meaning in design for sustainability. Walker's Quadruple Bottom Line of Sustainability (socio-cultural, personal, practical and economic) can be categorised within two main dimensions, intrinsic and extrinsic values. This is further explained in Section 2.11.5.

Values: Schwartz theory of basic values

Values are our guiding principles: our broadest motivations that influence our attitudes and actions. In regards of value theory, over the last decade, Schwartz's value theory has been the most widely accepted view (Marjo Elisa Siltaoja, 2006). Values defines as desirable, trans-situational goals, varying in importance, that serve as guiding principles in people's lives (Shalom H Schwartz and Anat Bardi, 2001). Schwartz indentified 56 value items that can be grouped into ten broad personal value types, which can be further clustered into four value orientations: 1) self-transcendence (the altruistic value types of universalism and benevolence), 2) self-enhancement (egoistic values focused on personal power and achievement), 3) openness (including the value types of self-direction, hedonism and stimulation), and 4) conservation (including the tradition, conformity and security value types) (Shalom H Schwartz and Anat Bardi, 2001; Schwartz, 2012).

The ten broad personal values are:

1. "Self-Direction –independent thought and action–choosing, creating, exploring."

2. "Stimulation –excitement, novelty, and challenge in life."

3. "Hedonism –pleasure or sensuous gratification for oneself."

4. "Achievement –personal success through demonstrating competence according to social standards."

5. "Power –social status and prestige, control or dominance over people and resources."

6. "Security –safety, harmony, and stability of society, of relationships, and of self."

7. "Conformity –restraint of actions, inclinations, and impulses likely to upset or harm others and violate social expectations or norms."

8. "Tradition –respect, commitment, and acceptance of the customs and ideas that one's culture or religion provides."

9. "Benevolence –preserving and enhancing the welfare of those with whom one is in frequent personal contact (the 'in-group')."

10. "Universalism – understanding, appreciation, tolerance, and protection for the welfare of all people and for nature.

These groups can be represented more simply in a circular diagram, called a Schwartz's value circumplex :
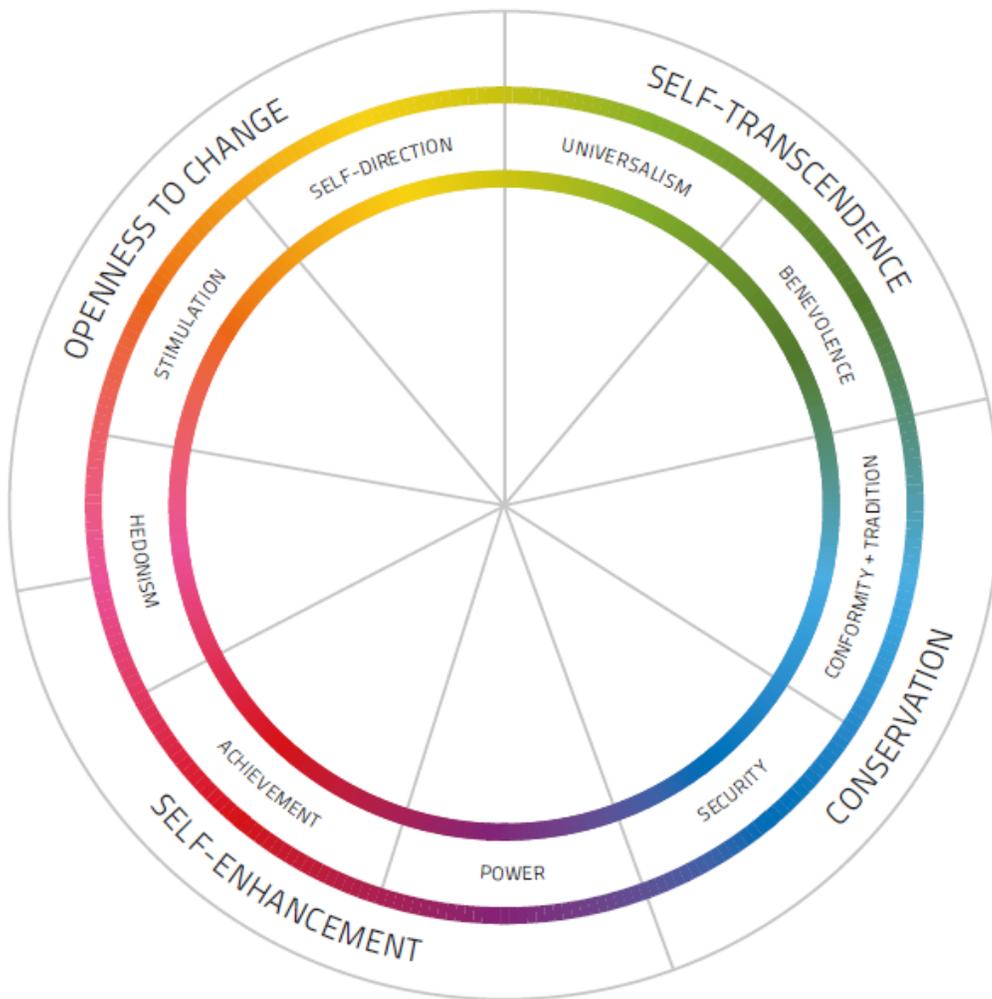
Figure 2.4 Schwartz's value circumplex (Schwartz, 2012)

Designers can play an active role by using the intrinsic value, and produce meaningful products to counter the consumer's throwaway habits. They can directly influence the decisions people make. Design is cleverly used to stimulate human interest but has neglected the relationship with other creatures (Van der Ryn & Cowan 2013, p.25). It is crucial to recognise the role of human emotions to nurture a meaningful material culture. Schwartz's value circumplex to identify personal values that are robust across cultures and that can help explain diversity and conflict in values (Schwartz, 2012). Hence, in line with Walker (2013, p.15), that we must consider our 'feelings about' when making a design decision and "reflect on the emotions invoked by objects and their creation". These theories relationship presented in Figure 2.5. The significance and value of Malay traditional crafts in relation to these sustainability theories are discussed further in Section 2.11.5.
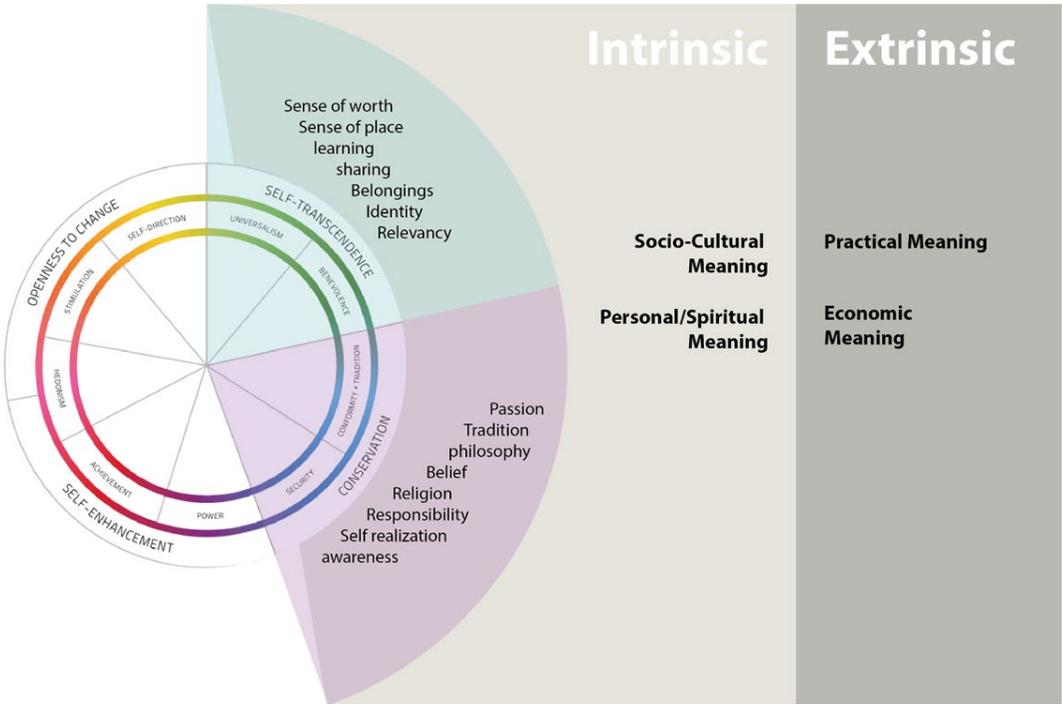
Figure 2.5 Theory of values relationship

2.4.3 The comparison of sustainability approaches

Most of the studies and approaches on the application of sustainability practice are currently limited to addressing the economic and environmental effects of products (Dogan C, 2007, p. 278) and rarely is any consideration given to the social aspects of sustainability (Papanek, 1985, p. 102; John Elkington, 1997a). There is limited research for designers or artisans to use these approaches. This is because product-to-service approaches and solutions are commonly isolated from the core of design due to being stuck at the level of concepts (Manzini, 2002). That said, however, there are an increasing number of tools and system-based approaches for sustainability becoming available (Table 2.2).

Systems thinking approaches	• Natural Capitalism (an approach towards economy based on environmental resources) (Hawken, 1993) • The Natural Step Framework (four systems conditions) (Robèrt et al., 2002) • Cradle to Cradle (waste equals food, separating product parts as biological and technical nutrients to be reintegrated into the nature and the production systems) (McDonough and Braungart, 2002, 2005) • Sustainable Everyday (sustainable solutions and scenarios for urban life) (Manzini, 1998, 2004) • Tools: LCA, Ecological Footprint, Factor 10 (quantitative calculation of environmental impacts • Biomimicry (design innovation inspired by nature) (Benyus, 1997) • Triple Bottom Line (TBL) tools for sustainability accounting (John Elkington, 1997b)
Design based approaches	• Papanek's (1983, 1995) approach – designers' role for incorporating social and environmental aspects in product design • 'Sustainable by Design' (sustainable product design explorations and their implications for design and aesthetics) (Walker, 2006) • Droog design (1998) – design explorations that vary the understanding of material culture. • ISDPS concept – enabling design solutions for product repair, recovery, re-use and upgrading. (Dogan and Walker, 2008) • Design for Domestication - strategies that seek to revitalise traditional crafts by supporting domestic activity. (Holroyd, Twigger and Al, 2015) • The Quadruple Bottom Line (QBL) as an extension of TBL with additional element is on personal meaning, encompassing spirituality, the personal ethic, and conscience (Walker 2014) • Design Roots provides detailing contemporary approaches to development and revitalisation of culturally significant designs, products and practices (Walker *et al*., 2016) • Schwartz's value circumplex to identify personal values that are robust across cultures and that can help explain diversity and conflict in values (Schwartz, 2012) • Frugal Design (Srishti Institute of Art, 2015) has been used as an underlying principle in design for sustainability.

Table 2.2 Approaches for Sustainability adapted from Dogan C (2008, p.279)

Design-based methods are also increasing that pay attention to the extrinsic and intrinsic aspect of sustainability and craft; these include The Quadruple Bottom Line (QBL), Schwartz's value circumplex and design for domestication. The ISDPS concept aims to combine various scales of production, from mass production of certain components to batch production; craft and culturally appropriate product design solutions; and assembly and post-use processing at the local and regional levels (Dogan C,2007, p. 286). This approach recognises the benefits of mass-produced uniformity and the benefits of local and regional diversity in order to more effectively address sustainable principles. On the other hand, we can find a sustainability approach aimed directly towards traditional craft in the 'design for domestication' approach by Holroyd et al. (2015). The study explores design's contribution to the 'domestication' of traditional crafts by repositioning the practice as an amateur leisure activity. Domestication and localisation both emphasise customisation. Modernised and industrialised society affects the ability of traditional craftspeople to continue operating on a domestic or local scale. However, Holroyd et al. (2015) emphasise that commercialisation carries no guarantee of long-lasting survival for traditional crafts. Their study ultimately outlines six domestication strategies: documented and fixed, interactive and fixed, live and fixed, documented and experimental, interactive and experimental, and live and experimental.

In addition, Design Roots (Walker *et al.*, 2016) provides a comprehensive review of culturally significant designs, products and practices through series of case studies, examining structural factors that support revitalisation through design, detailing contemporary approaches to development. It discusses understandings of cultural significance, not only in terms of history and tradition but also in terms of locale, social interactions, innovation, and change for the sustainment of culturally significant material productions. It comprises five main sections: (i) Culturally significant designs, products and practices; (ii) Authenticity and tradition in material culture; (iii) Revitalisation by design; (iv) Enterprise, Policy and education for positive development; and (iv) Design futures. It also opens up the possibilities for future development of domestication strategies through other approaches such as in-depth case studies and design-led investigations.

In a situation in which traditional crafts, which embrace multiple elements of sustainability, are in decline, design can invigorate the production of crafts for their continued future. Craft together with design can act directly and indirectly to influence social change through, e.g., the creation and use of objects (Craft Revival Trust et al., 2005, pp.2, 6, 131; Walker, 2011, p.191). An increasing number of researchers are looking at the overlapping areas of craft and design for sustainability as a way of stimulating production and demand for commodities with the regards of meaningful values in craft. These are including environmentally responsible, provide skills, satisfying employment opportunities, i.e. "good work" (Schumacher, 1979), offer income generation, especially for local communities (Schumacher, 1979; Nair, 2011, p.51), embrace a material culture that is culturally significant and meaningful (Walker, 2006, p.51), identify personal values (Schwartz, 2012) and help in the empowerment of people (Craft Revival Trust, et al., 2005, p.6).

2.5   Sustainability: Relationship between people and things

David Orr defines sustainability as "the arts of longevity" (Orr, 2008, p. 11), that is, as both an enquiry and a course of action into the meaning, making and maintenance of life in the long term. The "art of longevity" emphasises the irrevocable interconnection of both the natural and human worlds, and of theory and practice. For Fry, the use of the term 'sustainable' is to emphasise an ability to sustain that is embodied in the relationship between people and things (Fry 1999: 8; 2007c). The similar notion of relationship between people and things can be recognised in the concept of 'distributed competence', which is derived in part from the actor-network theory (Latour 2005; Shove et al. 2007).

Shove et al. give an example of how the projects of domestic DIY practitioners succeed by relying not only on individual skill, but also being influenced by the advice of friends and experts. Furthermore, it is achieved with particular tools and materials which relate to the relation between people and things (Shove et al. 2007, p.55). They later give an example of quick-drying, non-drip paint for a DIY project. The paint 'knows' how to go onto a door which is a symbol of technological embodiment of the skill of an expert painter (Shove et al. 2007, p.55).

The result is that the amateur has the ability to achieve a quality of finish which is otherwise beyond their level of skill. This is an example of an assemblage of social relationships and material things. This is also parallel with the description of "beauty in use" described by Tonkinwise, which explains the aesthetic of workmanship and its consequences towards sustainability (Tonkinwise, 2015).

For this research context, the notion of beauty in use is related to craft and handicraft. Fry outlines the importance of understanding the nature of this relationship between people and things as a critical feature of sustainability. We have to consider 'sustainability' as a quality that might exist in objects regardless of their context of use. For example, wood cannot be regarded as essentially 'sustainable' for merely representing the possibility of a sustainable metabolic cycle (Fry 1999, p.8).

Ehrenfeld defines sustainability as the "possibility that human and other life will **flourish** on the planet forever". He warns that some words have a special meaning that he has to define and explain to us (like flourish, possibility, being) (Ehrenfeld 2015, p.6). To define flourishing, Ehrenfeld takes us through the works of Abraham Maslow and Manfred Max-Neef, among others, to explain that there are three basic domains that need to be attended to before flourishing can be achieved.

These are the human, the natural and the ethical. The natural domain is caring for the world and everything that is not human. The human domain is caring for oneself; things like subsistence, dignity, self-expression, leisure, learning and spirituality correspond to this domain. The ethical domain is caring for others; family, participation with others, and providing for others. Ehrenfeld claims that "for human beings, flourishing means that everyone on the planet must be free and able to lead dignified authentic lives." Here, authentic means being free of cultural constructs such as consumption and the hegemony of technology.

Ehrenfeld proposes that artefact design is one way by which sustainability could be achieved. He argues that through design it is possible to send a message to the user. He uses the example of the toilet with double flush buttons. His claim is that, confronted with two buttons, a user of the toilet would stop to think what to do, that this would lead to ethical considerations and that the user would be able to make a decision that takes the consequences of his or her act into account, i.e. flushing (and wasting) more or less water (Ehrenfeld, 2015a).

2.6 Sustainability and Cultural Heritage

This topic will explain the definition of culture, heritage and Intangible Cultural Heritage. Then, the relationship between sustainability and cultural heritage is discussed. This will address the significant value of cultural heritage which includes traditional crafts as part of the intangible cultural heritage.

2.6.1 Defining cultural heritage

Hofstede (1980, pp. 21-23) defines culture as "the collective programming of the mind which distinguishes the member of one group from another", which is passed from generation to generation; it is changing all the time because each adds something of its own before passing it on. Culture affects everything people do in their society because of their ideas, values, attitudes and normative or expected patterns of behaviour.

UNESCO operates with a broad definition of culture:

> *"The whole complex of distinctive spiritual, material, intellectual and emotional features that characterises a society or social group. It includes not only the arts and letters but also modes of life, the fundamental rights of the human being, value systems, traditions and beliefs"- (UNESCO, 2003 p. 3).*

Ahmad (2006, pp. 292–300) examines the scope and definition of heritage. He states that the scope of heritage has broadened to include the environment and intangible values and has received agreement from the international community. For example, The Burra Charter of 1979 in Australia was amended in 1981, 1988 and 1999 as a response to the current concern of heritage and conservation, including conservation of intangible values (Ahmad, 2006, p. 297). This charter recognises social and aesthetic values as part of the culture and intangible values as an integral aspect of heritage significance.

2.6.2   Intangible cultural heritage

The contemporary definition of cultural heritage, rather than tangible means, is expanding into a broader context that covers social, economic, environmental and personal aspects. Rypkema (1999) emphasises the role of heritage in striving for sustainability: preserving cultural heritage provides environmental sustainability, cultural sustainability and economic sustainability. According to UNESCO (2003), cultural heritage falls into two groups, tangible and intangible cultural heritage. 'Intangible Cultural Heritage' is defined as:

> *"the practices, representations, expressions, knowledge, skills – as well as the instruments, objects, artefacts and cultural spaces associated therewith – that communities, groups and, in some cases, individuals recognize as part of their Cultural Heritage"*(UNESCO, 2003a, p. 3)*.*

Tangible cultural heritage is associated with physical artefacts, while intangible cultural heritage is more to do with personal knowledge passed down through generations. Intangible Cultural Heritage is constantly recreated by communities and groups in response to their environment, their interaction with nature and their history, and provides them with a sense of identity and continuity, thus promoting respect for cultural diversity and human creativity (UNESCO 2003, p.2).

This research on sustainable design strategy of culturally significance products, will focus on Intangible Cultural Heritage, including tacit knowledge of craft and intrinsic value of handicraft practices. Lenzerini (2011, p.108) examines the concept and significance of intangible cultural heritage, and he describes the importance of Intangible Cultural Heritage (ICH) as:

a) the self-recognition, by the communities, groups and individuals concerned, of ICH as part of their cultural heritage;

b) the constant recreation of ICH as a response to the historical and social evolution of the communities and groups concerned;

c) the deep connection of the heritage concerned with the idiosyncratic identity of its creators and bearers;

d) the condition of 'authenticity' as an implicit requirement of ICH;

e) the profound interrelationship of ICH with human rights.

Unlike Tangible Heritage, ICH is, by its nature, of a markedly dynamic nature. The factors involved are deeply interrelated to each other. He added that such heritage has the intrinsic capacity to modify and shape its own characteristics in parallel to the cultural evolution of the communities concerned. In an age when globalisation is virtually uncontrolled, such characterisation puts the very identity of peoples in peril of being curtailed and absorbed by the dominant society (Lenzerini, 2011, p. 108).

It is generally recognised that the 21st century will be a century of globalisation. Notwithstanding all the benefits of economic globalisation, it causes a substantive threat to cultural heritage (Indrė Gražulevičiūtė, 2006, p. 75). Indrė proposed a broader concept of sustainability, including not only environmental, economic, and social but also cultural aspects. The significance of preserving cultural heritage is based on the valuing of human well-being and the quality of life of communities and preventing cultural globalisation, sustaining cultural diversity and positively affecting economic development (Indrė Gražulevičiūtė, 2006, p. 75). Many researchers around the world argue that preservation of cultural heritage enhances environmental, social, cultural and economic sustainability (Hanan 2012; Songjie et al. 2011; Lietaer & De Meulenaere 2003; Tuan & Navrud 2008). Culture is an important driving force in the process of social and economic development. Recent studies suggest it is becoming increasingly important to preserve the valuable cultural heritage of history. Protecting cultural heritage is of economic, as well as historical value (Ekwelem, Okafor and Ukwoma, 2011, pp. 1–14).

The concept of sustainability has already been acknowledged in business and economic development. However, a broadened concept of sustainability must consider the importance of other aspects, such as functional (e.g. public infrastructure, the fiscal responsibility of local government); physical (e.g. the built environment); and cultural (e.g. local traditions and skills) (Rypkema, 1999). Cultural heritage is not only past history, but also one of the main identities of a nation. As a key resource, cultural heritage has become a driver for sustainability and sustainable development (Hani *et al.*, 2012, p. 194).

2.6.3   Craft & Modernisation

In recent years, traditional crafts have been engaged in an increasingly desperate struggle to remain relevant in the modern world. Over the last three decades, the two dominant alternatives for crafts to remain relevant seem to have entailed either absorption of traditional crafts into the field of design or into that of the 'fine arts' (Hughes, 2009). Like other forms of intangible cultural heritage, globalisation poses significant challenges to the survival of traditional forms of craftsmanship. Mass production, whether on the level of large multinational corporations or local cottage industries, can often supply goods needed for daily life at a lower cost, both in terms of money and time, than hand production. Many craftspeople struggle to adapt to this competition (UNESCO 2003). Another main problem with the hegemony of technology is that its reductionist approach to problems and its intention to solve everything with a combination of specialists fails to see the real cause of unsustainability, and instead is only able to offer temporary solutions (Blizzard & Klotz 2012, p.457). The technocratic belief is that sustainability and unsustainability are related and that reducing one increases the other. In contrast, Ehrenfeld suggests this is inaccurate. In his view, we can only be sustainable when the natural, ethical and human domains work together at the same time. He believes that our technocratic approach to solving unsustainability does not assess the ethical domain; hence, by continuing to use this approach, we cannot reduce unsustainability and increase sustainability (Ehrenfeld, 2015a). This is in line with the principle of the Triple Bottom Line (John Elkington, 1997b) and the Quadruple Bottom Line (Walker 2014) which suggest each proposed domain needs to be addressed to achieve sustainability.

Dresner distinguishes between human development (improving education) and economic development (material consumption), offering a particularly interesting discussion on the achievements and merits of both (Dresner, 2002, pp. 68–74). He provides three indicators that should be adopted to determine the correct environmental space, namely, pollution of natural systems, depletion of natural resources, and the loss of naturalness (Dresner, 2002, p. 85). Dresner returns to the modernist values adopted since the Enlightenment and argues that sustainability involves many of the "ideas about fairness and solidarity that were associated with socialism in the past" (2002, p. 172). As a counter-argument, Dresner suggests the idea of 'Reflexive Modernisation' and concludes that "Sustainability is an idea which combines postmodernist pessimism about the domination of nature with almost Enlightenment optimism about the possibility to reform human institutions" (Dresner, 2008, p. 172).

Furthermore, Fry argues that contemporary practices of design and manufacture and material culture, including fashion design, planning, architecture, industrial design, visual communication, and of course, craft practices, may contribute to unsustainability as a particular mode of being (Fry, 2008, p. 20). The material and symbolic effect of advertising, consumer products, infrastructure and entertainment industries have been constructed and enhance unsustainability. Fry extends this discussion and explains how the crisis of unsustainability is understood not as a question of 'saving the planet'. The real issue is how institutionalised 'ways of being' degrade the relational ensemble of social, technical and biological ecologies upon which humans depend (Fry, 2008).

2.6.4   Craft in the context of sustainability

We can trace the ontological approach towards sustainability back to the birth of modern craft, more than one hundred years ago. For instance, during the Victorian period, the looming dominance of the machine was balanced by the handmade construction of beautiful objects as a moral counterpoint positioned by the Arts & Crafts movement (Murray *et al.*, 2011). Hughes relates the Arts & Crafts movement to the contemporary concept of 'emotionally durable design' by Chapman (Chapman, 2009; Murray *et al.*, 2011). The recent resurgence of interest in ideas about craft and its role in modernity (e.g. Greenhalgh 2006; Sennett 2009) is only just starting to pay attention to the possibilities that craft and craftsmanship represent for sustainability, at least in the West (Ferris 2010). Yet both craft and sustainability are intricately connected with the way human beings create and interpret life: with culture and social relations; with use of and relationship with natural materials; and with livelihood and broader economic opportunities (Murray 2011). Furthermore, Artisanal Skills as well as Spirituality (related to Personal Meaning in the QBL) are both mentioned in Bhutan's Gross Happiness Index – which is a more comprehensive (sustainable) approach to measuring a countries progress and success (Centre for Bhutan Studies & GNH Research., 2015). Sennet argues that crafts and culture of quality improve morals and can help rebuild a community. Sennett describes the satisfaction of 'physical making' as a necessary part of being human. We need craft work as a way to keep ourselves rooted in material reality, providing a steadying balance in a world which overrates mental facility (Sennett, 2008, pp. 88–93).

Craft has a significant role in sustainability, and not only for a series of discrete energy-saving acts. The value of craft has a huge potential to become an 'alternative way of being in the world' (Murray *et al.*, 2011). Tony Fry expands the understanding of sustainability from purely technological solutions to broader ontological approaches, including craft, which echo a more responsible relation to material culture (Fry, 2008; Murray *et al.*, 2011).

A useful complement to Fry's approach can be found in Allan Stoekl's *Bataille's Peak* (2007), which argues that certain energy-saving measures can be more a sign of the problem than a solution. He explained how the economies growing within the system of capitalism require excess to be channelled back into the financial system, and thus require more production. Hence, the economies grow but also expand the energy required to sustain the system. Stoekl points out that, rather than curb excess, its purpose is to enable the system to keep growing (Stoekl 2007). Kiem (2011 p. 43) adds a similar point to this argument and connects it to contemporary sources, including Baudrillard, Bourdieu, Manzini and Fry. He urges craft practitioners to respond to the need for sustainability.   The relation of craft and its role in sustainability is explained by Fry, based on the philosophical thinking of Martin Heidegger. Fry examines how the way in which we prefigure and construct our artificial environments conditions our sense of being-in-the-world (Heidegger, 1962; Fry, 2008). Thus, he opens important opportunities for critiquing the role of design in constructing the condition of human unsustainability.

Pye distinguishes between design and workmanship, which ultimately outlines the specific significance of craft (Pye, 1968, p. 1). He explains that design imaginatively prefigures and represents the future existence of a thing, system or behaviour which is intended to cater to the economics means; the craft's workmanship involves the material from imagination to realisation. The character of this activity is discussed in terms of what it might contribute to sustaining long-term human futures. We can recognise how craft practice generates a qualitative reality of a certain character, both in the labour itself and through the artefacts it may produce (Fry, 1994, p. 96).

Additionally, craft holds the ability to either prolong or transform unjust conditions which are damaging to the health and 'flourishing' of human and non-human others (Kiem, 2011, p. 34; Ehrenfeld, 2015a). Kiem suggests the sustainability of craft is theoretically important. However, it relies on structural conditions within the practice. For the craft to become a transformative force, practitioners must develop a critically informed, practice-based commitment to asserting the sustaining value within craft. Thus, craft practitioners must learn to facilitate the redirection of their own practice in order for craft to become a force for sustainability or 'Sustainment' (Fry 2009).

2.6.5 Craft and a culture of quality

The culture of quality, typically practised in craft, is part of a sustainability approach (Fry 2004; Manzini & Cullars 1992; Tonkinwise 2015). Fry describes three ways for craft to contribute to a culture of quality, (i) Experience and understanding, (ii) 'Care in use' and (iii) Aesthetic of craftsmanship.

Experience and understanding develop through a craft, and practice can be significant in informing a more careful approach to the design and fabrication of products. Thinking this through more specifically, and in relation to sustainability, an experienced understanding of what certain materials are capable of, and what different forms, finishes, or other characteristics afford in terms of a thing's 'intentionality' (Verbeek, P Kockelkoren, 1998, p. 36) has implications for the useful lifespan of a thing. Furthermore, this knowledge may inform planning for end-of-life scenarios that makes it easier to retrieve materials for reuse or recycling. Craft is the activity that can facilitate the **'care in use'**. This means that things may be designed and fabricated in such a way that ensures as much as possible the safety and health of their users. This may include considerations for the handling of the object, finishings, toxicity and ease of use. It would also include consideration for objects as equipment for healthy and sustainable activities. **Aesthetic of Craftsmanship** is often given much consideration in crafts, but not an aesthetic in the sense of considering the visible form of a thing, but rather the process and quality workmanship that may play a key role in facilitating what Cameron Tonkinwise has defined as 'beauty-in-use' (Tonkinwise, 2015).

The notion of beauty-in-use was derived from the thinking of Martin Heidegger and based on reaction, in contrast to the dominant western conception of aesthetic, which often focuses on the end products of mass production. The concept of beauty-in-use values the process when using the things and impeccable skills when operating tools. Beauty-in-use is also an act to mediate our experience of the world (Tonkinwise, 2015, p. 46). Heidegger explains the concept through the example of the process of hammering. The hammer ceases to be experienced as a thing in itself, but becomes fully incorporated as part of an individual's sense of hammering (Heidegger, 1962, p. 98). People often refer the "hands on" (Adamson, 2018, p. 24) craft skills as "muscle memory" of artisans and the way that a skill enters the body through repetition (Adamson, 2018, p. 28). Sennet puts it as "rhythm" (2008, p.279). Beauty-in-use attempts to understand the consequences of how to create things that, in receding from and mediating our attention, as a result, draw the user towards the sustainable principle. To function well, beauty-in-use also covers the facilitation of practices of care that extend the useful life of products, which develops a nature that repairs things rather than discards everything. This value is identified in finely crafted objects and the sense of commitment that can develop towards things over a long period, and this experience is often found in culture and tradition (Heidegger, 1962; Kiem, 2011; Tonkinwise, 2015). This thought is in line with 'lasting value' (Williams, 2002, p. 62) which means the use of high-quality materials and techniques to ensure the longevity of an object, and Orr's (2002) definition of "the art of longevity".

Heidegger reminds us that even though craft helps the sustainable practices of production and use of things through the quality of both design and workmanship, it also engenders particular experiences of 'being-in-the-world' that are consequential for sustainability. He stresses that workmanship, both in the doing and using, has a greater effect on us than simply meeting our needs (Heidegger, 1962, p. 78). This character of acquiring a skilful relation to tools and material is present in all acts of human-guided labour. For crafts, it is not limited to the traditional conceptions of craft seen as end products but it is in the making.

As Fry has stated:

> "The qualification of craft practice is predicated neither upon established hand-working, machine-based skills nor upon new methods which employ advanced technology but rather on the articulated relation between hand and mind in making, which secures a direct human presence, as the loci of power and knowledge, in the made" (Fry, 1994, p. 97).

Learning a craft is the practice of a manual skill embedded within a creative process, intimately bound up with its materials and tools, and located within an established tradition. This entails more than the acquisition of a set of techniques. It is a training of the mind as well as the body, indeed of a person's entire way of being and knowing (Harris 2005; Marchand 2001 and 2007; Kondo 1990; Herzfeld 2004). Therefore, craft is also a "way of knowing" in its own right that contributes to opening new ways of reconfiguring the relationship around knowledge (Murray 2011).

2.6.6 Design and craft

Cultural-creative industries are thought to account for higher than average growth and job creation, they are also vehicles of cultural identity that play an important role in fostering cultural diversity (UNESCO 2005, Hani et al. 2012, p.194). In this case, designers are called upon to bridge the gap between idea and practice and to link artistic and creative elements with practical and achievable outcomes (Dodgson et al. 2005). Accordingly, organisations like the United Nations Educational, Scientific and Cultural Organisation (UNESCO), the World Crafts Council (WCC), and Aid to Artisans (ATA) have made efforts to bring traditional crafts into mainstream life (Craft Revival Trust 2005). Such efforts include engaging designers to work with artisan groups to develop a new revitalisation approach.

Case studies described in the book *"Designers Meet Artisans"* indicate that designers can help revive local craft industries by linking tradition with modernity, thereby helping to meet the demands of modern society (Craft Revival Trust 2005 pp.92–106). The case studies indicate that design is a broadly effective method for revitalising local crafts and stimulating sustainable development. The artisan gains from the design intervention valuable 'knowledge that fuels sustainability' described as sustainable livelihoods, new markets, value addition to products, exposure, community rehabilitations, gender equality, technical enhancement, confidence and self-belief (Craft Revival Trust 2005 p.117). Thus, designers and artisans can both benefit from the development of local craft (Bell & Jayne 2003; Sunley et al. 2008).

Craft's long history of materialising relationships between humans, their place and time, connects us with the physical experience of the environment. Furthermore, this experience is valuable and something of more significance than the mere satisfaction of "brute needs, economic interest, or concern for calculable efficiency and frugalness" (Murray *et al.*, 2011). Ezio Manzini, through his works in *'Prometheus of the Everyday'*, argues that addressing the challenge of our unsustainability must be, at least in part, a concern with dematerialising our economies and daily practices (Manzini and Cullars, 1992, p. 230). These changes, rather than being marginal reforms, would constitute new environments of human habitation and produce new cultures of manufacture, usage and wastage. Manzini emphasises the role of design in assisting the transition towards more sustainable modes of socio-technical being by addressing the issue of sustainability; i.e. that a focus on design is a suitable approach.

Design's prefigurative function is a powerful form of agency as both a driver of the unsustainable and as a potential force for future redirection (Fry 1999, 2008, pp.29-51). Furthermore, design represents not only the guiding image of any particular work, but also an activity that conditions our sense of 'being-in-the-world' (Fry 1999, 2009; Heidegger 1962). Design has an ontological effect that is deeply significant for how craft is practised. Design works in a hermeneutic fashion so that we may say that is *our* design (Fry 1999; Willis 2007). Design is, therefore, both implicit within, and a constitutive element of, any form of craft practice.

2.7 Design and Sustainability

Although they didn't explicitly use the term, the concept of *design for sustainability* first emerged in the 1960s when Packard (1963); Papanek (1971); Bonsiepe (1973) and Schumacher (1973) began to criticise modern and unsustainable development and suggested alternative, more sustainable ways forward. By the late 1980s and early 1990s, more scholars such as Manzini (1990), Burall (1991), Mackenzie (1991) and Ryan (1993) called for design to make changes which became the second wave. The notion continued to gain popularity until the early 2000s. This wave continued to gain momentum towards the end of the 1990s and early 2000s as design for sustainability became more widespread. However, although the concept of design for sustainability gained the interest of designers who wanted to contribute towards greater environmental and social impact, the opportunities to do this in a professional capacity within the industry are limited (Bhamra and Lofthouse, 2007, p. 4). Design for sustainability issues are still rarely addressed in the design brief (Dewberry 1996; Lofthouse 2001; Berman 2008).

2.7.1 Design in the context of globalisation

The globalisation process is full of contrasts, heterogeneous attributes, and pluralism (Friedman 1994; Martin and Schumann 1996). In the 1970s, globalisation appeared to be a positive way of seeing the world as a single economy and culture. This vision was converted into policy and laws during the 1980s and 1990s (Saul 2005. p.3). Globalisation continues to shape the world with political, economic, technological, social and cultural implications. Design has been inseparably connected to capitalism in the modern world (Clark and Brody, 2009, p. 147) such as in industrialisation, technology, mass production (p.336), commercial goods (p.358), consumption and consumerism (p.298) and, in recent times, globalisation (p.419). Design is a wide and complex profession that shifts and overlaps between the art, craft and engineering fields (Bhamra and Lofthouse, 2007, p. 2).

The term 'designer' is a 'vague and ambiguous' term that referred to a wide range of occupations until it was developed into the managed structure of industrial design in the 20th century (Sparke1983 cited by Bhamra & Lofthouse 2007, p.2).

Design, in terms of industrial design, aims to create and mass produce products to be sold to mass consumers.

Papanek (1971, p.30) argues that industrial design was focused on designing objects with machine tools and emerged to distinguish its roles in relationship to art & craft and machines. Industrial design defined as:

> "…the practice of analysing, creating and developing products for mass-manufacture. Its goal is to achieve forms which are assured of acceptance before extensive capital investment has been made and which can be manufactured at a price permitting wide distribution and reasonable profits" (Harold Van Doren cited in (Papanek, 1971, p. 32).

Thus, design is linked to globalisation in many ways, such as production, markets, economies and symbolic roles. Globalisation also raises pressing questions regarding the economic and cultural role of design. It became usual practice for some global corporations to relocate production to countries with cheaper labour, showing little sensitivity to the diversity of local cultures they affect in the process (Heskett, 2002, p. 133). The rapid growth of industrialisation in the late eighteenth and early nineteenth centuries caused the production of craft and unique handmade products to decrease (Clark and Brody 2009, pp.336, 358). Additionally, industrialisation significantly lowered manufacturing and sales costs (Papanek, 1971, p. 32). Craft products need to compete with mass-manufactured products to meet the economic end, and need to penetrate and be well-positioned in the market to become more competitive. Advertising and marketing are crucial elements in industrial design to generate new markets for products, and are based on developing technologies to gain consumer interest (Walker, 2006d, p. 142).

According to Saul (2005, p.3), the results of globalisation allow us to consider whether it is a remarkable success or a disturbing failure, or else to identify problematic areas, particularly in economics, politics and sociology. Globalisation creates both opportunities and challenges, and designers are divided about the changes driven by rapid technology development caused by globalisation (Clark and Brody, 2009, p. 384). The uncontrolled development of technology can lead to a worrying risk that will devastate the capacity of human and natural systems, claims (Orr, 2002). Furthermore, designers must play the role of linking the marketplace and industry, and interacting between people and products. They can directly influence the decisions people make about what they buy and why. These choices reflect societies' perceptions of lifestyle and their associated status in the world.

2.7.2   Localisation

Human systems have increasingly become characterised by an insensitivity to locality. Human manufacturing systems may be replicated as a form of monoculture around the world (Wells, 2013, pp. 1–3). Wells points out that Schumacher's (1973) idea of 'small is beautiful' identifies the significance of economic scale to sustainability, which others neglected, and that diversity is often ignored as an aspect of sustainability (Wells, 2013, pp. 1–3). Positive diversity and differences can originate from local areas but these tend to be threatened by globalisation (Dogan and Walker, 2008, p. 277; Wells, 2013; Holroyd, Twigger and Al, 2015). It is crucial to provide for the needs and expectations of diverse local and niche markets rather by imposing one type of standard product. Furthermore, globalisation and localisation are inextricably bound together (Appadurai 1986), mainly because the flow of cultural goods and images within consumer culture and manipulation through mass media have become more intense (Featherstone 1995, p.103). A local culture is the way that the people living in a place have found, by trial and error over many generations, to enable them to live reliably, enjoyably and well on the resources of their area (Douthwaite, 2004, p. 2). Such an approach requires a deep familiarity with place: the sustainability of resources within that place requires practices that are carefully crafted to its particulars (Hughes 2011, p.15).

2.7.3 Consumerism and the problem of mass production

Over the last fifty years, human consumption increased rapidly: up to 28 per cent from the $23.9 trillion spent in 1996 and up six-fold from the $4.9 trillion spent in 1960 (Assadourian, 2010, p. 4). Consequently, there have been increasing rates of product-related waste within the same time (Walker 2006, p.139). The economic ramifications of product obsolescence are apparent and staggering. The strategy of shortening a product's lifespan is called planned obsolescence, which was coined in the United States in the late 1920s (Slade, 2006, p. 54). Creating goods with a limited lifetime led to increased consumption. It is still a popular strategy to encourage a product's consumption. For instance, industry experts claim that most electro-domestic items are currently made to last between two and twelve years, yet are made from materials that should comfortably remain useful for half a century at least(John Harris, 2020)

The trend of planned obsolesces and rapid changes is to encourage people to consume more for "newness", making previous models unwanted or "old-fashioned" (Walker 2006, p.142). Producers who once were producing quality products started to find ways to make goods either more fragile or difficult to repair so that people would be forced to replace the older version sooner. Whether the driver for such obsolescence is technological progress, consumer taste, or company strategies to increase sales, these effects are the same.

Consequently, it will increase consumption, p.154; a desirable and fashionable lifestyle, p.73; throwaway habits, p.172; the depletion of natural resources, p.141; environmental damage, p.74; and disposal of waste in landfill ,p.170 (Walker, 2006d). Ehrenfeld sees consumption as an addiction at the root of our unsustainability problem citing the economist Victor Lebow, writing:

> *"Our enormously productive economy demands that we make consumption our way of life, that we convert the buying and use of good into rituals, that we seek our spiritual satisfaction, our ego satisfaction, in consumption"*(Ehrenfeld, 2015b, p. 45).

With regards to the hegemony of technology, Ehrenfeld shows that modern technologies displaced the consequences of our actions, making it difficult to take responsibility for what we do. Thus, it is hard to consider the consequences that our actions have on the ethical and natural domains. To nurture more sustainable cultural values and behaviours, we must pay attention to the needs of all rather than only to certain wealthy sections or nations. By examining the role of technologies and of social structures, we can find, and advance towards, a less damaging and more sustainable life (Murray *et al.*, 2011).

2.7.4 Craft value towards a meaningful material culture

According to (Oxford 2018), Value defined as "The regard that something is held to deserve; the importance, worth, or usefulness of something." As reported by Torre & Mason, values usually define from one of this senses, as a morals, "principles, or other ideas that serve as guides to action (individual or collectives)" or in references to the "qualities and characteristics seen in things, in particular the positives characteristics (actual and potential)" (Torre and Mason, 2002, p. 7). This research will be focusing on the later senses of Torre & Mason definition, to understand the full range of values and valuing processes attached to craft (as intangible cultural heritage) that led to sustainability. Values don't come from the artefact itself, its derived from the interaction of an artefact and its contexts (Torre & Mason 2002, p.8). He later argues, values such as historical, aesthetical, scientific, social, spiritual and communal values are most used in heritage conservation.

In terms of craft values, UNESCO categorises the value of ICH into social, economic and commercial dimensions. The economic value is divided into the direct and the indirect (Duvelle 2009). The direct economic value includes for own consumption, for consumption by others, with commercial use, e.g., traditional medicines, tourists attending a festivity, and trade of crafts, while the indirect economic value includes skill and knowledge and social value as conflict prevention (Duvelle, 2009). Kasser presents the damaging effects of the contemporary culture of consumerism and materialism with solid empirical data (2002).

However, he misses a potentially important explanatory variable for the internalisation of intrinsic values and resistance to the forces of consumerism (Bell & Taylor 2003; Calas & Smircich 2003). Spiritual beliefs have the potential to transcend the pull of consumerism. Tim Cooper (cited in Clark and Brody 2009, p.461) estimates that 80 per cent of a product's environmental impact can be fixed at the point of design.

2.7.5   Design and designers roles for a sustainable future

Design and creative industries are becoming important components of modern post-industrial, knowledge-based economies, not only are they thought to account for higher than average growth and job creation, they are also vital to promote a cultural identity that plays an important role in fostering cultural diversity (UNESCO, 2021). Clark & Brody (2009) highlight that design can increase profit in many areas: such as visual information (p.339), designed commodities, signs used in advertising (p.258) and particular brands (p.300). Design can also help to reflect a person's collective image or personal identity (2009, p.258) and bring about a sense of belonging and acceptance within a given community or culture through adherence to the selected brand (p.300). There is an urgent need for design to become more critical (Dunne & Raby 2001, p. 59) and can play an important role in countering the homogenous world of globalisation. For instance, promoting national and cultural identity through unique and appealing local heritage for a global marketplace (Clark and Brody, 2009, p. 419). The successful role of design in fostering cultural and national identity can be seen at Bandung, Indonesia. Design commodities contributed to the growth rate of regional income of Bandung to reach almost 7%, and this is higher than the cities that surround it (Dyahrini cited in Hani et al. 2012, p.194).

Designers should play a significant role in aspiring to a better world; they possess the power to change the world through innovative design. Berman proposes that strategic designers hold themselves to higher professional standards by showing a true appreciation for the culmination of people, planet, profit in the design (Berman 2008, p.132), which is in line with the Triple Bottom Line principle (see section 2.3.3.1).

Berman has produced a list of questions that require designers to think strategically about the projects they accept and the design process from concept to completion.

> *"We choose what ideas we want to propagate – so don't just do good design, do good"* (Berman 2008, p.2)

Highlighting the advertising industry, he contends that a design strategy involving designers with a cradle-to-cradle mindset (p.145) fosters creative outcomes that are socially and ecologically responsible. The inseparable connection with capitalism and consumerism leaves designers with the dilemma of producing sustainable and meaningful products (Clark and Brody 2009, p.438). This is difficult since the designer's life has often been conditioned by a market-oriented, profit-directed system. A radical departure from such manipulated values is difficult to achieve. Design decisions are always divided between profit and social responsibility, rich and poor, and could create objects for a wasteful society (Papanek 1984, p.39).

However, Papanek urges designers to contribute to real human and social needs (p.39) and emphasises that design must be meaningful. The design process can deliver a significant contribution towards a meaningful material culture and alternatives way of thinking towards sustainability. "..the intuitive, tacit, creative design process can make an important contribution to understandings and knowledge." (Walker 2013, p.14)

Designers must be conscious of their social and moral responsibility. Design is the most powerful tool for humankind to shape their products, their environments, and, by extension, themselves. Designers must analyse the past as well as the foreseeable future consequences of their actions as 'responsibility to society and the environment' (Berman 2008, pp.160–162).

2.7.6   The relationship of sustainability, culture and design

There is a significant relationship between sustainability, culture and design that can be found within material culture and the creation of items. According to Van der Ryn & Cowan (2007, pp.81–83) we can define sustainability as a cultural process employed in our daily activities with responsibility for both the people and ecosystems of particular places. This culture of sustainability can be traced in traditional heritage.

> We have already inherited the knowledge for creating such a culture of sustainability in the ecological wisdom embodied in traditional cultures"
> *(Van der Ryn & Cowan 2007, p.82).*

Design can become the bridging element which could manipulate the culture of sustainability through materials and the creation of items. Culture is the manifestation of socially constituted interactions among peoples within society and interactions with items. This activity can be assessed from individual perspectives (anthropology) and products or material manifestations (archaeology) (Clark and Brody 2009, p.219). Culturally significant products are a reflection of the relationship between humans and their environment within their historical, cultural, and social contexts.

We can utilise these aspects of human culture and heritage to contribute a meaningful and lasting impact for sustainable development (Walker, 2006c, p. 8). Through design, we can convey beliefs, values, ideas and awareness towards a particular community or society at a given time (Jules Prown cited in Clark and Brody 2009, p.218). Without emphasising the value and importance of local knowledge and its significance to place and people, new product solutions may contribute to the destruction of natural and cultural diversity. As mentioned by Stein et al. (1999, p.30), design nowadays generates an 'artificial environment' where human intervention fails in some way with unnatural and unauthentic relationships. This occurs because the ecological and technological processes are separated and isolated from everyday consciousness.

Furthermore, Van der Ryn and Cowan maintain that the environmental issues occur partly because of a design crisis (1996). Highlighting the importance of local knowledge, they added:

> "We have allowed the engineering, architecture and the other design disciplines to be split from the very local knowledge system that need to inform them" - (*Van der Ryn and- Cowan 1996, p.61).*

Globalisation has significantly changed the way we make things and how people make their living, thus making traditional practice seem obsolete (Craft Revival Trust et al. 2005, p.4). Therefore, preserving local culture, contributing to independent communities, restoring tacit knowledge and learning about nature are important in moving towards sustainability.

Design for sustainability can be described as a *strategic approach* within the development process for achieving sustainability (Bhamra and Lofthouse 2007, p.1). Sustainability challenges include managing different issues which may cause tensions between contending perspectives. It is hard to resolve but achievable (Schumacher 1977, pp.120–130 cited in Orr 2003). Hence, it requires some approaches that vary according to people's interests, and requires action from many groups at different levels (Van der Ryn and Cowan 1965, p.4; Bhamra and Lofthouse 2007, p.14). To create more sustainable societies, scholars suggest possible directions and approaches. The comparison of the current sustainable approaches is presented in Table 2.2, Section 2.4.3.

2.8   Conclusion

The Brundtland Report is widely accepted as a crucial contribution to expanding the definition of sustainable development, which was previously often linear within the ecological dimension (Chudasri et al. 2012; Dresner 2002; Elkington 1997; Hamby et al. 2011; Holden et al. 2014; Jenkins 2003; Kiem 2011). Furthermore, the Quadruple Bottom Line of Sustainability (Walker 2014, p.11) expands sustainable development towards the inclusion of the personal domain, with a focus on meaning, spirituality and personal ethics. In turn, this is strongly linked to the values of cultural heritage because the contemporary definition of cultural heritage encompasses social, economic, environmental and personal elements (Ahmad 2006; Hani et al. 2012; Indrė, 2006; UNESCO, 2021). Hence, cultural heritage can play a crucial role as a driver of sustainable development (Hani et al. 2012, p. 194). Traditional forms of craftsmanship are part of the intangible cultural heritage, but globalisation poses significant challenges to the survival of traditional forms of craftsmanship (Ehrenfeld 2015a, p.7; UNESCO 2003). It leads to being environmentally responsible, provides skills, and satisfies employment opportunities offering income generation, especially for local communities (Schumacher 1979; Nair 2011, p.51), which helps in the empowerment of people (Craft Revival Trust et al. 2005, p.6). Additionally, Artisanal Skills as well as Spirituality which is connected to Personal Meaning in the QBL are both mentioned in Bhutan's Gross Happiness Index, a comprehensive sustainable way to measuring a countries progress and success(Centre for Bhutan Studies & GNH Research., 2015).

The culture of quality commonly practised in craft is part of a sustainable development approach. It is defined by several scholars as crucial and making the transition toward more sustainable lifestyle (Fry 2004; Kiem 2011; Manzini & Cullars 1992; Murray 2011; Tonkinwise 2015). There are emerging numbers of scholars looking at connections between culturally significant products and design for sustainability. The intrinsic value of cultural heritage may provide a way of stimulating production and embrace a material culture that is culturally significant and meaningful (Walker 2006, p.51).

Personal values also discussed in detail by Schwartz (2012) and presented Schwartz's value circumplex to identify personal values that are robust across cultures and that can help explain diversity and conflict in values.

Both craft and sustainability are intricately connected with the way human beings create and interpret life through culture and social relations, relationships with natural materials, livelihood and broader economic opportunities (Murray 2011; Stoekl 2007; Kiem 2011, p.34; Ehrenfeld 2015a). Thus, craft practitioners must learn to see that their own practice can become a force for sustainability (Fry 2009). The design-craft collaboration can be considered as a multidisciplinary collaboration, through which participants could gain other skills and knowledge, thus enriching their knowledge (Dykes et al. 2009, pp.104-108). Co-creation by artisans and designers employs collective creativity as an approach to the development of local craft. Through design intervention, the designers and artisans may gain valuable "knowledge that fuels sustainability" (Craft Revival Trust, 2005, p. 117).

Section B: Craft and Malaysian Craft

2.9 Introduction of Craft and Malaysian Craft

This chapter presents a review of the literature related to Craft and, in particular, Malaysian Craft. It begins with a definition of craft (section 2.9.2), followed by an outline of the history and development of craft (Section 2.10), that includes changes and concerns that resulted from the Industrial Revolution (Section 2.10.2) and craft's responses to its impact and its changing role (Section 2.10.3). This is followed by a focus on the Malaysian craft context (Section 2.11) consisting of its significance and value and contemporary challenges facing craft Malaysian craft today. From this broad overview, it became clear that several areas of contemporary craft are in need of support and revitalisation if they are to survive. Based on this recognition, one particular area of craft was selected for in-depth study. This is discussed in section 2.12, and a rationale for this area of focus is provided.

2.9.1 Definition of craft and handicraft

According to the Oxford English Dictionary, "craft" has different meanings in different contexts (2018a). In the context of this research, craft and handicraft are considered in terms of skill, art, product, knowledge, trade, professional work or occupation, making and workmanship. However, "handicraft" is defined more specifically as "manual skill, art, trade or occupation or skilled work with the hands" (Oxford English Dictionary, 2018b).

2.9.1.1 Scholarly definition

Scholars have considered craft from several different perspectives (Niedderer and Townsend, 2010, p.4). For instance, Lucie-Smith links craft with ways of living and social change, particularly as a means of changing the condition of society (1981, p.207), and he highlights the importance of the role of craftspeople within society (Edward Lucie-Smith, 1981, p. 7) and attitudes towards craft and craftspeople (1981, pp.18–19, 143, 207). Towards the end of the nineteenth century, the term "craft" began to be widely used for "handmade decorative arts", influenced by John Ruskin and William Morris in their writings and the foundation of the Arts and Crafts movement (Shiner, ed. Alfoldy, 2007, p.34) to distinguish handmade products from machine-made goods and the effects of industrialisation. Subsequently, (Pöllänen, 2012, p. 219) stated that the premise of craft is that it is a making-based activity. It is also a very intimate human process (Arja Klamer, 1996; Niedderer & Townsend, 2014), which imparts emotional, intellectual and physical attributes in the sensory act of making, manipulating, articulating and experiencing materials and self-made products (Pöllänen, 2013, p. 219).

Besides defining or describing what craft and handicraft mean, scholars also suggest that it is necessary to understand their nature. Craft has characteristics of diplomacy, which can provide solutions to difficult situations in society and help to correct them or moderate radical ideas (Harrod, 1997, p.304). Craft embraces a tendency to self-restraint between the basic and the extreme and conveys something of our essential humanity (Harrod, 1997, p.304). Craft is medium-specific (Alfoldy, 2007, p.5) in relation to process and materials (Adamson, 2007 p.1), yet flexible – an attribute that has enabled craft to persist over a long period of time (Niedderer and Townsend, 2010, p.4); it is fluid and relative (Adamson, 2010, p.2).

2.9.1.2 Handicraft

In spite of extensive production around the world, there is no consensus on a common definition of handicraft (Pierantoni, 2016, p. 292). Handicraft refers to handmade products that have artistic and cultural appeal based on their materials, design and workmanship (Fabeil *et al.*, 2014); are often made with the use of simple tools; and are generally artistic and/or traditional in nature (Yojana and Sansad 2006). Conversely, Rogerson suggests that a craft product should be eighty percent made by hand, and may include various raw materials such as natural fibres, textiles, beads, clay and recyclable materials (2010, p.117). Generally, the term handicraft is considered a sub-section of the broader term of craft. However, the following definition of handicraft is very helpful because it captures the complexity and diversity of this sector:

> *"Artisan products are those produced by artisans, either completely by hand, or with the help of hand tools or even mechanical means, as long as the direct manual contribution of the artisan remains the most substantial component of the finished product. The special nature of artisanal products derives from their distinctive features, which can be utilitarian, aesthetic, creative, culturally attached, decorative, functional, traditional, religiously and socially symbolic and significant" (UNESCO, 1997, p. 7)*

Handicraft often relies on locally available resources and skills, family ownership, small-scale operations, labour intensity, traditional technology, skills generally acquired outside the formal school system, and unregulated and competitive markets (Uttar Pradesh State Development Report, 2008).

Qattan (2009, p. 5) referred to a 2006 report by USAID on the "Global Market Assessment for Handicrafts" that clustered handicrafts into three types: "handcrafted", "semi-handcrafted", and "machine-made goods".

Handicraft categories and price segmentation are outlined by Qattan (2009, p. 6) in four main categories, as follows:

Categories	Price segmentation	Details
Functional wares	Low-end market Sold through big-box stores	Items made in a workshop or small factory. Mass-produced handmade goods such as pottery, tiles, or furniture for national or export markets
Traditional art	Mid-to-high-end markets Sold by small chains and independent retail stores	Ethnic crafts marketed locally by creating interest in the culture and by maintaining high quality
Designer goods	High-end market Sold by speciality stores	Sometimes based on local crafts but always redesigned by foreigners to suit fashion trends in the export market.
Souvenirs	Low-end market Sold by souvenir and gift shops in resorts and vacation areas.	Inexpensive, universal trinkets or simplified traditional crafts made for local retail or sold through international development agencies as tokens of goodwill.

Table 2.2   Four main categories of craft and the price segmentation

2.10 Craft and Handicraft in General

2.10.1 History and development of craft

Craft dates back to ancient times and involves activities, disciplines and meanings that have survived up to the present. For this research, craft is considered as a process – the process whereby use of the hands and the skills of artisans are required for the production of things (Adamson, 2017, pp. 3–4). This section presents the historical development of craft in a global context with significant events that have affected changes in local craft production:

Pre-industrialisation era

For this research, important developments in craft can be discussed in terms of pre-industrialisation and post-industrialisation. The term 'pre-industrialisation' refers to a period that was unaffected by the major developments and changes caused by the Industrial Revolution, which began in England in about 1750 (Walker, 2011, p. 2). The pre-industrial age dates back to ancient times when everything was made by hand, and was known as "craft" (Lucie-Smith, 1981, p.11). Craft or handmade production was the usual method applied in everyday life for making things such as fishing appliances, baskets, pottery and woven fabrics. The medieval and Renaissance periods contributed significantly to the structures of craft production (Lucie-Smith, 1981, pp.113, 143; Adamson, 2010, p.9).

In the medieval period (5th–15th centuries), the nature of craft was such that it was able to "accelerate change within the society itself"; craftspeople became specialised and professionalised and remained in touch with their domestic roots, as in the processes of printing and clock- making (Lucie-Smith, 1981, p.138). During the Renaissance (14th–17th centuries), craft relied greatly on the guild system and apprenticeships. Historically, the more specialised crafts that produced high-value products tended to be concentrated in urban centres and formed guilds. Citing guilds as examples, Sennett takes a fascinating look at the craftspeople in a communal workshop, where apprentice and master operate in a strict hierarchy, with skills passed on as much by watching and practicing as by teaching (2008, pp.58–68).

The guild system focused largely on producing greater quantities of goods for sale, the division of labour, imposing many rules and regulations on craft workers and methods for time-saving and cost-cutting (Lucie-Smith 1981, pp.144–146). Lucie-Smith added that the system led to conflicting attitudes between craft and art during the Renaissance (1981, p.8), the latter being deemed superior. Later, the discussion of various craft disciplines of a "how-to" nature became common in the seventeenth and eighteenth centuries through many publications (Adamson, 2009, p. 9).

Long before the Industrial Revolution, mechanical tools and machinery had been slowly replacing handwork in textile production – silk-throwing mills in Italy (13th century); fulling-mills for woollen cloth across Europe (13th century); automatic looms in London and Holland (1616, 1620); and paper mills in Germany (1389) (Lucie-Smith 1981, p.12).

Craft and the industrial revolution (1750–1900)

The Industrial Revolution which developed gradually for centuries in the countryside and in villages, saw the development of structural changes in craft production (Lucie-Smith 1981, p.12; Korn 2014, p.25; Walker 2011, p.3).When the Industrial Revolution started, it shifted the focus towards economic prosperity and profit-driven production, which demanded systems that offered more productivity, efficiency and profits by manufacturing goods for export and trade (Mohanty, 1990; Wood 2011, p.200; Walker 2011, p.4). This precipitated major changes in England, which were often problematic for traditional craft producers. This produced criticism of and movements against the new industrialisations.

2.10.2   Changes and concerns resulting from the Industrial Revolution

The Industrial Revolution is criticised as having created problematic issues of natural resources and structural changes in the areas associated with social, political and economic considerations in many parts of the world, resulting from colonialism, trade and the exporting of goods from England to Western Europe, then America and eventually around the world (Mohanty, 1990, p. 25; Koplos and Metcalf, 2010, p. 1; Walker, 2011, p. 2). In industrial manufacturing, the use of advanced machinery, large-scale manufacture and the division of labour were also criticised as affecting craft production and human values (Schumacher, 1973). Industrialisation is argued to have caused an irreversible decline in traditional crafts, sometimes to the point of extinction (Adamson, 2017, p. 44); devaluing humanity in terms of thinking, personal meaning, skill development and employment, habits and responsibility, soul and aesthetic values; the deskilling of craftspeople; and the alienation of the workforce (Adamson, 2010, pp.2, 44). However, the term "deskilling" has been suggested as being misleading, because craft skills did not simply erode as a result of industrialisation. Rather, they have been continually "transformed and displaced into new types of activity" (Adamson, 2010, p.2).

The Arts and Crafts movement as a response to the Industrial Revolution

In the late 19th century, as a response to the Industrial Revolution, craft was given new meaning by the founders of the emerging Arts and Crafts Movement. Foremost among them were John Ruskin (1819–1900) and William Morris (1834–1896) (Korn, 2015, p. 28). Both men founded the Arts and Crafts Movement to distinguish the importance of aesthetic and handmade objects from machine-made goods (Lucie-Smith 1981, p.11; Adamson 2009, p.2; Korn 2015, pp.29–32). These forms of handicraft production are generally perceived as being antithetical to industrialisation, the division of labour and machinery.

John Ruskin proposed "ways forwards by looking backwards" given the examples of the medieval era, when "an organic synthesis of respect for nature, religious spirit and joyous craftsmanship" could be found, but which was "neglected in modern culture" (Adamson, 2009, p. 139). As a follower of Ruskin's writings, William Morris pursued the revival of handicrafts through writing, teaching and business practice that included training in industrial design. He supported a handicraft revival as a means of production that provided economic and social reforms with human integrity and soul (Adamson 2009, pp.147–148 as cited in Morris, 1888). Morris objected to the misuse of the machine rather than the machine itself (Lucie-Smith, 1981, p.214). Even so, many groups involved in handicraft production were unable to remain economically viable (Adamson, 2010, p.2).

Around the turn of the 19th-20th century, two major dichotomies between machine-made and hand-made production were widely debated across Britain, Europe and America (Lucie-Smith, 1981; Adamson, 2010). Nevertheless, the aesthetic thoughts of Ruskin and Morris would influence some of the most notable arts, design and architecture movements such as the Bauhaus in Germany, de Stijl in the Netherlands, Art Nouveau in France, the Wiener Werkstätte in Austria, and Frank Lloyd Wright's Prairie School of Architecture in the US (Korn, 2015, p. 29).

2.10.3 Craft as response to the Industrial Revolution

Craft leads us back through a long history of resistance both to industrialisation and the general tendency of technology and capitalism to replace the more genuine and authentic forms of handmade production (Cox and Bebbington, 2015, p. 12). According to Koplos & Metcalf (2010), craft was rethought and revitalised twice over the last 130 years. The first started with the Arts and Crafts movement that involved a philosophical, aesthetic, social and political response to the 'negative effects' of the Industrial Revolution, which was described as; "from the horrors of child labour and environmental pollution to the disheartening production of shoddy and ugly goods". The second instance began just as World War II was coming to an end. In recent years, this second resurgence has begun to receive more attention, analysis and assessment from a larger field of interest. As emphasised by Koplos and Metcalf (2010), "This resurgence moved craft in the direction of design and, even more, in the direction of art's expressive and sociopolitical concerns".

2.11 Malaysian Craft

2.11.1 Introduction
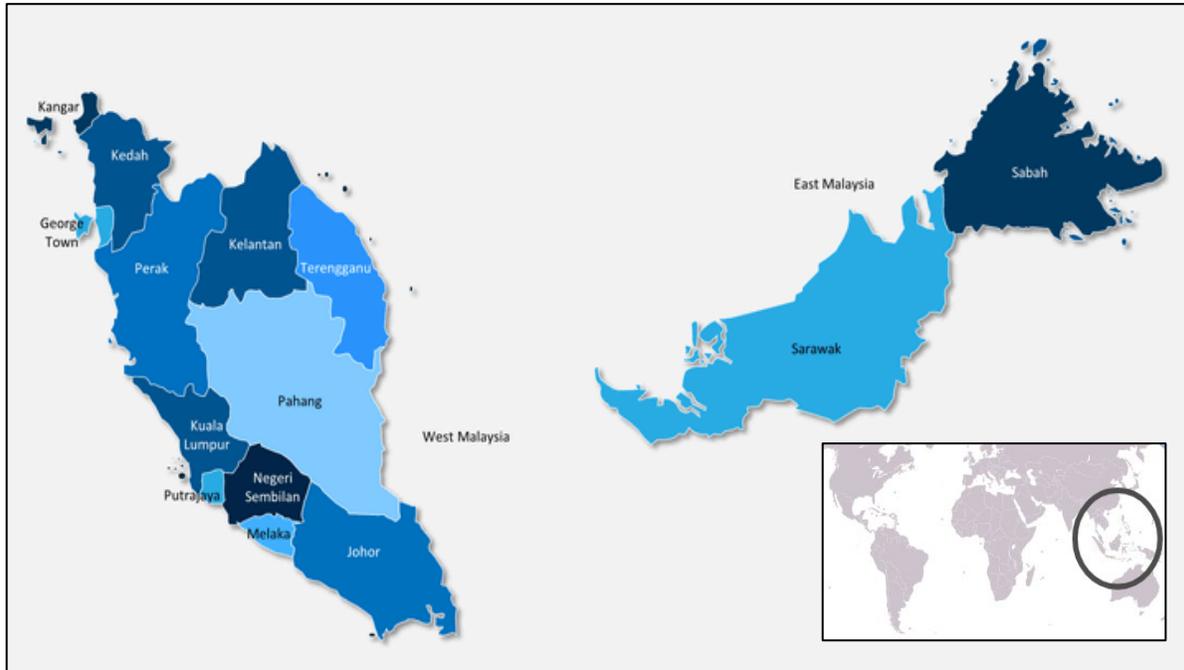
Figure 2.4   Map of Malaysia

Malaysia, one of the Southeast Asia countries, is composed of two regions: Peninsular Malaysia (*Semenanjung Malaysia*), also called West Malaysia (*Malaysia Barat*), which is on the Malay Peninsula, and East Malaysia (*Malaysia Timur*), which is on the island of Borneo. The Malaysian capital, Kuala Lumpur, lies in the western part of the peninsula, about 25 miles (40 km) from the coast. The administrative centre, Putrajaya, is located about 16 miles (25 km) south of the capital (*Malaysia*, 2018). Malaysia is a federation of 13 states and three federal territories, with 11 states and two federal territories on Peninsular Malaysia and the other two states and one federal territory in East Malaysia.

Each state is divided into districts, which are then further divided into smaller administrative wards known as mukims. In Sabah and Sarawak the districts are grouped into larger divisions (Law, 2016). Malaysia is a multiracial country. Among Malaysian citizens, ethnic Bumiputera (native ethnic such as Malay, Borneo and others) make up the highest percentage at 68.6 per cent, followed by Chinese (23.4 %), Indians (7.0 %) and Others (1.0 %). Non-Malaysian citizen in 2016 stood at 10.3 per cent of the total population (Department of statistic 2016).

Thus, racial harmony, as well as economic and political stability, is important for ensuring the country can continue to drive economic development for the well-being of all Malaysia's people. As Sanusi (2014, p.847) argued, social development and economic development are inter-related for Malaysian growth. Economic stability can be gauged by the annual economic growth of the country and Gross Domestic Product per capita (GDP per capita). Social stability can be gauged in terms of health, safety, housing, education, environment, culture, transportation and communication, social participation, family living and job environment. Racial harmony can be assessed in terms of perceived social threats, and by religious affiliation, social participation and political representation.

2.11.2 Overview of Malaysian craft

Generally, traditional crafts produced by the various ethnic groups in Malaysia are based on natural materials. Resources include: natural fibre, woven for utilitarian products such as basketry; metals such as gold, copper and silver for jewellery and other products; natural thread for woven fabrics and embroidery; natural fibre for cloth, eg; batik; and local wood for furniture and decorative woodcarving. Combining materials, such as wood and metal, is also popular, for example in the traditional Malay knife known as 'keris' (Malaysian Handicraft Development Corporation, 1982). According to Haron & Yusof, Malay handicraft represents the gentleness of the soul that can be seen through the finesse of craft products produced by traditional Malay craftspeople (Haron and Yusof, 2014, p. 170). The earliest settlement of Malays was near the edge of forests and along the riverbanks where they acquired key materials for producing traditional crafts (Mohamad Nazri, 2000). Malay crafts also evolved with the acceptance of Islam. Hence, most designs are based on natural elements such as the interlacing of leaves or vines, flowers and animals (Silah *et al.*, 2013; Haron and Yusof, 2014). Thus, the creation of Malay artforms and crafts combines aspects of religion, cultural values, history and customs (Balai Seni Lukis Negara, 1993).

The commercialisation of traditional craft activities in Malaysia started in the small villages; such activities have been continued by family members since the 17th century (Teh, 1996). In early times, craftworks were mainly for the production of utilitarian items, and they became a major economic source in rural areas. Craft developed to fulfil the essential, everyday needs of Malay people – producing items such as pots and pans, crockery from clay, as well as twill weave (pandanus/screwpine leaf) and rattan wicker baskets (Haron and Yusof, 2014, p. 171). Materials from nature, easily obtained from the local surroundings, became the main source for creating handicrafts, which were generally rather basic and modestly designed (PCT writing panel, 2002). Nowadays, only a few people in Malay society use craftwork as a basis for their livelihood because craftwork is no longer the main choice for products for daily use. This is because people are more comfortable using mass-produced utilitarian items that are modern, simple, reasonably priced and easy to find in ordinary shops (Aziz, 1979).

2.11.3 Islamic values on the production of Malay traditional crafts

Since the acceptance of Islam, the philosophy of Malay craft has undergone discernible changes. The motifs created have been adapted to avoid contravening Islamic principles and values (Hussin *et al.*, 2012, p. 88). Consequently, Islamic values have become embedded in crafts, for examples in the selection of woodcarving motifs (Said, 2002a, p. 5). Motifs of people and animals (active living things), which had previously been important, began to change to plant motifs in stylised forms and also carvings of Islamic calligraphy (Abdul Halim Nasir, 1986). Muslim artisans should adhere to Islamic teaching, which is manifested in all the skills, activities and products of any craft works. The visual aesthetic quality is prevalent and has become a thematic composition of motif style and form of the crafts (Said, 2001b, p. 53; Silah *et al.*, 2013). In Islam, the natural surroundings and its elements are signs of Allah or proof of His existence. The creation of the natural environment is purposive, not in vain or random, as here mentioned in the Qur'an;

> *"(Righteous are) those who ponder the creation of heaven and earth and affirm, "O God! You have not created this creation in vain."- (Al-Qur'an, 3:191)*

Art is a skill in producing beauty or that which arouses aesthetic pleasure. Artisans consciously reflect the forms, patterns and rhythms they see around them in nature, thus confirming that their works do not stand separately, but as part of God's creation on earth.

Their personal observations of the beautiful creatures stem from their deep and abiding faith in God's order as mentioned in the Al-Qur'an;

> *"Say, who hath forbidden Say (0 Muhammad): 'Who has forbidden the adornment which Allah has brought forth for His creatures or the good things from among the means of sustenance?'22 Say: 'These are for the enjoyment of the believers in this world, and shall be exclusively theirs on the Day of Resurrection.'23 Thus do We clearly expound Our revelations for those who have knowledge" (Al-Qur'an, 7:32).*

Generally, Islam does not prohibit people from art and craft activities and sustaining its production as cultural heritage, although it provides regulations for more specific works produced by Muslim artisans including the characteristics of design form (e.g., selection of patterns and motifs) (Hussin *et al.*, 2012, p. 88).

In short, the form of the crafts is strongly influenced by Islamic religious belief, and this also influences the imagination of the artisans. An artisan can produce objects with his hands for everyday use, which also become symbolic forms, with their identity and meanings that are not in conflict with Islamic values (Hussin *et al.*, 2012, p. 90). It is important for Muslim artisans to instil Islamic values as a part of *'dakwah'* (preaching) through their crafts. They may gather the good deeds rewards called '*pahala*'. In Islamic teaching, the good deeds will be rewarded in later life. Any act of kindness and positive value shall be rewarded such as sincerity, committed to the works and respectable practice (e.g.; avoiding the waste of material).

Traditionally, Malay artisans advocated the humble life and sincerity in their works, for example, they do not sign their work and the work can't be traced to them. This is the reason many early Malay crafts are recorded as being made by anonymous artisans (Bin Khairani, 2018, p. 154). Artistic skill cannot be separated from Islamic values in the production of a work of art and craft (Said, 2001b, p. 53). Both components interact and this value is central to their artistic creativity and to ensuring the sustainability of the traditional Malay arts and crafts.

2.11.4 Malaysian craft categories

The Malaysian Handicraft Development Corporation (MHDC) is the government agency responsible for overseeing the craft sector in Malaysia. In 2015, there were 5,130 active craft producers registered in the country (MHDC, 2016). The Malaysian craft industry is divided into five main categories of products: textile-based; forestry-based; earth based; metal- & mineral-based; and miscellaneous (Table 2.3). The relative size of these sectors, in terms of number of producers, is shown in Table 5.

Categories	Total	Percentage
Textile	1,498	29.2%
Forest-based	2,047	39.9 %
Metal-based	651	12.7%
Earth-based	233	4.5%
Miscellaneous	701	13.6%
Total	5,130	

Table 2.3   Number and percentage of craft producers by categories (MHDC 2016)

2.11.5   The significance and value of Malay traditional crafts

The value of craft as Intangible Cultural Heritage (ICH) and its relationship towards sustainability was explained in the Section 2.6. This section will cover the significance and value of Malay traditional crafts within local perspectives.

The value of sustainability to Malaysian craft

The classification Intangible Cultural Heritage (ICH) and it potential value in regard to sustainability is rarely addressed in Malaysia. From the Malaysian cultural heritage perspective, Bakri et al. (2015) argue that the interest of the stakeholder in valuing cultural heritage is strongly related to tangible heritage, yet there is also serious concern about intangible heritage, which includes skills, traditional knowledge and informal transference of these to subsequent generations. However, it is noted that all their respondents are conflicted when regarding political, social and cultural and economic factors which possibly explains their biased judgement. They concluded that the understanding of cultural heritage value by the stakeholders is crucial for a "more holistic" perspective and "greater respect" to cultural heritage assets for a better "quality of life" (Bakri *et al.*, 2015, p. 388). Furthermore, Abdulrazak & Ahmad (2014, p.240) recommended the *"shared value" guiding approach* for Malaysian firms to adopt sustainable development practices as alternatives to western-centric approaches. They outlined three key advantages as core guidance;

> **i) Strategic** – create shared value that is meaningful to society and also valuable to the business
>
> **ii) Symbiotic** – create mutual interdependence between a firm and the wider society
>
> **iii) Seamless** - shared value is configured into a firm's value chain.

However, this "shared value" was developed based firmly on business and economic contexts and in conjunction with the firm's corporate social responsibility (CSR) initiatives. These examples highlighted the calls for more holistic approaches and a more holistic typology of value that accords with sustainability.

Torre & Mason argue that these typologies of value are often well defined in various ways within similar but broader dimensions (2002). He added that one typology may not represent others and recommends new typologies for particular cultural settings where required. To identify the significance and value in revitalising Malay craft and its various elements in accordance with the principle of sustainability, at this point we can categorise the values in terms of their extrinsic and intrinsic aspects. Zhan and Walker (2018, p. 5) classified values related to craft within the two dimensions of extrinsic and intrinsic. They suggested the craft revitalisation strategy could utilise the intrinsic value of traditional craft that accords with sustainability and contributes to economic growth.

This is similar to the classification of cultural heritage into tangible and intangible cultural heritage outlined by UNESCO (2021). Additionally, with regard to sustainable business impact, Abaza (2017, pp.15–18) suggested further exploration and comparisons can be explored between the forms of innovations and the impacts as well as between the external (extrinsic) and internal (intrinsic) impacts. He added that this comparison will provide a more comprehensive view of sustainable impacts by showing the connections between each thematic cluster. This classification of value also in accordance with Walker's Quadruple Bottom Line (QBL) (see section 2.4) as additional elements of Elkington's TBL (Elkington 1997; Walker 2014) which also discussed by (Schwartz, 2012)addressing the personal meaning and spirituality within traditional craft. For this research, the values of Malay traditional craft can be classified into four categories within two scopes, shown below:

Intrinsic Values	Extrinsic Values
• Socio-cultural Meaning • Personal/Spiritual Meaning	• Economic Meaning • Practical Meaning

Table 2.4   Value of Malaysian craft in relation the elements of sustainability (Walker, 2011)

Value and meaning of traditional craft to Malay society

Tilley (2006) suggests that objects such as culturally significant products speak silently to the subject of personal and socio-cultural values. These are values of objectification which are realised through social interaction with materials and things (Tilley 2006, p.61). The tangible element in craft can be seen and more easily appreciated yet the intangible element is also crucial to one's craft survival. What follows are the critical elements of values and meanings of Malay traditional craft as categorised in Table 2.4:

a) Intrinsic values

Malay traditional crafts are rich with intrinsic values. mostly because Malay people are typically devoted to their culture, community and religion (Bahauddin, 2002, p. 25). Although sometimes these elements might conflict (e.g.; religion and culture), and the lack of understanding and tolerance among the different groups might undermine the national identity in this multiracial country (Noor, 2004, p. 3). However, with open-mindedness and mutual respect, Malaysians are always striving and integrating within the pluralistic society that celebrates each cultural identity of its people (Badrul Isa, 2006, p. 12). The late master woodcarver Nik Rashidi argues that without craft, meaningful values that connect to our history and ancestors will be lost:

> *"This is our Malay art, because it comes from the land and it breathes the history of our people. If we cut off our links to our ancestors, we would be like a ship without a compass; a people without history" (Noor 2004, p.3).*

The elements that often emerge within the intrinsic value cluster (personal and socio-cultural) are discussed further within the Malay traditional craft context.

Socio- cultural meaning

Among the elements within the cultural value theme are: cultural philosophy; local wisdom; sense of community (culture, religion, place, history); and local and cultural identities. Culturally significant products in Malay society, rich with traditional knowledge and practice, reflect all these elements. The cultural philosophy of Malay traditional craft reflects the beauty of the soul and culture of Malay people (Hussin *et al.*, 2012). For instance, a motif and pattern as an element in woodcarving iconography acts as a messenger to deliver the thinking of the artisan, and contains inner meaning related to its use and philosophy, which can benefit, teach and help sustain Malay society (Haron and Yusof, 2014). Local wisdom is the valuable traditional knowledge gained through extensive experience that is passed down through countless generations, which may argue needs to be protected (Chuenrudeemol, Boonlaor and Kongkanan, 2012; Stouthuysen and le Roy, 2016, p. 19).

The sense of community that links artisans to their common culture, religion, place and history (Walker *et al.*, 2016, p. 19) relies on artisans' expertise to contribute to their community. The local community flourishing with their own value of local and cultural identities is cultivated over generations (Rashid, 2014, p. 11; Utaberta, 2014, p. 248). Local identity is the foundation for placing attachment and a sense of belonging to one's culture.

Unfortunately, the modern approach towards Malay cultural heritage has tended towards standardisation and the abandonment of` local identities (Aly, 2011, p. 504). Social value within the context of Malaysia as a nation can be seen in Malay crafts and arts. In terms of Malay traditional craft perspectives, social value is often associated with social equality, employability, national identity and an effective craft community. During colonial times, the British "divide and rule" policy physically separated the ethnic population's geographical location and occupations (Shamsuddin, 2015, p. 139) and the effects still remain. Social equality, as well as secured employment, is vital in a multiracial country like Malaysia to ensure every race and people have their own opportunities (Guan, 2000) including the freedom to flourish with their own cultural heritage.

Malaysia, a highly pluralistic society, has produced a variety of beliefs and practices that are represented in its diverse arts. Although it consists of a multi-ethnic culture, Malaysians share similar values as one nation (1Malaysia) and are encouraged to celebrate its various cultures (Mohamad Salleh, 2009). Local craft can be accepted with a shared value by each Malaysian as part of a national identity that represents Malaysia and avoids copying foreign identities (Wolf, 2016). According to Liew (2005), "Culture provides links between the past, present and the future; cultural information can bring communities together".

The importance of a socio-cultural identity is articulated within the United Nations Development Program as follows, "A sense of identity and belonging to a group with shared values and other bonds of culture are important to all individuals" (UNDP, 2004:3). The use of cultural heritage, as represented in traditional crafts, can help foster a sense of socio-cultural unity, and the regional identity of Malaysia (Noor, 2003; Kamarudin *et al.*, 2013, p. 153). "Cultural matrices contain elements of the human collective memory – language, beliefs [are] transmitted from generation to generation. Cultural references and signs are essential to the formation of national group[s] and individual identities" World Bank (2001).

Among the initiatives that recognise cultural heritage as being important for national identity to unite Malaysians are:

- **National Cultural Policy 1971:** guidelines for designing, formulating and sustaining the national identity of Malaysia in the world (JKKN, 1971).

- **Notion of 'Bangsa Malaysia',** 1995: as an alternative to the National Cultural Policy ("ASIANOW - Asiaweek", 1995). Nation in the Malaysian context is a nation that has been formed from historical factors, politics, economics and social interactions, which are united within the phrase 'Bangsa Malaysia'.

- **1Malaysia, 2009:** The key to this concept is 'unity in diversity', to appreciate the plurality that is Malaysia and to work together as one nation towards a better future. Cultural heritage is one way to achieve this (Mohamad Salleh, 2009, pp. 11–14).

The recognition of craft as national identity is one way of cultivating a sense of belonging related to the cultural significance of such products. The idea of identity also needs to be reframed in terms of the culture and perception of Malaysia (Utaberta, 2014). Artisans are at the centre of a struggle, which can be understood as an ideological battle for the future of the Malaysian identity, but one which lacks a suitable approach (Noor, 2004).

The current Malaysian government supports the craft community in Malaysia through various infrastructures and initiatives focused on technology, credit, marketing, quality and skills development (Redzuan and Aref, 2011; Malaysian Handicraft Development Corporation, 2016). These initiatives are intended to elevate the craft community; however, it has not yet been effective because of various constraints such as a lack of demand and supply (Redzuan and Aref, 2011). Redzuan & Aref argue that the growth of rural crafts in Malaysia can be secured by a combination of policies and approaches such as industrial and agricultural policies, regional planning for infrastructure and institutional arrangements in the craft community (2011, p.262).

Personal and spiritual meaning

Malay traditional craft is closely associated with the personal and spiritual values of artisans and society as a whole. The elements of these values for craft include beliefs, faith, sense of being, and self-fulfilment through making, and can be seen in Malay traditional craft as well as the devotion to religion (see section 2.11.3), the royal family, traditions and peoples (Said, 2002b; Noor, 2003). Traditional craft accumulates spiritual meanings through its association with ancestors and mythical events.

It connects people with the world of spirits and divinities, which ultimately adds moral weight (Schneider 2006, p. 204 citing Mauss 1923-p.4). For Malay artisans, the craft knowledge they possess comes with great responsibility. For example, wood carvers play an important role and their patronage is critical for without suitable patronage, this traditional craft could not have thrived and developed. According to Rosita (2009), "Although they were not paid for their services, the wood carvers were well taken care of in terms of food and clothing, as well as accorded a status as *'Adiguru'* or master craftsmen which is a prestigious title".

The respectable title , *'Adiguru',* was sought by artisans at that time as the highest recognition of their crafts. These master artisans were placed in the palace as invited craftspeople. They were respected figures and their work was highly appreciated. It is said that the king or sultan was a patron of the art of woodcarving. Many palaces, mosques and homes of the barons were adorned with decorative carvings. The wood carvers must have made their patrons proud to have such refined works of art in their home. Paul N. Hasluck (1987) stated that, "Woodcarving calls for the exercise of manual skill and artistic feeling". The Malay carvers portray their philosophies and beliefs through their creations. Nasir (1987) suggesting that they carved not only to produce exquisite objects but, most importantly to express their feelings and spiritual devotion in every aspect of their work. Thus, their highly creative abilities induced them to understand an environment created by God the Almighty. This illustrates the importance of personal and spiritual values for Malay artisans.

b) Extrinsic values

Economic and environmental values are more physical and practical and can thus be measured.

Economic meaning

The craft industry have huge potential to provide significant contribution to the Malaysian economy in future, especially in the rural areas and cottage industries (Tambunan, 2011, Amin, 2006, p.1). From the perspective of promoting regional competitiveness through the cultural industry, developing products based on cultural heritage and local resources can invigorate local economic development (Santagata, 2002). The market for craft products can be divided into three sectors: 1) the local and national market; 2) the tourist market; and 3) the export market (Redzuan & Aref, 2011, p258). Khan explains that most Malay crafts are produced manually at home, on a small scale, with intensive use of skills and self-educated management practice (Khan, 2006). Most artisans are motivated to continue the tradition for the survival of the heritage; they tend to be motivated by their art rather than by business, and seek to achieve excellence in their craft (Teh, 1996).

Consequently, many of them are dependent on government assistance. Even though the traditional craft industry is small in size and scattered all over the country, craft products are able to contribute to the success of the tourist industry and provide jobs and business opportunities (Manan and Mamat, 2011). The material and tactile qualities of the crafts are welcomed in the modern market and can appeal across numerous markets (Kälviäinen, 2000).

Practical meaning

Practical or utilitarian meaning are the tangible value that can be seen in craft. In Quadruple Bottom Line (QBL) (Walker, 2011)the environmental aspects are included under the 'practical' meaning (i.e. the environmental impacts that accompany the furnishing of our practical needs). The environmental value of traditional craft can be seen through its use of eco-friendly materials, production processes, renewable resources and skilled labour rather than energy intensive machine-based production. Traditionally, there is also little waste with craft practices, which is in keeping with their general ethos of modesty and responsibility based in moral and spiritual values. Furthermore, craft products are long lasting and passed on from one generation to the next – not only reducing waste but also contributing to the heritage and cultural value of material artefacts. Generally, traditional crafts in Malaysia use local labour, locally sourced raw materials and traditional production processes with minimal technology (Redzuan and Aref, 2011, p. 259), all of which are in line with the sustainability principles. Local craft embodies the connection between humans and their environment within their historical, cultural and social contexts (Tung, 2012). However, Amin argues that the craft production process often depends too much on technology and sometimes may not consider these wider contexts (Amin, 2006). For this reason, the government agency Malaysian Handicraft Development Corporation fully supported the effort in craft production for implementation of environmental guidelines such as the Environmental Quality Regulations, and the Environmental Quality Act 1974 (Malaysian Handicraft Development Corporation, 2011, p. 64).

2.11.6   Problems identified within Malay traditional craft

The rapid decline of Malay traditional craft

Traditional handicraft, as well as Malay traditional crafts, is often considered to be outdated or irrelevant in comparison with modern, mass-produced alternatives. These products and the knowledge related to their making are all but lost except to a handful of experts and masters of traditional craftsmanship (Abdul Halim, 1987). Most of the skilled artisans are older (normally over 40 years of age) (Pye, 1988). The continuous decline of skilled artisans associated with Malaysian handicraft production needs to be addressed (Redzuan and Aref, 2011). Yusof (2012) says that among the factors that contribute to the lack of interest in the craft industry among the younger generation are:

(i)   the number of artisans has declined (fewer mentors making less 'visible' to young people),

(ii)   the making of craft is very costly,

(iii)   intricate, skilled handiwork is difficult to learn, and

(iv)   hand-crafting products is time-consuming.

Furthermore, the sustenance of indigenous knowledge for the future is at stake without the participation of the younger generation. Mazlan Che Soh & Siti Korota'aini Omar (2012, p. 31) argue that effective promotion needs to be carried out, particularly to generate interests and desire among the younger generation to become involved in traditional craft.

Fading interest among locals and youngsters

Although the skills of craftsmanship are fast diminishing in present-day Malay society, its revival could be possible by informing the public about the beauty of craft (Said, 2001a). Haron and Yusof (2014) say that the acceptance of handicraft is crucial to its survival in modern-day Malaysia.

> *"Serious appreciation can produce [a] new generation that can enliven and appreciate the Malays of the past's ingenuity in creating art crafts which in turn will increase the awareness of love towards the original traditional handicrafts"* (Haron and Yusof, 2014, p. 179).

This issue is also mentioned by the late master woodcarver, Nik Rashidi. He had experience of businesspeople and the rich elite in the cities who wanted to buy his masterpieces of woodcarving to decorate their mansions and apartments because they saw them as symbols of wealth and prestige. However, they did not have any deep or informed appreciation of the craft itself (Noor, 2004, p. 3). The existing knowledge of a craft is often viewed as tacit, possessed by the local artisans and acquired through extensive experience of working with materials and processes. Tacit knowledge is described as "we can know more than we can tell" (Polanyi 1967, p. 4). Artisans acquire tacit knowledge through extensive experience of working with materials and processes. It can be attained through practical and personal apprenticeship between the artisan and young apprentices. Its involves a very long period, and one normally has to start when young (Redzuan and Aref, 2011, p. 259).

This process demands perseverance and a deep interest within the apprentices that are rare nowadays. Additionally, younger people don't see it as an attractive career choice because it means long hours of work, relatively poor wages, and seems old fashioned. They are often attracted to better paying jobs in the city, in computing and digital areas, which are perceived as being more future-oriented, more dynamic and 'younger' and future-facing (Halim, Muda and Amin, 2011; Kamarudin et al., 2013; Mohamed Yusof and Walker, 2019).

Need for a sustainable development design approach.

Most of the initiatives by the government and other agencies towards the survival of culturally significant products focus on economics and commercialisation (JKKN, 1971; Rosli, 2012; MHDC, 2014). However, even with many resources, historically, Malaysia's handicraft production cannot compete with the products offered by neighbouring countries such as Indonesia or Thailand (Nolten and Tempelman 1986). In contrast, Chudasri, Walker and Evans (2012 p.319) suggest that there is a critical need to integrate traditions in commercial craft-product design to address sustainability agendas effectively.

Globalised mass-production has placed traditional craft in a difficult situation, as craft is based in the skills and autonomous decisions of the individual artisan rather than in automated machines (Holroyd 2015, p.2; William 2002, p.62).

> *"…it would seem more viable to emphasize programmes that revive old skills and use these as the basis for development rather than to completely wipe out the historical value of old products and starting anew" "…well-made products would be marketed more effectively given [their] 'edge' over mass-produced machine-made product[s]" (Maznah 1996, p.285).*

Raj Isar (2004) argues that handcrafted objects not only form an important part of the creative cultural industries, but they also occupy a space to counter techno-aesthetic dominance. This is because crafts inherently represent, to the patron of sustainable practices, a connection to and concern for materials and the environment. Amin argues that the craft industry often depends on technology and does not necessarily consider the cultural, environmental and social contexts (Amin 2006).

There must be an integrated effort to support craft and to encourage artisans to institute sustainable management practices and natural resource management to ensure their ongoing survival (Zumahiran et al. 2012). Therefore, there is a need for creativity and flexibility among craftspeople and the craft industry in the context of sustainability (Ashworth 2012,p.165-201).

Contemporary understandings of sustainability have long been linked to 'the local' and ideas of localisation (Van der Ryn and Cowan 1996, p.68; Scruton 2012, p.36, p.71). The relationship between design for sustainability and localisation is critical, though this is neither well understood nor much emphasised in the field of commercial craft-product design.

Lack of documentation of Malay traditional crafts

There is a need for documentation for sustaining the heritage value of traditional art and craft that can serve as evidence of the human expression of creativity and ways of communicating their thoughts and skilfulness (Zumahiran et al. 2012). Commonly, studies by craft agencies and scholars have taken a commercialisation approach in production, such as in craft SME management and production (Hassan, Yaacob, & Abdullatiff 2014; Redzuan & Aref 2011b; Rosli 2012); the tourism industry (Halim & Mat 2010; Ismail, Masron, & Ahmad 2014); historical research (Noor, 2003; Silah *et al.*, 2013); motif and pattern studies (Kamarudin *et al.*, 2012; Haron and Yusof, 2014); and traditional architecture identity (Surat *et al.*, 2010; Utaberta *et al.*, 2014; Ahmad *et al.*, 2015). There is a lack of research about the role of sustainable design approaches used to revitalise traditional craft in Malaysia and which explores a broad view of design, including areas such as branding, the redesign of production processes, and the communication of practical knowledge.

2.12 Potential Area for Design Intervention in Malay Craft: Malay Traditional Woodcarving

From this broad overview, it became clear that several areas of contemporary craft are in need of support and revitalisation if they are to survive. Based on this recognition, one particular area of craft was selected for in-depth study. Due to the limited timeframe of a PhD study, it was decided to focus on one craft in particular, and one that was; (i) especially rich in terms of its cultural significance and value, (ii) held potential to offer economic benefits for a community, (iii) utilised local resources and skills and (iv) was in severe decline. This section provide a rationale for this area of focus through the discussion on the issues related to Malay traditional woodcarving.

2.12.1 Issues related to Malay traditional woodcarving

Woodcarving, along with other major traditional crafts in Malaysia, is facing a significant challenge to remain relevant and survive. There is no doubt that Malay traditional woodcarving craft is in a significant state of decline (Pye, 1968; Noor, 2003; Redzuan and Aref, 2011). Diminishing appreciation by locals (Kamarudin *et al.*, 2012; Haron and Yusof, 2014; Utaberta *et al.*, 2014), deficiencies in relation to sustainable development approaches (Kamarudin *et al.*, 2013; MHDC, 2014) and the need for thorough documentation all have to be addressed if this decline is to be reversed (Kamarudin *et al.*, 2013; MHDC, 2014).

Traditional woodcarving is considered to be "on the edge of eradication" and is becoming less popular among the younger generation and no longer regarded as a source of income (Noor, 2003). For Nik Rashidin, a master craftsman, woodcarving is now almost extinct, and he is driven by an obsessive desire to preserve, promote and revitalise this art form. Norhaiza (2009) argues that any effort to ensure the survival of traditional woodcarving should be encouraged, especially involving the younger generation.

Moreover, local artisans are urging the locals and younger generation to stop distancing themselves from their local heritage.

The art of woodcarving is a form of human expression and a ways of communicating thoughts. Bear (1998) has posed the question of whether ornament communicates explicitly or implicitly. In her chapter on the meaning of ornament, she has suggested that the proper understanding of its meaning can only be reached by detailed study, not only of the formal and technical aspects of these decorations but also by considering the regional, social and religious variations of the people who created and value them.

From the economic perspective, the production of traditional crafts is generally depleted due to a lack of demand. Greenhalgh (2003, p. 6) indicates that crafts straddle art and design economies and often get the worst of both worlds. One government initiative is to create new craft products to boost the market and enhance the craft sector.

The Malaysian craft categories are based on their material; namely textile, forestry, earthen, metal- mineral and various crafts ((MHDC, 2019). Woodcarving craft in Malaysia is under forest-based category. Along with other major traditional crafts in Malaysia, woodcarving craft facing a significant challenge to remain relevant and survive. There is no doubt that Malay traditional woodcarving craft is in a significant state of decline (Mohamed Yusof and Walker, 2018).

However, the National Timber Industry Policy 2009-2020 (NATIP) endorsed by Malaysian Timber industry board (MTIB) aim to achieve 60 per cent high value-added products exports and 40 per cent primary products exports currently failed to be achieved (MTIB, 2009). Woodcarving products is part of high value-added products. It was revealed then that more emphasis will be given to higher value-added downstream activities, including woodcraft, that are expected to generate 60 per cent of the export earning valued at RM31.8 billion (Sharon, 2019) in order to realise the aim set by NATIP.

Figure 2.6 Malaysian craft sales value report (MHDC, 2019)

Perkara / Item	Tekstil / Textile	Hasil Rimba / Forest-Based	Hasil Logam / Metal-Based	Hasil Tanah / Earth-Based	Aneka Kraf / Various Craft	Jumlah / Total
Nilai Jualan (RM) / Sales Value (RM)	221,630,787.12 (43.8%)	125,951,652.25 (24.9%)	40,442,453.16 (8.0%)	71,191,701.42 (14.0%)	47,272,900.36 (9.3%)	506,489,494.31 (100%)
Bil. Usahawan / No. of Entrepreneurs	1,712 (30.7%)	2,116 (38.0%)	728 (13.1%)	241 (4.3%)	775 (13.9%)	5,572 (100%)
Bil. Tenaga Kerja / No. of Workforce	5,212 (50.7%)	2,263 (22.0%)	747 7.3%)	912 (8.9%)	1,137 (11.1%)	10,271 (100%)

Based on Kraftangan Malaysia Annual Report(MHDC, 2019), Forest-based craft sales value is only 24.9%, much lower compared to textile craft with 43.8% sales value despite having higher number of entrepreneurs (Figure 2.5). Forest-based craft have 2116 registered entrepreneurs compared only 1712 for textile craft. These two craft are considered as main craft categories with the high-value product. The key factors of this result are the major difference of workforce between these two major craft. Forest-based craft workforce is not even half of textile craft total workforce. Thus, Forest-based craft category has the lowest product-maker ratio. This reflects the declining popularity and short of workforce for forest-based craft products. This data suggests the need for a stable market for the economic viability of forest-based craft. This is aligned with the claim that there is not enough demand for artisans to survive this declining trend and woodcarving is the most effected due to the unstable market (Noor, 2003; Kamarudin and Said, 2008; Baba, 2010).

Perkara / Item	Tekstil / Textile	Hasil Rimba / Forest-Based	Hasil Logam / Metal-Based	Hasil Tanah / Earth-Based	Aneka Kraf / Various Craft	Jumlah / Total
Rekaan Baru / New Designs	444	489	110	157	150	1,350
Rekaan Dikomersialkan / Commercialised Designs	436	427	86	132	124	1,205

Figure 2.7 Commercialised of new designs for Malaysian craft 2018 (MHDC, 2019)

103

Furthermore, based on the New Commercialized Designs of craft product data (Figure 2.6), Forest-Based craft product have a highest number of new designs, yet, this numbers however not successfully reflect to the sales values compared to the success of textile craft. Forest-based category also has the highest number unsuccessful new designs commercialization (62 new designs) based on the total differences in Figure 2.6. This indicates previous commercialisation approach for forest-based craft was ineffective compared to other categories especially textile craft. This suggests the need for new approach for forest craft, perhaps looking at the broader context and new approach

Bil. No.	Aktiviti Activities	Bil. Projek No. of Projects	Bil. Penyertaan Usahawan (Orang) No. of Entrepreneurs
Orientasi Pengeluaran (OP) *Production Orientation (PO)*			
1.	OP Domestik *Domestic PO*		
	▪ Tekstil/*Textile*	62	200
	▪ Hasil Rimba/*Forest-Based*	98	522
	▪ Hasil Tanah/*Earth-Based*	20	83
	▪ Hasil Logam/*Metal-Based*	31	128
	▪ Aneka Kraf/*Various Crafts*	33	70
	Jumlah OP Domestik *Domestic PO Total*	**244**	**1,003**
2.	OP Antarabangsa *International PO*		
	▪ Tekstil/*Textile*	4	14
	▪ Hasil Tanah/*Earth-Based*	2	1
	▪ Aneka Kraf/*Various Crafts*	1	3
	Jumlah OP Antarabangsa *International PO Total*	**7**	**18**
	Jumlah Keseluruhan/*Overall Total*	**251**	**1,021**

Figure 2.8   Achievement of production orientation (PO) activities at domestic and international levels (MHDC 2014)

The production orientation for the domestic market is also low, while for the international market there are no forest-based crafts being exported, as shown in Table 2.7. This suggests the need for a new approach to forest-based craft, perhaps looking at the broader context, beyond purely economic means, that encompass not only the design of craft products, but also areas such as branding, the redesign of production processes, and the communication of practical knowledge.

2.13 Background of Malay Traditional Woodcarving

The art of woodcarving has long existed in Malay society and has an important heritage. In ancient times, woodcarving symbolised wealth and power. Originally, woodcarving was an activity for recreational purposes only. As a result, traditional woodcarving was conceptually based on the symbols and culture of Malay society. It soon found a special place in the palace as a symbol of the administration (Farish A. Noor & Eddin Khoo 2003; Kraftangan 2009). The motifs and patterns, specially designed for the palace, indirectly had their own significance and philosophy, which differentiated the style of the ruling class from ordinary people (Hussin *et al.*, 2012). Currently, in the Malaysian craft market, traditional woodcarving products fall into the forest/wood-based craft categories. Such woodcarving is an artistic product that has a strong defining character and visual form (Norhaiza, 2008). It is much-admired for its intricacy and complexity of design. Such wood-craft embellishes buildings and also there are stand-alone craft products (Farish A. Noor, and Eddin Khoo, 2003).

The uniqueness of the traditional aesthetic elements has made them masterpieces that cannot be found elsewhere. The abundance of timber in Malaysia makes wood one of the major materials used in traditional crafts and buildings. Elements of nature are reflected in the crafts, and the craftsmen are highly artistic and skillful and are inspired to transform traditional building elements into unique and aesthetically pleasing pieces (Aziz Shuaib *et al.*, 2014). Their carvings exhibit a wealth of high-level artistry and technique. The skills of transforming a solid plank or block of wood into relief and non-relief components are learned through a process of apprenticeship (Kamarudin *et al.*, 2013). Through this learning method, the historical value of the craft was accompanied by various other attributes such as patience, determination, creativity, artistic skill, aesthetic sensibility and technical skill. All of these can be seen in the most talented craftsmen who produce masterpieces that are mostly inspired by nature (Norhaiza, 2009). These kinds of knowledge and skills can be transferred to the younger generation, but if they not, it they will be lost from the local region.

2.13.2   History of Malay traditional woodcarving

In *Sejarah Melayu (Malay Annals),* written by Tun Seri Lanang in the early 17th century, it was found that the earliest discovery of traditional woodcarving was at least five hundred years ago. In the beginning of the transitional period, Malay society was not influenced by any one culture. There are some forms of art that existed, but it is difficult to find out any detailed information. As stated by N. Abdul Halim (Nasir, 1987), "The beginning point of this art was during the transitional period from the prehistoric to the historical era".

Before the arrival of Islam as the main religion, Malay society was influenced by animism. Woodcarving was closely associated with the Malay way of life and it illustrated the culture, values and beliefs. The art of woodcarving underwent some changes with the acceptance of the Hindu culture between the 1st and the 14th centuries. This is known as the Hindu period. With the acceptance of Hinduism, according to (Nasir, 1987), "Certain elements have changed such as language, religion, beliefs, shamanism the spiritual practice, customs, architecture, handicrafts, tapestry and weaving, and had penetrated into the indigenous Malay culture". The Hindu influence on carving was extended to palaces, houses of chieftains and members of the nobility, places of worship, and other architectural features.

After the influence of Hinduism, traditional Malay woodcarving underwent further changes with the coming of Islam (Said, 2002b, p. 49). Stone inscriptions were found in the Teresat river, in the state of Terengganu, which show that Islam was accepted by Malay society in the early 14th century (Kamarudin *et al.*, 2012, p. 2). New attention was given to the art of carving. The biggest change was that the elements of the motifs that were unsuitable and contradictory to the teaching of Islam, consequently they were gradually discarded (Hussin *et al.*, 2012). Subsequently, carving activities expanded in Malaysia due to the mixture of wood supplies. Said (Said, 2002a)stated that there were 3000 species of woods in Malaysia that were suitable and practical for carving.

Carving can be found in houses, palaces, mosques, madrasahs (small mosque and act as religious school), wakafs (shaded sitting area outdoor), arches, on instruments, agricultural implements, weapons, cooking utensils, on dress ornaments, traditional boats and traditional forms of transportation (Said, 2002a; Ahmad *et al.*, 2015; N. Irda S. and Nawawi, 2015). The beautiful and unique architecture of Malay houses and palaces was known to have been decorated with attractive carving on walls, rembats (apron rails), benduls (thresholds), doors, windows, staircases and other places. As few studies have been conducted, there was only a small number of carved traditional istana (palaces) and houses that have been documented and are available for viewing (Sheppard, 1962; Shaffee and Said, 2013).

Woodcarving is not just a decorative art form but also a demonstration of the level of achievement and status of the householder or person who commissioned the work. The royal family and aristocracy were those who mainly commissioned this craftwork, particularly as a symbol of their administration (Noor 2003); the king or Sultan was a major patron. Most of the palaces, mosques and magnificent residence were built and furnished with woodcarving. The woodcarver had a position in the palaces as an invited carver. They were respected figures and their artwork was highly appreciated. In the past, most work was either made by carvers for their own use or was commissioned by wealthy patrons. The uniqueness of woodcarving is shown in the exclusive patterns, arrangements and motifs and through a variety of shapes and interpretations (Hussin *et al.*, 2012; Silah *et al.*, 2013). The carvers' understanding of nature and the universe influenced their work. The early carvings and decorations demonstrate that this craft is an invaluable element of Malay heritage that has lasting historical and cultural importance.

2.14   Types of Malay Traditional Woodcarving

2.14.1   Production technique

Traditional Malay woodcarving was generated through a variety of specific techniques. Generally, there are two types of woodcarving designs: the `Ukiran tebuk' (Direct piercing) and the `Ukiran timbul' (Relief carving) (Hussin *et al.*, 2012; N. Irda S. and Nawawi, 2015). Figure 2.8 is a sample of woodcarving using these two techniques.
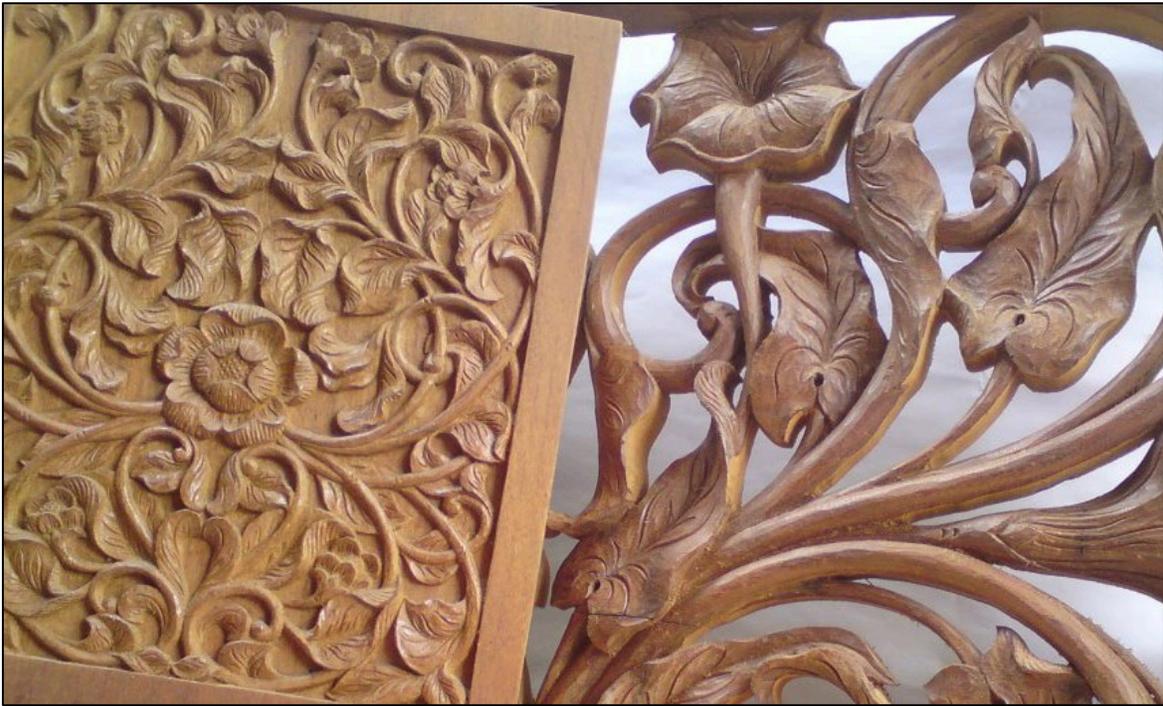
Figure 2.9   Ukiran timbul (Relief carving) on the left and Ukiran tebuk (Direct piercing) on the right (Picture of Zarir Hj. Abdullah, 2017)

However, (Norhaiza, 2009)classifies techniques in woodcarving into four types; i) Relief carving without *silat*, ii) Relief carving with *silat*, iii) Direct piercing or fully pierced without *silat* and iv) Direct piercing or fully pierced with *silat* (Figure 2.9).*'Silat'* in woodcarving refers to the style or level of depth in carving technique, which can be either curving, rounded or flat styles.

i) Relief carving without *silat*

ii) Relief carving with *silat,*

iii) Direct piercing or fully pierced without *silat*

iv) Direct piercing or fully pierced with *silat*

Figure 2.10 Types of Malay woodcarving techniques

The direct piercing (*Ukiran tebuk*) technique is used for parts of a building where ventilation is required, such as windows, balustrades, verandas, partitions or in a fanlight above doors and windows. The relief carving *(Ukiran timbul)* is usually found on panels, walls, pillars and doors of traditional Malay houses and palaces as well as on furniture. Usually, selected motifs are outlined directly onto the wood without the benefit of draft drawings. A skilled and experienced carver will attempt to carve without first drawing the design on wood. While woodcarving is a decoration form of fine art that shows the level of achievement and technical acumen of the carvers. It also reveals an important aspect of Malay culture that embodies elements that have symbolic meanings. For these reasons, the beauty and the uniqueness of the Malays' work is a national heritage that should be preserved.

2.14.2   Types of Malay woodcarvings products

Traditional Malay woodcarving is an important cultural heritage of the Malay civilisation that reflects the creativity and skill of the people in utilising local natural resources to produce not only works of art and beauty but also objects for day-to-day functional uses (Baba, 2010, p. 110). Perforated carvings allow sunlight into the buildings and at night their silhouettes from indoor lighting add another level of beauty. Simultaneously, the fenestrations allow air to enter the building and ventilate the indoor spaces (Lim, 1987; Ismail 2002; Mohamad Tajuddin et al., 2005). Also, non-architectural woodcarving products often have ritual, symbolic, identity, utility and religious purposes (Said, 2002c; Baba, 2010).

There are two types of products for Malay traditional woodcarving, which are architectural carving components and non-architectural carvings (Said, 2005, p. 20).

Architectural carvings	Non-architectural carvings	
• **Palace** • **Resident house** • **Mosque** • **Monument**	• Weapons • Hilt of Keris, Badek, Kerambit (traditional dagger)	• Sheath of Keris • Hilts of spears
	• Boats and Canoe • Oar • Tool box • Cepu (traditional boat parts)	• Caping perahu (traditional boat parts) • Bangau & okok (traditional boat parts)
	• Utensils, tools & Furniture • Ladle • Kukur (Coconut grater) • Rehal (Quran holder) • Biscuit mould • Sengkalan (grinder)	• Cepu (container) • Dulang (tray) • Pengandar (lever) • Plough • Table and chair • Bed headrest
	• Miscellaneous items • Gravemarker • Quail trap • Sermon pedestal	• Various handicraft • Bird cage • Congkak (traditional games)

Table 2.5   Types of Product in Malay Traditional Woodcarving

2.15 Forms and Motifs in Malay Traditional Woodcarving

Form and motif are important decorative details in Malay woodcarving. "Motif is a carved ornament in two or three dimensions arranged and composed into a pattern or certain arrangement" (Nasir, 1987). The source of inspiration can be based on the subject matter's uniqueness, aesthetic and/or medicinal value or importance as a source of food and its availability in the local environment.

Additionally, Nasir (1987) and Yatim (1989) suggest that there are five types of woodcarving elements found in a Malay vernacular house namely; Elements of living things, Cosmic elements, Geometric elements, Calligraphic elements and Floral elements. Malay artisans selected these motifs carefully and vividly translated a symbolic meaning of the chosen motif. Normally, selection is related to the customs, religion, animism, values and norms of life, beauty, harmony etc. (Haron and Yusof, 2014, p. 174). Thus, the responsibility of traditional artisans not just to produce beautiful crafts but also to produce an artwork that contains the meaning and philosophy of their culture (Nasir, 1987).

The composition of Malay woodcarving motifs is inspired from five plant sources: leaf, stalk, flower, fruit and tendrils (Hussin *et al.*, 2012, p. 81). Hussin et al. (2012) added,

> *"The fundamentals of woodcarving are also associated with the original source or the beginning of a growth. The term plant source (tumbuhan berpunca) symbolizes a particular creation which originates from the same lineage. From this, it is apparent that the visual of every artistic creation of Malay traditional woodcarving in Peninsula Malaysia is based on plant sources".*

There are also some of stylised motif forms. Arabesque motifs of '*Awan larat*' (wandering clouds) can be found in Malay society and are an example of motifs inspired by the imagination of early carvers (Hussin *et al.*, 2012, p. 94).

"tumbuh berpunca

punca penuh rahsia

tajam tidak menujah lawan

melilit tidak memaut kawan

tetapi melingkar penuh mesra"

"in growth is source

rooted in mystery

its sharpness harms no foe

encircles nay a friend

yet together entwined in blissful harmony"

– *Philosophy of 'Awan Larat' (wandering clouds) motif in Malay woodcarving inherited from early carvers (as cited in Ruzaika et al. 2014, p.1).*
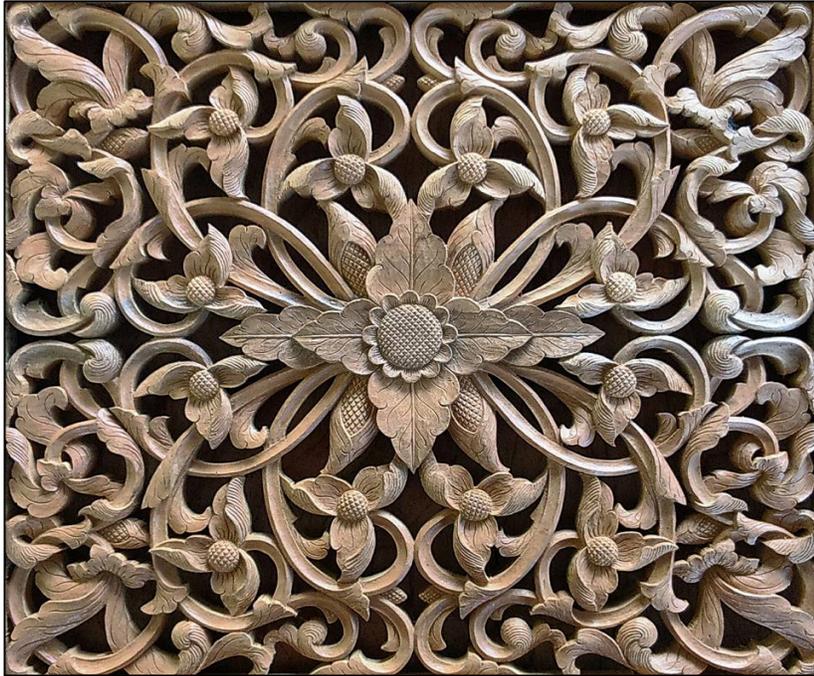
Figure 2.11 Malay woodcarving panel with 'Awan Larat' stylisation (Picture & Artwork by Zarir Hj. Abdullah, 2016).

Figure 2.10 above is an example of a typical complete set of composition for Malay woodcarving using 'Awan Larat' motif and 'Ketam Guri' flower motif. The technique used is 'tebuk tembus bersilat' (Figure 2.10). As one of the most famous and earliest Malay motif compositions, the concept of 'Awan Larat' emphasises the character of a stable movement of leaf and flower that originates from a mysterious source, which gradually and naturally grows in equilibrium and harmony. The harmony in movement is the basic philosophy and foundation of the woodcarving motif's composition.

The selected motifs are plants that grow where the artisan lives and works. In visualising the motifs, most of the artisans used the approach of realism. Usually, the artisan carved the motifs based on their original form and, therefore, nature motifs are easy to identify. Secondly, there were carvers who used the abstract approach in their artwork. However, at some levels, certain motifs are associated with the personal identity of master carvers. According to Mohd Sabriza (2009), "Wan Po, the most popular wood carver used the realism approach with the motifs of 'Bunga Emas' (golden flower)".

114

The reason for using these motifs is because of the beauty of the leaf and flower being so suitable to use as decoration. In addition, the word 'gold' refers to prestige and high value in our society. Wan Po regarded it as a symbol of elegance, luxury, prestige and beauty. Even though every motif in carving was created by different carvers there were similarities in certain styles or trends.

2.16 Philosophy and Belief in Malay Traditional Woodcarving

Traditional craft in Malay society is instilled with an in-depth philosophy and belief which are part of the identity upheld by the artisan (Noor, 2003). This intrinsic value (personal, cultural and social, see section 2.11.5), inherited from past generations and embodied in crafts, is a crucial part of Malay craft such as woodcarving (Bahauddin and Abdullah, 2003, p. 3; N. Irda S. and Nawawi, 2015, p. 302). Consequently, Malay woodcarving was produced with impeccable production quality (Said, 2001c, p. 46). Moreover, other elements such as the unique techniques used for selection of motifs (Hussin *et al.*, 2012, p. 90), selection of layouts or patterns in each piece as well as the creative exploration in linking the motif by the carver are based closely on Malay philosophy and beliefs (Kamarudin and Said, 2009, p. 6). The carvings embody symbolic meanings and each creation carries its own philosophy (N. Irda S. and Nawawi, 2015, p. 12). The design motifs, which are constrained by the bounds of moderation, hardly protrude. The avoid extravagance but instead suggest restraint and the idea of humility. In the general context of inspiration behind Malay traditional motifs, In the general context of inspiration behind Malay traditional motifs, Haziyah (2010) suggested that "The selection of plants, life, cosmology and nature motifs in textile and woodcarving is found to be based mainly on uniqueness and aesthetic value. At the same time, cosmological and nature motifs are also produced in textile and woodcarving based on the philosophy of the beauty of nature and also as religious symbols, although their meaning are not always appreciated".

On this point, the intricate designs can be seen to be instilled with the element of repetition which associated to the "zikir", a repetitive act of "the spiritual purification of the soul" or meditation performed by Muslims (Ruzaika, Legino and Mohd Yusof, 2014, p. 36). Many Malay artisans are known for their devotion to God in every aspect of their life. This is how personal and spiritual values are associated with their craft. Traditional Malay woodcarving depicts the principles of the Malay concept of beauty:

Spiritualism or Mysticism	Divine principles or ethical norms based on religious beliefs of higher spiritual values.
Unity	harmony that organizes and unifies all elements of design and motifs into a whole complete composition.
Symbolism	signification and connotation representing the viewpoint that highlights hidden meaning.
Refinement	the finesse or delicacy signifying aesthetic qualities such as intricacy, subtlety and complexity.
Symmetry	regularity or order, which is equated with the idea of geometrical framework.
Flexibility	gracefulness and fluidity, which refers to refined artistic sensibility and skilfulness of the work.
Functionality	usefulness or utility, which stresses the functional or utilitarian aspect of a work of art beside beauty.

Table 2.6   The seven basic principles that govern the Malay concept of beauty in traditional craft (reproduced from Ruzaika et al. 2014, p.39)

The motifs are owned by the carvers and it was their responsibility to give specific names to the carving. In the east coast area, the carvers gave names to them based on examples of any element they were taken from. Usually, each motif and pattern arrangement represented a certain meaning and philosophy (N. Irda S. and Nawawi, 2015, pp. 11–13).

A woodcarving piece is produced with the selected motif based on elements such the element of life, elements of the cosmos, and geometric and calligraphic elements. The choice of these motifs sometimes brings its own purpose or becomes a new symbol that has its own purpose and aesthetic value.

Symbols or signs bring relevant meanings to things, movement, rhythm, etc. (siti zainon, 1985). Siti Zainon (1985) added, that symbolic form that is created is reflected through the element represented by the colour, line, link, space, shape or overall harmony.

As reported by Said (2001b), Malay woodcarvings relate to three important aspects of Malay people; **life, faith and culture**. All three are present in each carving, which carries philosophy, meaning and function. Woodcarving symbolises the carver's deep understanding of how to interpret culture and practice regionally. Beside the east coast area of the Peninsular Malaysia, the states in the south and west also have their own meanings behind their traditional carving. For example, among the very famous carvings in the community of Negeri Sembilan is the `ayam berlaga'` (cockfight) motif. The motif was intended to advise children to compromise and strive for any conflict instead of fighting (Haron and Yusof, 2014, p. 174). The motif `itik pulang petang'` (walking duck) depicted a row of walking ducks representing the nature of the animals that usually walk in line behind their leader. This carver depicts the notion that humans should emulate the qualities of the ducks, where one should not be arrogant and should abide by the guidance of the chief or leader who is able to ensure peace and safety in the society.

Additionally, some motifs about daily life may be associated with a functional meaning because it has a relationship with a particular faith or authority. For instance, the prows of fishing boats are carved with *'Bangau'* (heron) motifs. The *Bangau* (heron) is a very efficient fisher, and the motif symbolises profitability and safety at sea (N. Irda S. and Nawawi, 2015). This motif is especially well known in the east coast state of Terengganu and has become the local identity of local traditional fishing boats. Since the acceptance of Islam, the beliefs and forms that contradicted Islamic teaching have been gradually abandoned (Noor, 2003), but those with positive moral values have been absorbed or stylised as in accordance with Islamic codes (Bahauddin, 2002, p. 25).

Despite these important cultural meanings, however, woodcarving is becoming extinct due to the length of time it takes and the current trend of modernisation. Many old buildings furnished with woodcarvings have been demolished. The time factor has also caused many works of art to deteriorate.

Chapter Discussion and Conclusion

Through the literature review, we have identified possible areas for design intervention as follows;

2.17 Discussion: Potential design intervention

The relationship between sustainability and cultural heritage has been discussed in section 2.6, as has the relation between design and sustainability, in section 2.7. It is clear that traditional craft is facing a rapid decline. Its important cultural value, however, means that it will be important to make the case for change in order to revive the traditional crafts, which are proven to embrace multiple elements of sustainability. Together, craft and design can contribute directly and indirectly to influence social change, for example through the creation and usability of objects (Craft Revival Trust, 2005, p. 2,6,131; Walker, 2011, p. 191). For this research context, we will explore the role of design in revitalising the production of handicraft to ensure the economic viability of the artisan and for the sake of craft survival. The focus area chosen for this intervention is Malay traditional woodcarving based on the justification presented in section 2.12. We have found from previous studies that researchers are exploring converging areas of craft and design for sustainability to stimulate production and demand for craft commodities. The strategies include people empowerment (Craft Revival Trust, 2005, p. 6); embracing meaningful material culture (Walker, 2006d, p. 51); market expansion in the tourism industry (Halim and Mat, 2010); and co-creation (Tung, 2012).

These aim to be environmentally responsible, provide skills and satisfy employment opportunities. There is a significant relationship between crafts and sustainability. However, on a global scale, traditional craft is in decline. Malaysia, as a country with various crafts and culturally significant products, is affected by the same problem. What is worse, the culturally significant products from Malaysia also struggle to compete with neighbouring countries such as Indonesia and Thailand. Despite the numerous arguments of scholars who argue for the importance of crafts as a driver of sustainability, the Malaysian craft development strategy often focuses on the commercialisation approach blindly without sustainable consideration.

Through findings from the literature, study examples and the current situation for Malay traditional crafts, six potential directions and opportunities for design intervention in the craft are identified as a theme:

1. **Promotion and product positioning:** Design can fill the void and provide the missing link between traditional artisans and current marketing environments. Effective product positioning will be helpful to ensure the demand for craft products. Stability of artisans' economic viability is important for their well-being (Mohlman, 1999; Craft Revival Trust, 2005, pp. 4–5; Tung, 2012). Additionally, a stable source of income might gain the interest of new apprentices. Promotion and marketing can also boost the demand (Hani *et al.*, 2012) and enhance the visibility of craft and artisans with centres for design, craft education and training (Craft Revival Trust et al. 2005, pp.4–5).

2. **Collaboration and knowledge exchange;** The interaction and collaboration between craft and designer have the potential to become meaningful and lead to long-term partnerships (Craft Revival Trust, 2005, p. 128). Artisans in Malaysia are rarely involved with non-artisan personnel and often work within their own community (Redzuan and Aref, 2011) let alone being aware of the capabilities of the designer to help their craft.

3. **Localisation:** Design can help to fully utilise local resources such as communities, networking, natural resources, places, material culture or promoting the region (Douthwaite, 2004; Holroyd, Twigger and Al, 2015; Kamal and Samian, 2015).

4. **Technology adaptation;** Through appropriate technology adaptation, design can navigate towards sustainability principles in post- or pre-production processes without neglecting the traditional values in the craft (Wood, 2011; Kamarudin *et al.*, 2013).

5. **Documentation:** Malay traditional craft requires more documentation to ensure its preservation for the future. Design can contribute documentation of traditional knowledge and cultural resources (including philosophy, motifs, traditional designs and techniques) (Craft Revival Trust et al. 2005, pp.4–6) using recent technology or applications and to promote the craft. We can record the ways of making, enhance the development and documentation medium, and there is opportunity to protect the craft ownership and intellectual properties since craft is classified under the Geographical Indication (GI) (Craft Revival Trust et al. 2005, pp.4–6).

6. **Add Value:** design can add value to traditional craft products. Designers can identify and harness potential elements to empower the craft. For instance, product design that is functional and meaningful with lasting value (Craft Revival Trust et al. 2005, p.131; Walker 2011, p.191); and marketing areas such as packaging, delivery of products and product visibility (Craft Revival Trust, 2005, p. 136; Hani *et al.*, 2012).

The key findings from the literature, which led to these potential themes directions for the design intervention identified above, ultimately become the foundation of the research question. Due to the limited timeframe of a PhD study, it was decided to focus on one craft in particular, and one that was i) especially rich in terms of its cultural significance and value, ii) held potential to offer economic benefits for a community, iii) utilised local resources and skills and iv) was in severe decline. This research will be focusing on one particular Malay craft to fully utilise the limited time and resources. The Malay woodcarving have been identified as suitable focus area for design intervention due to it fast declining state, important cultural value, critical diminishing appreciation and important economic source for local community (section 2.12). Further data from primary data collection will be presented to support the focus area. Elements in Malay woodcarving such as motifs design contain various knowledge and story of historical, philosophy, identity and experiences which essential to be passed to next generation. Through revitalisation of this knowledge, the younger generation can enhance their understandings and appreciation the meaning of traditional craft in their life

2.18 Conclusion

In recent years, craft in general has lost much of its status. Malay traditional crafts are facing a similar situation. Because the present generations live in the era of fast technological development and mass-produced material culture, regional identity may soon disappear. Hence there is a need to restore the richness of the local heritage in accordance with sustainability. Traditional creations and knowledge could be eventually marginalised and forgotten by the modern generations, including artisans, if there is no alternative to the modern trend of rapid industrialisation. Recent studies makes clear that crafts have significant value to offer a better future in terms of sustainability, identity and meaningful well-being (Walker 2017; Holroyd et al. 2015; Murray 2011; Noor 2004; Korn 2014). Within the context of Malaysia, traditional crafts are important assets for cultural and national identity and connect the present to the past. Each community has its own sense of aesthetics, which is influenced by its own traditions and creative practices. Malay crafts take culture as a guide – they evoke the sense of place and express aspects of language, religion, custom, time and space. Yet, the locals, especially the younger generation, tend to move to cities for alternative jobs and the attractions of a "modern" lifestyle, which distances them from traditional crafts such as traditional woodcraft.

In this research context, there is a need for a new strategy to ensure the continuity of the traditional woodcarving heritage and legacy. Furthermore, F. A. Noor (2003) in his book *'The Spirit of Woodcarving'* provides compelling evidence of the desperation of traditional woodcarvers to protect the historical value, meaning, philosophy and knowledge of Malay traditional woodcarving. He suggests that modernisation without consideration of local values is the main threat to local culture. Considering the evidence from the literature (section 2.2), most scholars agree that the threat to traditional heritage products is that it is regarded as outdated or irrelevant in comparison with modern, mass-produced alternative products.

The centuries-old history of Malay craft including woodcarving allows us to reflect on the changes in religion, trading patterns and material culture that have taken place over this time. However, along with these changes is often a remarkable adherence to practices that belong to past generations. A decline in traditional crafts involves the loss of skills, significant values, knowledge and meaningful cultural heritage. Previous approaches to preserving traditional woodcarving have mostly been in the field of architecture (Said, 2002c; Utaberta *et al.*, 2014; Denan, Majid and Arifin, 2015), historical documentation (Noor, 2003; Baba, 2010) and commercialisation (Rahman and Ramli, 2014). However, there is a potential to explore a broad view of sustainable design approaches in areas involving designers, such as effective promotion, the sensitive redesign of elements of the production processes, and the effective communication of practical knowledge, heritage value etc.

Above all, it seems pertinent to remember that Malay craft philosophy is deeply rooted in environmental concerns and respect for materials and nature. Furthermore, in addition to economic means, handcrafted objects form an important part of the creative cultural industries to complement the dominance of industrialisation. Design practitioners attempting to develop local crafts should directly engage themselves in the local context by interacting and co-creating with the artisan community. Design strategies can be developed to revitalise Malay woodcarving, exploring the broad view of design areas. This opens the possibilities for future development through an appropriate approach, such as in-depth case studies and design-led investigations. All things considered, potential directions for the design intervention have been identified (2.17) from the literature review and ultimately become the foundation of the research question and research objectives. The methodology used to achieve the research questions will be discussed in Chapter 3.

Chapter 3 Research Methodology

3.1   Introduction

This chapter provides a rationale for the chosen research methodology and the methods employed in its implementation. The main objective of this study is to address three research questions that seek to investigate the potential of sustainable design intervention in craft. Answering these questions will require the accomplishment of six research objectives. This chapter discusses the research methods available and a justification of the actual methods used in this research. It investigates the possible ways of answering the research questions and links the research objectives to these questions. The following section presents the research question and research objectives for this study;

3.2   Research Question

According to (Yin, 2014) a research question is a significant component in defining the aims of empirical studies which start with 'how' or 'why'. The structure of research begins with a broad area of interest and research questions to help the researcher focus on a specific study. (Ritchie et al., 2014) state that there are a number of significant requirements the research questions must meet. They should be:

- Clear, intelligible and unambiguous
- Focused, but not too narrow
- Capable of being researched through data collection: not questions which require the application of philosophy rather than of data
- Feasible, given the resources available
- Relevant and useful, whether to policy, practice or the development of social theory
- Informed by and connected to existing research, theory and need, with the potential to make an original contribution or to fill a gap
- Of at least some interest to the researcher

The research questions are a significant phase in this research because it highlights the crucial part of the research study (Yin, 2014). This then allows the researcher to basically focus on the issue and identify research methods that are appropriate to the research questions. Meanwhile, Marshall and Rossman (1999) argue that the researcher will gain his/her own theories or intuitions developed throughout the systematic review of existing theory and research. Then, the researcher becomes clearer about the intellectual challenge as to how they want to describe and explain the more comprehensive questions they intend to address (Mason, 2002). Lewis (2012) also states that the relationship between design, data and theory is a multi-directional one where design needs to be analysed as the study proceeds and new ideas are developed.

From these key issues, identified from the literature review (see 2.17), the following Research Questions (RQ) have been identified:

RQ1   What is the current level of awareness of sustainability among craftspeople in Malaysia and what is the perceived relationship between sustainability and craft?

RQ2   Does Malay traditional craft hold potential for revival and what is the perceived value of preserving it?

RQ3   How can woodcarving, as a culturally significant craft practice, be revitalised in Malaysia through effective design contributions in accordance with sustainable design principles?

To answer the main research questions above efficiently, **six research objectives** (OB) have been constructed as below:

- OB1: To determine how 'sustainability' is perceived among artisans and associated stakeholders in Malaysian craft. (RQ1)

- OB2: To identify one particular craft which is especially endangered, highly valued and has the potential for revival among Malaysian crafts. (RQ1 & RQ2)

- OB3: To outline the benefits, challenges and potential for reviving woodcarving craft. (RQ2)

- OB4: To identify those areas and appropriate methods for design to contribute to the sustainment of woodcarving in Malaysia. (RQ2 & RQ3)

- OB5: To develop a framework to characterise the various elements of traditional woodcarving in Malaysia, which can inform a strategy for its sustainable revival. (RQ3)

- OB6: To conduct an initial validation of the proposed framework (RQ3)

RQ1 aims to measure the current level of sustainable awareness among artisans and stakeholders in the Malaysian craft industry. It also aims to determine the constraints and issues in traditional crafts generally, and for Malaysian perspectives specifically. Moreover, RQ1 requires the exploration of the nature of the relationship between craft and sustainability from a fundamental perspective. This led to justifying the need to answer RQ2. RQ2 aims to identify potential areas of traditional craft in Malaysia to be revitalised. The significant value of the selected craft to the stakeholders still needs to be determined.

RQ3 aims to explore design's role in making an effective contribution to the craft practice. Therefore, an understanding of the case-related context will be critical to developing a holistic and systemic means to carry out the research expectation of RQ3. A qualitative research using semi-structured interview and case studies will be employed in this research, particularly in addressing RQ3.

The main research activities will include data collection, data analysis, an organisation of research findings and the validation of research findings. This section has discussed the research question and objectives as a foundation for the study. The following section considers possible research methods and their appropriateness to this study and presented as research methodology route map at the end of the section.

3.3   Research Methodology Route

In order to make sense of the many different choices and choose a suitable approach for this study, it was necessary to examine possible route of research methodology choices and to customise them within established research theory. To address this, the possible methodology choices to be considered discussed in this section. This possible methodology presented in form of research approach, reasoning approach and methods. Subsequently, this section presents the chosen methodology and rationale behind it and visualise the chosen route map at the end of the section.

3.3.1 Research Approach

Research can be divided into three categories of approaches; qualitative, quantitative and mixed method (De Vaus and de Vaus, 2001). (Creswell, 2013) pointed out that different types of research problems call for specific approaches. In this particular research project, a qualitative approach identified as chosen approach suitable for the nature of this research rather than a quantitative approach and a mixed methods approach that involved qualitative and quantitative data acquisition. From the start of this study, this research attempting to make sense of, or interpret craftspeople experiences and in terms of the meanings people bring to them. Therefore, it focused on narrative which often associated with qualitative study. However, it became necessary to discuss possible choices of approaches within established research theory to assure the suitability of selected approach.

Therefore, this section will present these approaches from the literature review perspectives and follows by the justification of selected approach use for this study. The three categories of approaches examined as follows;

1. **A qualitative research** approach is usually exploratory and useful when the research topic is new, has not been addressed with a certain group of people (e.g. community, society) or existing theories do not apply to the specific group of people under study. "A qualitative study is an enquiry process of understanding a social or human problem, based upon building a complex, holistic picture, formed with words, reporting detailed views of informants, and conducted in a natural setting" (Creswell, 2009, p. 233). A qualitative research approach is also useful in identifying intangible factors such as human psychology, or anthropological studies regarding institutions, beliefs, relationships and cultural semiotics (Mark, 2000). Qualitative research approaches can be complicated, depending upon the level of experience a researcher may have in a particular type of methodology. The qualitative research approach involves studying the norms of human behaviour during the process of gathering and interpreting data (Welman et al., 2005). Qualitative research methods focus attention on words as a strategy of research in data collection and data analysis as compared to quantitative methods (Hammersley, 2013).

2. **The quantitative research** approach encompasses a logical and rational method to investigate information using complex structured approaches to evaluate the research data and to prove or disprove the hypotheses provided. This approach is appropriate if the research problem is to identify the factors that influence an outcome and the utility of an intervention or to understand the best predictors of outcomes (Creswell, 2013). The method usually consists of a large number of samples and issues, and the resulting analysis is based on statistical significance (Welman et al., 2005). "A quantitative study is an enquiry into social or human problems, based on testing a theory composed of variables, measured with numbers, and analysed with statistical procedures in order to determine whether the predictive generalizations of the theory hold true" (Creswell, 2009, p. 232).

Several researchers have compared quantitative and qualitative research, highlighting their differences (such as Yilmaz 2013, p. 314). However, common differences between quantitative and qualitative research can be summarised clearly in the following comparison:

Numbers (quantitative)	Words (qualitative)
Points of view of researcher	Points of view of participants
Researcher distant	Researcher close
Theory testing	Theory emergent
Static	Process
Structured	Unstructured
Generalisations	Context understanding
Hard, reliable data	Rich, deep data
Macro	Micro
Behaviour	Meaning
Artificial settings	Natural setting

Table 3.1   Common Contrasts between Quantitative (Numbers) and Qualitative (Words) Research (Bryman and Teevan, 2005)

3. Next, there is a **mixed method approach** involves collecting data either simultaneously or sequentially to understand research problems. Mixed method research involves philosophical assumptions that guide the direction of the collection and analysis of data and the mixture of qualitative and quantitative approaches in many phases in the research process (Creswell & Clark, 2007, p. 5). The data assortment also involves gathering numeric materials as well as text information so that the final database embodies both qualitative and quantitative information (Creswell, 2013).

For this study, the **qualitative method is chosen** because the nature of the research questions that have been identified requires a flexible instrument in order to deal with stakeholders. A qualitative approach is advocated as this study seeks to "understand how the world is seen by the views of the subjects of a study" (Miles & Hubberman, 1994). As Robson claimed (2002) "qualitative studies are more flexible" and "the design evolves as the study proceeds". This flexibility is seen by Robson as crucial to solving real-world problems. Furthermore, the research questions are most appropriate to the qualitative research approach due to its explorative nature (Creswell, 2009, p. 23). As such, the use of quantitative and mixed method research is not appropriate as there is no suitable mechanism for obtaining a quantitative dataset in addition to the limited time and resources available for the study. Qualitative methods are mostly used in exploratory research and are suitable for this study to explore the body of knowledge and current understanding of Malaysian crafts.

This section has presented the example of the potential research approaches based on three categories of approaches; qualitative, quantitative and mixed method (De Vaus and de Vaus, 2001). The following section will give some insight and comparison between deductive and inductive reasoning approaches.

3.3.2　Reasoning

Subsequently, in the context of reasoning approach within science and applied science theory development, there are two major approaches: the analytic method termed theory-then-research (deductive) approach, and the synthetic research-then-theory (inductive) approach (Reynolds, 1971). These two approaches are usually associated with quantitative and qualitative approaches respectively (Bryman, 2008). "A deductive approach will mean that you use a theory to develop a proposition and then design a research framework to test that proposition. An inductive approach means that you will collect data and develop theory as a result of the data analysis" (Collins, 2010, p.42). The relevance of hypotheses to the study is the main distinctive point between deductive and inductive approaches. A deductive approach tests the validity of assumptions (or theories/hypotheses) in hand, whereas an inductive approach contributes to the emergence of new theories and generalisations.

The difference between deductive and inductive approaches are represented in Table 3.2:

Deduction	Induction
More scientific principles	Gives understanding of the meanings people attach to various contexts
More from theory to data	Gives an understanding of the research context
Emphasis on quantitative data	Emphasis on qualitative data
A structured approach	A flexible approach which allows a change of emphasis as the project continues
The researcher is separate from the research process	The researcher is part of rather than separate from the research process
Need to generalise results by selecting sample of a sufficient size	Less need to generalise result
The need to explain causal relationships between variables	

Table 3.2　The difference between deductive and inductive approaches (Collins, 2010, p. 43)

Generally, although not absolutely, adoption of the inductive approach is associated with qualitative methods of data collection and analysis, whereas the deductive approach is perceived to be related to quantitative methods (Bryman & Teevan, 2005; Collins, 2010).

The principle aim of this study is to investigate the potential design strategy for craft revival by exploring three research questions, and the selected primary research methodology is qualitative, normally associated with inductive approaches (research-then-theory).

From Table 3.2, the nature of inductive approaches is seen to be more suitable for gathering a comprehensive understanding for this research context. The inductive approach, also known as inductive reasoning, starts with the observations and theories being proposed towards the end of the research process as a result of observations (Goddard, & Melville, 2004). Inductive research "involves the search for patterns from observation and the development of explanations – theories – for those patterns through series of hypotheses" (Bernard, 2011). Furthermore, no theories or hypotheses would apply in inductive studies at the beginning of the research and the researcher is free in terms of changing the direction for the study after the research process had commenced which is in line with this research direction. For these reasons, this study will adopt an inductive approach employing qualitative research methods.

Consequently, the chosen approaches selected based on the nature of the study to answer the research question and research objectives. This section has presented the example of the potential and selected research approach. The following section will give overview on the research design structured for this study. This section has presented examples of potential research approaches and outlined reasons for selecting the qualitative approach. The following section provides an overview of the research design structured for this study

3.3.3   Methods

This section examines and presents a range of key methods considered for data collection of this research. Before discussing the proposed research methods for this study, it is appropriate to consider the range of methods available and appropriateness for this study. Diverse primary and secondary research methods have been identified from literature. The most relevant are described and examined against the requirement of this research presented in Table 3.3 below. The selected methods for this study explained and justified further separately in section 3.5.

Methods	Description
Case study	A case study involves empirical inquiry and in-depth investigation into a contemporary phenomenon in real-life contexts (Yin, 2009, p. 4). Typical features include study of the case in context; collection of data via a range of data collection techniques including observation, interview, and documentary analysis. Yin (2009) states that case studies are used for 'how' and 'why' type questions where the focus is on contemporary events but control over behavioral events is not possible or necessary. It can enable the researcher to explore, unravel and understand problems, issues and relationships which is suitable for this study.
Ethnographic study	Ethnographic studies seek to capture, interpret and explain how a group, organisation or community live, experience and make sense of their lives and their works (Robson, 2002). Ethnographic approaches typically answer questions about specific groups of people, or about specific aspects of their lives. This method usually inductive and holistic however requires a long-term commitment (Sangasubana, 2009, p. 568).
Grounded theory	A grounded theory approach is particularly useful in new, applied areas where there is a lack of theory and concepts to describe and explain what is going on (Robson, 2002). Grounded theory studies aim to generate theory from data collected during the study.

Survey/questionnaire	Whilst questionnaire easy to administer, they are not suitable for this study as they considered aim at the surface of the data instead of in-depth study of people values, meanings and behaviour. Furthermore, questionnaire data reflects time specific situation rather than the wider underlying theories and changes (Blaxer et al,2006) that this research after.
Experiment	Experiments can be conducted in laboratories or in real life contexts (Neuman, 2007). They usually involve a small number of people and address a well-focussed question. Experiments are most effective for exploratory research. Experiments use logic and principles found in natural science research.
Interview	Interviews are a powerful research method that enable researchers to develop an understanding of phenomena that cannot be understood by other means (Bryman & Teevan, 2005; Blaxter et al, 2006; Neuman, 2007). Furthermore, interview align well to this research because often associated with qualitative studies and aim at depth of the data with open ended question and encourage the participant to share their opinion and experiences about a given topic promptly.
Document Analysis	This refer to literature review (which has been put in practice since the start of this study) and document analysis (such as in history or disciplines).

Table 3.3   Method of data collection as inferred from Baxter et al. (2006) , Braun & Clarke (2003) and Bryman (2008)

3.4 Summary of Selected Route Map

This section presents the chosen methodology route in summarise map below (Figure 3.1). This study prioritised respondents' feedback such as meanings, values, experiences and interaction with interviewer through fields study. Combining with literature review (e.g; relevant theories, issues, and craft situation) - cross examination of secondary data and primary data were used to construct new knowledge. Once critically analysed, that data developed into evidence-based claim regarding design strategy for local craft which can be seen as a contribution to the knowledge. The following sections address each data collection instrument that have been selected;
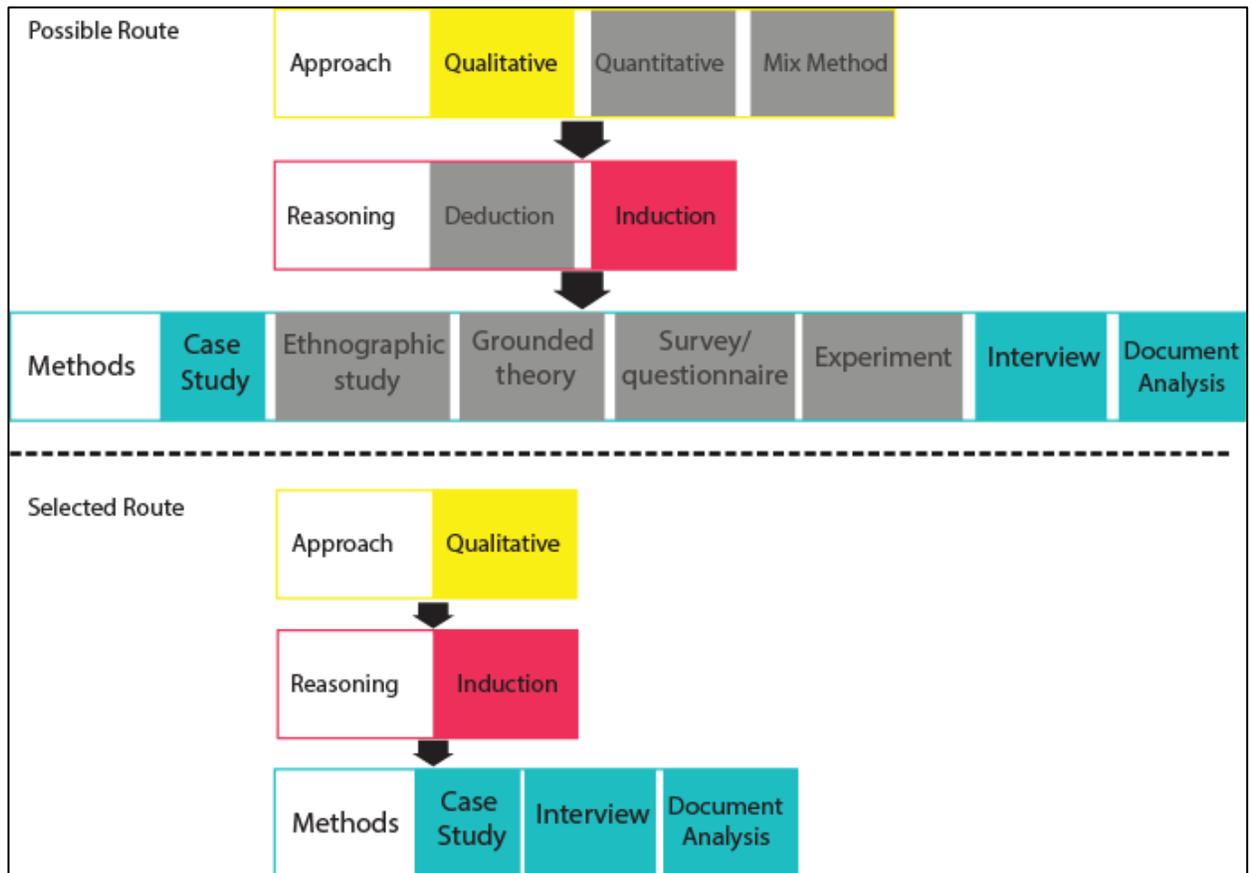
Figure 3.1   Methodology route map

From the chosen methodology route as presented in figure above, the research design was developed based on the selected method. The following section provides an overview of the research design structured for this study.

3.5   Research Design

The selection of a research design is based upon the nature of the research problem of the issue being addressed, the researcher's personal experiences, and the potential audiences of the study (Creswell, 2009). A key purpose of research design is to guide the researcher in avoiding situations where collected data does not fulfil the initial research intention (Yin, 2009). The Interactive Model for Research Design is used as guidance in creating a more coherent and robust thesis balancing the connecting logic between research methods, questions, goals, conceptual framework and validity (Maxwell 2013, p. 9). It is an ongoing process that involves a continuous interaction between the five components of the research design: goals, questions, conceptual framework, methods and validity (Figure 3.2).
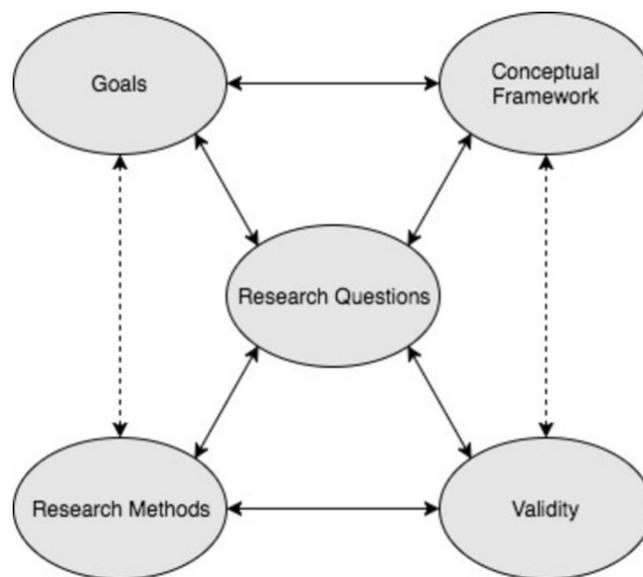
Figure 3.2   The interactive model for research design (Maxwell, 2013, p. 9)

This model is built on the fact that collecting and analysing information, developing theory, defining the research questions, and ensuring validity are part of the systemic process that occur iteratively and simultaneously in an ongoing manner (Maxwell, 2013). Research methods concern the techniques, which are available, and those which are actually employed upon a research project. Blaxter et al. (2006) state that "the term method can be understood to relate principally to the tools of data collection or analysis". Research design is employed to provide a framework for data collection and analysis to answer research questions (Bryman, 2001). Research design is "concerned with turning research questions into projects" (Robson, 2002). Creswell (2014) also emphasised that research design consists of strategies, methods and worldviews. It is significant to determine the appropriate research methods and their potential for this study.

Literature Review
Research Question
Research Design
Pilot Study
Research Methods
Data Collection
Data Analysis & Validation
Conclusion

Figure 3.3   Research methodology process map

This study began with a literature review which considered information from various sources. The discussion of the literature review consists of three sections: sustainability and design; craft in general; and Malaysian craft and Malay woodcarving craft. The discussion from the literature review led to identification of the research questions.

137

To answer the main research question above efficiently, six research objectives were constructed. Then, a recommendation was developed to determine the research questions. The methodology employed to answer the research questions and research objectives was then developed, with reference to the literature on research methodologies. Next, a pilot study was employed to test the instrument for the primary data collection and examine the data gathered from a review of the literature.

3.5.1   Rationale for conducting pilot study

A pilot study was conducted by the researcher in 2016. It was used to test the instrument for the primary data collection and examine the data gathered from a review of the literature. The justification of woodcarving as the particular craft to be studied was also surveyed through the pilot study.

From the literature review, it seemed that woodcarving would be an appropriate focus for this study because:

- Woodcarving is one of the important ancient Malay traditional crafts that is is heritage value (see 2.13).

- It is a highly skilled handicraft (see 2.13).

- It has high cultural and symbolic meanings that are based in and expressive of Malay philosophy (see 2.16).

- It is representative of the decline of craft and associated knowledge and skill in Malaysian craft (see 2.12).

For these reasons, it was decided to focus the research specifically on Malaysian woodcarving craft. However, in order to support this decision and prior to conducting a full research field study in this area, a pilot study was carried out in order to support the conclusion from literature and confirm the area of focus (eg; woodcarving) and to confirm, refine and validate the proposed approach (see 3.8). Baker notes that "a pilot study is often used to pre-test or try out a research instrument" (pp.182-183). Within the function of a questionnaire and establishing the nature of the research project are where the pilot test is required (Kerlinger & Lee, 2000). However, there is general agreement (Temilade Abimbola, 2003) that a questionnaire will benefit from being subjected to rigorous pre-testing. Further result from this pilot study presented in the following chapter (section 4.2.2.1). Pilot study is a significant element which helped to test, refine and finalise the chosen methodology, specific methods and details of research tools, was the design and implementation of a pilot study in the field. This was employed as a pre-test based on data gathered from the literature review. Furthermore, it provides supporting data for choosing which particular craft area to become a focus of this study. The result led to the selection of research methods that were to be used for data collection. Further explanation and justification of selected research methods presents in following section.

3.5.2 Selected Methods for data collection

Interview

The interview is a common qualitative method in the process of data collection. It is powerful research method that enables researchers to develop an understanding of phenomena that cannot be understood by other means (Bryman & Teevan, 2005; Blaxter et al., 2006; Neuman, 2007). The interview guide comprises a set of central questions and many associated questions which are related to them and improved further through preliminary testing of the interview guide (Creswell, 2007). This method involves a face-to-face interview and is generally focused on gaining in-depth insights and understanding of the studied phenomenon (Ritchie & Lewis, 2003).There are three types of interview commonly used in qualitative research: structured, semi-structured and unstructured (Creswell, 2008).

Structured interviews	Semi-structured	Unstructured interviews
▪ Standardised interviews ▪ Survey interviews ▪ Clinical history taking	▪ Survey interviews ▪ Group interviews ▪ In-depth interviews	▪ Oral or life history interviews ▪ In-depth interviews ▪ Group interviews ▪ Clinical interviews

Table 3.4   Three main categories of interviews (Burns, 2000)

Structured interviews are used mainly in surveys or quantitative analysis. Unstructured interviews are an informal and very open-ended method of collecting data which has no scheduled plan or guide. The information from unstructured interviews varies considerably, and it is difficult for the researcher to obtain an organised and systematic view. Semi-structured interviews comprise the development of questions before the interview; however, the interviews are undertaken in an open-ended format (Silverman, 2005; Kvale, 1996; Payne & Payne, 2004).

In order to ensure consistency and objectivity, respondents are asked the same predetermined questions but they are able to answer in any way they feel appropriate (Creswell, 2009; Bryman & Teevan, 2005). This format also enables the emergence of issues that the interviewer may not be aware of (Flick, 2006).

Robson (2002) suggests the choice of research methods or design depends on the degree to which the research questions are fixed or flexible. As this study involves in part an inductive qualitative approach, it is crucial to use research methods that enable new and unknown issues to emerge throughout the research process. Furthermore, based on the research objectives and research questions in this study, **semi-structured interviews** will be the most suitable type to acquire data to achieve the research aims. Semi-structured interviews are used to achieve optimum use of interview time, and the interview guide serves to explore the participants more systematically and comprehensively. Therefore, semi-structured interviews were employed to collect a "series of general ideas or abstract statements" from sufficient numbers of key informants which could help make "predictions for future changes" (Hall and Hall, 1996, pp. 32-33).

Case Study

A case study is an implementation of a research method that involves empirical inquiry and in-depth investigation into a contemporary phenomenon in real-life contexts (Yin, 2009, p. 4). In order to gain a deep understanding of the cultural phenomenon of Malay traditional woodcarving, case studies are a powerful method to investigate the craft situation in real-life conditions and to observe the relationships of craft and sustainability in the local environment regarding objects, people and culture.

In doing so, it can stimulate more profound and critical thinking to answer the research questions. It also involves "analyses of persons, events, decisions, periods, projects, policies, institutions, or other systems that are studied holistically by one or more research strategies within the case" Thomas, 2011).

Yin defines the case study research method as ;

> "An empirical inquiry that investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly *evident; and in which multiple sources of evidence are used"- (2014, p. 23).*

Based on the information gathered from literature review and pilot studies, case study in traditional craft are suitable approach because it allows the researcher to explore, unravel and understand problems, issues and relationships.

Case studies enables the researcher to obtain information about various areas, especially local wisdom, "knowledge, behaviours, attitudes, beliefs and practices" (Huerta, 2010 cited in Chudasri, Walker and Evans, 2013, p. 587) of traditional woodcarving in relation to sustainability. New design knowledge, thinking and cross-disciplinary collaboration could be created through these thorough investigations into real practice and craft community (Hall & Hall, 1996, p. 42; Clark, 2000). Typical features of case studies include the study of the case in context and collection of data via a range of data collection techniques including observation, interview and documentary analysis.

3.6   Research Framework

The main research activities included data collection, data analysis, the organisation of the research findings, and the validation of the research findings. An outline of the research methodology framework is given below.
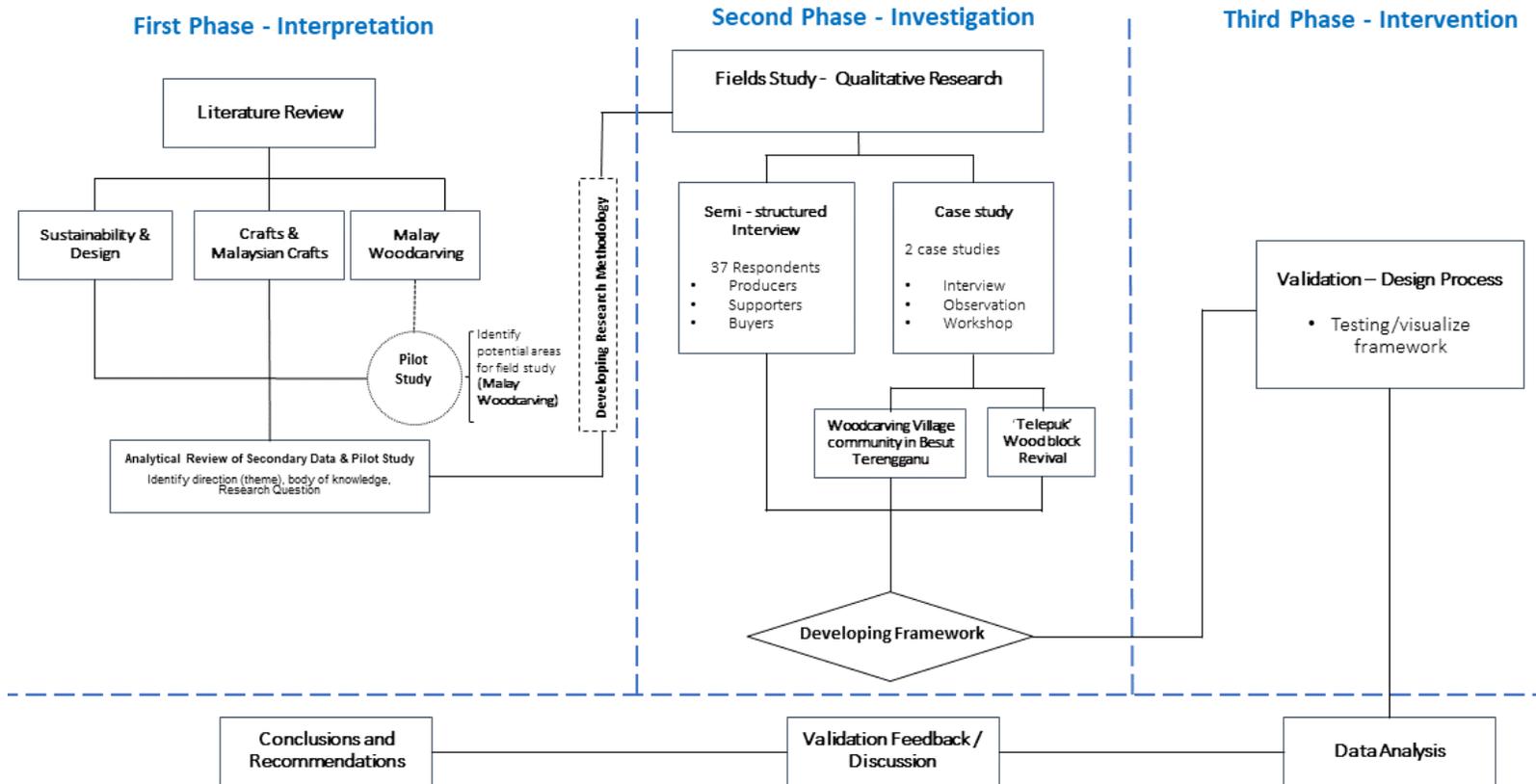
Figure 3.4   Research Framework Flowchart

The research methodology framework is divided into three phases; **Interpretation, Investigation and Intervention**. Each phase is constructed and compartmentalised to cater for specific purposes and understanding. It is also important to assign each research question and research objectives strategically to answer them efficiently. The details of each phase of the process is presented below.

Purpose	Data needed	Research Objective	Method	Expected Outcome	Research Question
Interpretation To gain understanding of relationship between sustainability and crafts	• Related theories of sustainability • Current situation and constrains in traditional craft (literature) • potential area for intervention in Malaysian craft • Identify stakeholders	• OB1 • OB2 • OB3	• Literature review • Pilot study	• Connecting link between sustainability and craft • Define constrains in crafts and direction for investigation • Justify potential area in Malaysian crafts	**RQ 1** **RQ 2**
Investigation To investigate and collect data based on understanding	• In depth study on selected craft area (Malay woodcarving) • Current constrains and strategies in craft revival • Potential area for design intervention	• OB4 • OB5	• Secondary Data • Field study (Semi-Structured Interview & case studies)	• Gathered data from secondary and primary data collection • Built up framework/concept for Malay traditional woodcarving revitalisation	**RQ 2** **RQ 3**
Intervention To explore and visualise the possibility of design intervention through creative design process	• Design framework • Feedback from stakeholders	• OB6	• Design process • Key respondent discussion/ feedback	• Visualisation of design strategy • Validation & feedback report	**RQ 3**

Figure 3.5   Three phases of research methodology framework

3.7 Ethics Approval

Prior to the field research, a proposal for ethical approval was submitted to the Lancaster University Ethics Committee and the researcher was approved to conduct field research in November 2016, which involved human participants in the crafts sector in Malaysia (Reference number FL15043). It is particularly related to the issue of confidentiality of all the respondents involved in this research and data collection process. As soon as the ethics approval was granted, the data collection activities began, starting with the recruitment of the respondents.

Summary of chapter

This chapter has presented the research methodology for this study. This section has explained the research design used for this study followed by the ethics approval. The following section will present the data collection and fields study.

Chapter 4 Data Collection and Analysis

4.1 Introduction

Qualitative methods are mainly employed in flexible strategic research design. The primary data collection method for this study is via semi-structured interviews and two case study. Before considering this approach in detail, this section will consider data collection in a wider context, the differences between primary and secondary data collection, and the role of the literature review within the study.

4.2 Data Collection

Generally, there are two forms of data collection; primary and secondary data (Bryman & Teevan, 2005; Creswell, 2009; Silverman, 2006). Primary data is usually gathered through fieldwork (Payne & Payne, 2004) and currently fieldwork normally refers to the primary data collection stage of a project. According to Kotler (1996), secondary data consists of information that "already exists somewhere, having been collected for another purpose" while primary data consists of "original information for the specific purpose at hand". In a similar tone, Hox & Boeiji (2005, p. 539) distinguished these two as follows, "Secondary data is originally collected for a different purpose and reused for another research question while primary data refers to original data collected for a specific research goal". Within this study, secondary data was collected, reviewed and synthesised via a comprehensive literature review while the primary data was collected via interviews and case study. The following section will now discuss briefly discuss the approach to secondary data collection (provided in Chapter 2). This is followed by a section on the primary data collection method.

4.2.1 Secondary data: Literature review

A literature review "provides synthesis of existing knowledge on a specific question, based upon an assessment of all relevant empirical research that can be found" (Hakim, 2000). It identifies current and emerging issues from work done by earlier research to generate new ideas in a specific field of knowledge, and its emphasis is on the substantive knowledge gained from research to date. A literature review considers secondary rather than primary data sources. The literature provides what Creswell (2009) claims to be "a broad explanation for behaviours and attitudes, that may be complete with variables, constructs, and hypotheses".

Data collection from the literature review was conducted over the course of this research. It covered discussions about sustainability, design and craft from both international and local sources, including conference proceedings, annual reports, books, journal articles, government reports, magazines and Web-based information. Findings from the literature review were written up in two sections in Chapter 2:

- Section A: Sustainability and Design
- Section B: Craft and Malaysian Craft

The analysis presented in the literature review was carried out with respect to: (i) the relationship between sustainability, design and craft; (ii) the identification of gaps in sustainability, design and craft, (iii) potential areas of revitalisation in Malay craft; and (iv) possible directions for design intervention.

The literature review also produced insights to answer RQ1 and RQ2. Key findings were identified in the discussion section of Chapter 2. These findings were then assessed as a whole with respect to the relationships, gaps, and areas for development, resulting in conclusions from the literature review, research objectives and the research questions as guidelines for field research. This section has discussed the literature review as a secondary data collection mechanism. The following section will explore the primary data collection.

4.2.2   Primary data: Fields study

4.2.2.1 Pilot study

As explained in Section 3.5, pilot study was conducted by the researcher in 2016 used to test the instrument for the primary data collection and examine the data gathered from a review of the literature. A pilot study represents the most elaborate and robust form of pre-test (Peterson, 2000). The main objectives of a pilot study are to identify potential issues and solutions. According to Connelly (2008), extant literature suggests that a pilot study sample should be 10% of the sample projected for the larger parent study. However, Hertzog (2008) cautions that this is not a simple or straightforward issue to resolve because these types of studies are influenced by many factors. The appropriate composition of a convenience sample for a pilot study depends on the study. According to Peterson (2000), anyone can be a subject of the trial regardless of whether or not they represent the intended sample. Another suggestion is to select a group consisting of a representative of the expected respondent in a typical study. For the purpose of piloting, it is believed that the recruitment of subjects from a variety of backgrounds is important. However, Peterson (2000) recommends an approach using a convenience sample that includes the targeted sample as well as others who are similar to the targeted sample. This is to ensure that the questions are well understood by respondents from broad range of backgrounds.

For this study, the informal interviews were piloted on a convenience sample of five interviewees. These comprised three artisans (producers), one academician (supporter) and one expert from a craft agency (supporter). Institutionally approved ethics procedures (consent agreement etc. – see Appendix A) for the main study was utilised were utilized in their entirety during the pilot study. The process of data collection followed that which was planned for the main study. The participants were recruited from public data gathered from the government website (e.g.; http://www.kraftangan.gov.my) and social media platform (*Facebook*). They were contacted prior to the meeting to seek their agreement to participate in the study.

At this point, the researcher set the date and location to meet them personally. A participant information sheet and consent form were emailed to each participant prior to the meeting. An explanation was also given regarding the consent form and the study in order to get their permission to record the interviews and use their inputs for the purposes of this study. Once they were perfectly clear about the information given and willing to participate, the researcher started the audio recording for the purpose of later transcribing data.

Result from Pilot study
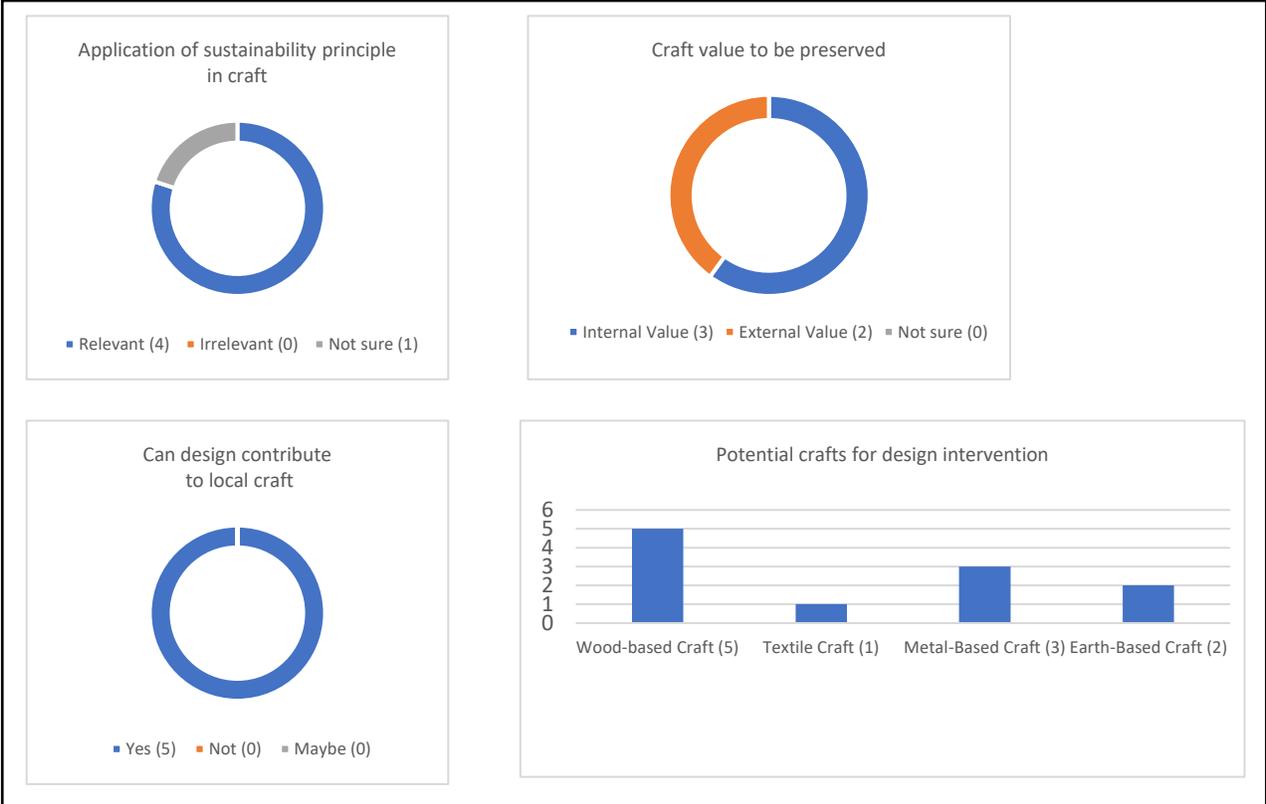
Figure 4.1 Findings from the Pilot Study

Figure 4.1 summarises the key findings from the pilot study. The researcher found that, with one interviewee, who was unsure, most respondents agreed that sustainability principles can be applied within traditional craft. However, most of them admitted a limited understanding of sustainability, which generally related only to the environmental associations. Interestingly, there is divided opinion regarding the important values to be revitalised within craft. The refinement question to examine artisan awareness towards sustainability shall be carried out in full study based on this finding.

Three respondents were in favour of internal values (e.g; philosophy,sense of belonging,responsibility, etc) and the rest chose external values (e.g; raw material, production process, etc) of the traditional craft. The researcher was intrigued by the unanimous response where all agreed that design can contribute to craft revitalisation. The artisans particularly encouraged any form of support to revive traditional crafts that are generally dying.

In order to gain a greater understanding of potential areas for design intervention in Malay craft, each respondent was asked to name two categories. The most frequently selected area which were deemed as 'critical' and 'highly potential' for design intervention was wood-based craft (including woodcarving). Traditional woodcarving was also pointed out by respondents as being a 'highly valuable' Malay heritage but one that is 'threatened'. The categories are based on craft categories established by Malaysian Handicraft Centre (2.11.4). Furthermore, modernisation and a lack of awareness and interest among local people are also among the main concerns, which was often found in the literature reviewed. The result shows potential to focus on woodcarving revival strategy and Malay craft in general.

Summary

The pilot study contributed greatly to this research as it helped guide and refine the detailed methods and questions for the primary data collection and helped to avoid problems and inappropriate questions later on. The pilot study was not only helpful in trying out and testing the research instrument, it was also an important means of assessing and finalising the particular area of Malay craft to be investigated in primary data collection. Thus, the pilot study provided great insight in answering **RQ2** in conjunction with the literature review. The findings from the pilot study will be used to compare and confirm with data gathered from the literature review. This is a large step from the literature review to the real and current scenario of an intended sample in the Malaysian craft industry. In summary, findings from this pilot study helped test and refine and finalise the research methods that were to be used and justify the focus of the study. Further amendments based on the findings were developed regarding the main data collection. This section presented a pilot study that resulted in significant findings, which ultimately became the foundation of this study. The following section will discuss the research approach appropriate to the study.

4.2.2.2 Semi-structured interviews

The semi-structured interview process is conducted where the researcher will ask a series of pre-set questions (Appendix A) and follow these up with additional questions in response to the answers given. It will be held at a mutually agreed location or be conducted via phone/video call or through emails. The interviews will take approximately 45 minutes. Interview discussions are recorded on an audio recorder and simultaneously key messages are jotted down in field notes. Field notes help to keep the interviews on track and ensure that all the research questions are answered. The participant is given information to assure they fully understand their participation is voluntary and their data will be secured. The participant information sheets and consent form will be provided on meeting. **Respondent recruitment** in this study was carried out by email and telephone with enquiries as to their willingness to participate in the research, requests for permission to collect data and arrangements for interviews. During the interviews, some informants advised the researcher of others who might be suitable to participate. Of the groups of producers, supporters and buyers involved in the handicrafts sector, the buyers group was the most difficult to recruit in this research. Generally, because they do not feel obligated to participate in the research and cannot make some time unless compensated. Some were reluctant to share or provide some sensitive data (e.g : profit and pricing) out of concern about information leaking to their competitors. However, the minimum number of informants was reached. **The respondents** were divided into three groups of stakeholders in the craft industry based on their primary roles, expertise and experience. Around thirty informants are considered to be a sufficient number for a sample study, with a minimum of five in each sub-group (Dixon et al., 1987 cited in Hall and Hall, 1996, pp.116-117). The interview consisted of 37 respondents from three groups based on their different roles and clusters in craft industries.

General information about the respondents who participated in this study is shown in Table 4.1. The cluster groups were dentified as Producers, Supporters and Buyers:

a) Producers: artisan/craft producers, designer makers, enterprise managers, SME owners, etc. (15 respondents)

b) Supporters: academics, locals, designers, students, government agents, design managers, gallery curators, NGOs. (16 respondents)

c) Buyers: retailers, traders, users (tourists, collectors). (6 respondents)

The researcher contacted local craftspeople and associated stakeholders, e.g. retailers/suppliers, public sector support officers, regional development officers and academics via email/phone calls and social media (eg; Facebook). A list of potential respondents was gathered from crafts events, art and crafts centres and related websites. The respondents' information gained from company and government websites is freely available to the public. It includes email addresses and telephone numbers of potential respondents. Another method used was via snowball sampling to find suitable respondents. Other sources of information about key informants included: work acquaintances, colleagues and friends, literature (e.g. books, reports, magazines and websites), social media (e.g. Facebook) and the researcher (via the retrieval of information about handicraft producers and supporters known in the past). The invitation was sent via email and their participation was completely voluntary. Before the interview, participant information sheets were emailed to them (if necessary, Malay translated versions were provided).

Group	Role	Code	Organisation	Gender	Age	Experiences
PRODUCER	Artisan & entrepreneur (Woodcarver	P1	Private Company	M	56-60	31- 40 years
	Artisan (Woodcarver)	P2	Private Company	M	56-60	31- 40 years
	Artisan (Woodcarver)	P3	Private Company	M	41-45	21 - 30 years
	Artisan (Woodcarver)	P4	Private Company	M	46-50	21 - 30 years
	Artisan (Craft teacher)	P5	Craft centre	M	31-35	1-10 years
	Craft producer	P6	Private Company	M	46-50	21 - 30 years
	CEO Craft producer	P7	Government linked company	M	46-50	21 - 30 years
	Artisan (Woodcarver)	P8	Private Company	M	46-50	21 - 30 years
	Artisan (Woodcarver)	P9	Private Company	M	51-55	31- 40 years
	Artisan (Craft teacher and demonstrator)	P10	Craft centre	M	31-35	11 - 20 years
	Artisan (Woodcarver)	P11	Private Company	M	41-45	21 - 30 years
	Artisan (Woodcarver)	P12	Private Company	M	31-35	11 - 20 years
	Artisan (Woodcarver)	P13	Private Company	M	31-35	1-10 years
	Artisan (Woodcarver)	P14	Private Company	M	56-60	31- 40 years
	Craft producer	P15	Private Company	M	36-40	1-10 years
SUPPORTER	Academician	S1	Public university	F	56-60	21 - 30 years
	Craft designer	S2	Craft centre	F	31-35	1-10 years
	Craft senior manager	S3	Craft centre	M	36-40	1-10 years
	Academician	S4	Public university	M	46-50	1-10 years
	Craft senior manager	S5	Craft centre	M	31-35	1-10 years
	Managing director	S6	State museum	M	56-60	21 - 30 years
	C.E.O	S7	Malaysia Design Council	M	56-60	21 - 30 years
	Academician	S8	Public university	M	46-50	21 - 30 years
	Researcher	S9	Public university	F	36-40	1-10 years
	Product designer	S10	Private Company	M	31-35	1-10 years
	Senior manager	S11	Government institution	F	56-60	11 - 20 years
	Senior director	S12	Government institution	F	36-40	21 - 30 years
	Deputy director	S13	Government institution	M	46-50	21 - 30 years
	Founder/ Creative consultant	S14	Brand consultant	M	46-50	21 - 30 years
	Craft manager	S15	Craft centre	M	46-50	1-10 years
	Craft manager	S16	Craft centre	M	46-50	1-10 years
BUYER	Designer	B1	Government servant	M	31-35	11 - 20 years
	Collector	B2	Government servant	M	31-35	11 - 20 years
	Collector	B3	Private Company	M	31-35	1-10 years
	Contractor	B4	Private Company	M	36-40	1-10 years
	Designer	B5	Government servant	F	31-35	1-10 years
	Contractor	B6	Private Company	M	36-40	11 - 20 years

Table 4.1 Respondent Information

4.2.2.3 Case studies

Identification of case studies: For this study, two case studies were identified based on the secondary data, pilot study and the potential theme direction previously discussed. The case studies were chosen to investigate the revitalisation potential for woodcarving products through design strategies.

1) A case study in the woodcarving community in Besut woodcarving village in Terengganu, East Coast of Malaysia. Besut is a rural district on the east coast that is promoted by local authorities as the woodcraft district of Malaysia. This is the area where master craftsmen live and practise their craft. It is the largest woodcarving community in Malaysia with hundreds of artisans. There are workshops and classes for budding wood carvers and it is ideal for observation of traditional woodcarving activities. Among the most influential workshops are 'Seni Bakawali' run by Norhaiza Nordin, 'Balai Seni Wan Po' run by Wan Mustafa, and 'Desa Ukiran Besut'. These three were the main target locations for the researcher's site visits; these were completed within a total of seven days.

2) A case study of 'Telepuk' wood stamp revival. Revisiting the case of the lost woodcarving stamping technique for the royal textile, 'Telepuk', which was lost due to the extinction of the wood stamp carvers. This case study will focus on a current revival strategy of the lost craft organised by local authorities with the help of a master woodcarver. A three-day site visit to the National Museum of Selangor was arranged in 2016. The researcher also participated in a seminar on craft revival and a Telepuk woodblock workshop organised by the museum. The seminar was held in 2016 while the two-day workshop was in 2017.

Research techniques included: interviews and discussions via email, telephone and face-to-face meetings; a literature review and Web-based sources (e.g. books, brochures and websites); observation at visited sites; and active participation in a workshop and seminar. Research tools included field notes, conceptual frameworks, a camera and books with photographic information. These helped to capture, review and visualise factual information collected in the field and to stimulate critical thinking and lines of enquiry for deeper investigation.

4.3 Data Analysis and Organisation

Data collected in this study was in the form of verbatim transcriptions of a series of semi-structured interviews and from the case study. A qualitative research approach rapidly generates a large amount of data because of its reliance on textual material (Bryman & Teevan, 2005). The purpose of data analysis is to find meaning in the data that has been collected. Data analysis is undertaken by systematically arranging and presenting this information (Burns, 2000). The raw data does not reveal the findings of your research (Blaxter et al., 2006) until it is transformed into meaningful insights. The researcher needs to undertake some procedures to analyse this data; some frameworks are discussed in previous research for data analysis such as 'Qualitative Data Analytic Hierarchy' (Spencer et al., 2003) 'Outcomes and Processes in Grounded Theory' (Bryman and Teevan, 2005) and many more. Ultimately, general procedures in qualitative data analysis explained by Creswell and Clark (2007) was identified as suitable for the nature of this research. The procedure is presented as follows;

General Procedures in Data Analysis	Qualitative Procedures
Preparing the data for analysis	▪ Organising documents and visualising data ▪ Transcribing text ▪ Preparing the data for analysis
Exploring the data	▪ Reading through the data ▪ Writing memos ▪ Developing qualitative codebook
Analysing the data	▪ Coding the data ▪ Assigning labels to codes ▪ Grouping codes into themes (or categories) ▪ Interrelating themes (or categories) or abstracting to smaller sets of themes
Representing the data analysis	▪ Representing findings in discussion of themes or categories ▪ Presenting visual models, figures, tables
Validating the data	▪ Using researcher, participant, and reviewer standards ▪ Employing validation strategies (e.g. member checking, triangulation, peer review)

Table 4.2 Procedures in Qualitative Data Analysis (adapted from Creswell & Clark, 2007)

The first step in data analysis of the information collected from the semi-structured interviews is transcription into written texts. Rapley (2007) notes that the key to remember is that you base your analysis on the recordings and field notes and not just upon the transcription. Combined with some summary notes or key notes taken from the interviews, these data were sorted out by key themes or conceptual frameworks.

The key themes and conceptual frameworks originated from the research questions and perceived key issues from the literature, as well as the questions asked in the interviews. Simple hand-tools were utilized, including printouts of interview transcripts and summary notes, paper and coloured pens for highlighting key words and descriptions, and Post-it notes for quickly sorting large amounts of data into themes and refining ideas.

Initial research findings emerged as all the bits of data became coherent and clear in relation to the analysis subjects. Similar data analysis was used for the case study. The case study transcripts from interviews and analysis observation were sorted out into themes. Data from case studies were taken in following forms – textual data, photographs or videos, and field notes or additional document.

Figure 4.2 Sample of manual sorting process

The primary data from interviews and the case study were digitalised and analysed using Atlas.ti software and Microsoft Excel. In parallel, the software was employed at times to: (i) record all the pieces of data analysed, including key words and descriptions in the answers, and the (encrypted) identity of the informants; (ii) revise the themes/subthemes and rearrange the data into categories; (iii) perform calculations on the number of informants, the frequency with which subjects were explored, and so on; and (iv) prepare the data for presentation.
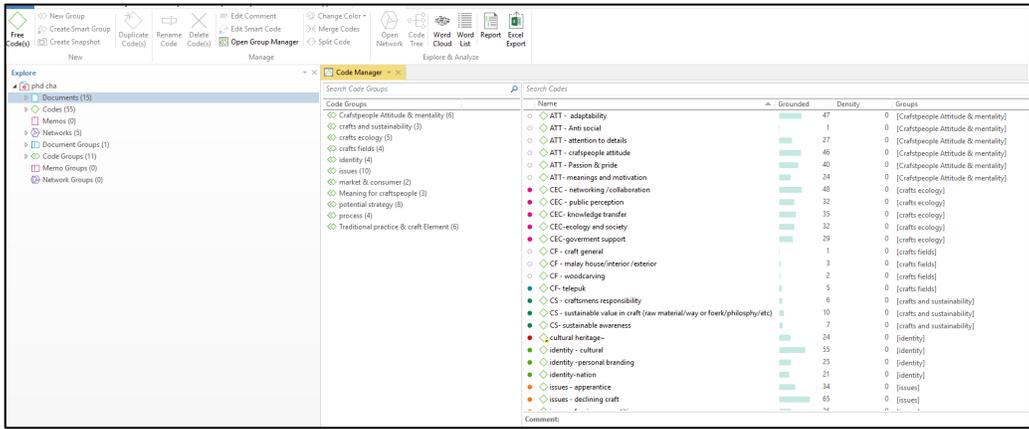
Figure 4.3 screenshot sample of data analysis using A*tlas.ti* software

	Crafstpeople Attitude & mentality	crafts and sustainability	crafts ecology	crafts fields	identity	issues	market & consumer	Meaning for craftspeople	potential strategy	process	Traditional practice & craft Element	Totals
D 1: P2/S2/B2	2	0	13	0	9	22	0	13	21	7	28	115
D 2: P1/S1/B1	3	0	10	0	11	26	16	31	16	5	13	131
D 3: P3	2	0	25	0	10	16	0	27	22	16	16	134
D 4: P4	3	1	10	0	6	23	0	8	12	10	13	86
D 5: P5/S4 /S5	2	2	18	0	7	25	9	11	11	10	6	101
D 6: P6/S6/B3	0	2	7	0	1	13	0	2	13	9	1	48
D 7: P7/S7/B4	4	3	13	0	7	16	4	10	18	13	3	91
D 8: P8 /P9 /S8/B5	0	0	0	0	0	0	0	0	0	0	0	0
D 9: P10/S9/B6 /S10	36	2	12	0	8	28	3	1	10	8	25	133
D 10: S11	13	0	9	3	5	16	0	0	5	0	20	71
D 11: S12	21	0	9	0	1	17	0	0	23	0	0	71
D 13: S 13	16	3	11	0	8	25	0	1	14	3	5	86
D 14: S12	0	0	4	5	11	8	2	5	13	10	15	73
D 15: p11	22	1	6	0	5	15	2	0	9	2	13	75
Totals	124	14	147	8	89	250	36	109	187	93	158	1215

Figure 4.4 Screenshot sample of data analysis using *Microsoft Excel* software

The first stage of data analysis was sorting out interview transcripts, field notes and artefacts according to the different respondent groups. The next stage was analysing the data by reviewing and discovering the relationships between these various themes and sub-themes and reorganising them. The thematic information was initially used for: (i) reviewing the relationship between various themes and their keywords and descriptions; (ii) reorganising themes as a coherent whole and; (iii) mapping out research findings and a framework for writing a chapter.

Next, the researcher mapped out the main research findings and conclusions. The main findings were used to build the theories and framework which were then visualised through the creative process by the researcher. Its aim was to demonstrate examples based on the developed framework. The aims are to produce an experimental design solution as a sample to visualise the framework for validation through review with key experts. The result from the conceptual framework for the revitalisation approach will be validated in the following stages.

4.4 Validation of Findings

Leung (2015), emphasises that; "validity in quality research means 'appropriateness' of the tools, processes and data. Whether the research question is valid for desired outcomes, the choice of methodology is appropriate for answering the research question. The design is valid for the methodology, the sampling and data analysis is appropriate, and finally the results and conclusions are valid for the sample and context" (p. 325). Validation of the data and the research findings with experienced practitioners in the field for their feedback and recommendation can help to increase the accuracy and value of the research findings (Hall and Hall, 1996, p. 43).

These research findings were then revised and validated through:

- **Research paper** with peer reviewers that was presented at an international design conference in Portugal (DESIGNA 2018) and Malaysia (Design Decoded 2019) and published in the conference proceedings (Mohamed Yusof and Walker, 2018, pp. 175–188) ; and (Mohamed Yusof and Walker, 2019)

- **Visualisations and discussion** undertaken with key participants (key experts and practitioners with experience in the fields of craft and design) for feedback and recommendations. In the final stage of this research, a framework design for sustainability was developed from research findings. This framework was presented in the form of visual design works to the experts. Their feedback on this design works based on the framework will be used to validate the research findings.

Summary of Chapter

This chapter has presented, the data analysis and validation of the information collected, and aspects of the research findings. The three main research strategies for data collection included a literature review, semi-structured interviews and case studies. Research findings were formulated separately for each data source: the literature review (Chapter 2), the semi-structured interviews (Chapter 5), and the case studies (chapter 6). Subsequently the key findings from these chapters were taken together for analysis in relation to the three main research questions. This generated the main research findings as discussed in Discussion of Findings (Chapter 7). Validation of aspects of the research findings was conducted through a conference paper presentation and validation of proposed framework (Chapter 8) based on feedback.

The following chapter presents the findings from the field research, including findings from the semi-structured interviews and case studies.

Chapter 5 Findings from semi-structured interview

5.1   Introduction

This chapter discusses the findings from semi-structured interviews carried out to collect primary data for this study. The aim is to gain an understanding of the relationship between craft and sustainability from the Malaysian perspective; the current situation in Malay traditional handicrafts; the identification of one particular category of Malay handicrafts that has potential for a 'design for sustainability' and direction for design strategy. Semi-structured interviews were conducted from 2016 to 2018 with 37 relevant respondents within the handicrafts sector. These respondents have been segmented in three clusters of craft stakeholders which is producers, supporters and buyers.

a) Producers: artisan/craft producers, designer makers, enterprise managers, SME owners, etc. (15 respondents)

b) Supporters: academics, locals, designers, students, government agents, design managers, gallery curators, NGOs. (16 respondents)

c) Buyers: retailers, traders, users (tourists, collectors). (6 respondents)

The research findings from the semi-structure interview are presented in three main sections as follows:

Section A : Crafts and sustainability

Section B : The current situation of the traditional craft in Malaysia

Section C : Potential area and direction for design strategy

5.2   Section A: Crafts and Sustainability

This section presents the research findings relating to the relationship between craft and sustainability in Malaysia. The findings were assessed and compared with the literature review on sustainability to understand this connection. Within this section, assessing the respondents' knowledge and awareness regarding sustainability awareness provides findings to answer the first research question; What is the current level of awareness of sustainability among craftspeople in Malaysia and what is the perceived relationship between sustainability and craft?

Next, the potential implementation area for 'design for sustainability' in Malaysian craft was discussed. In order to determine the understanding of sustainability among people in the Malaysian crafts sector, and the potential for sustainable development, questions 1- 4 were formulated for the interviews:

1. Have you heard of the terms "sustainability", "sustainable development" and "design for sustainability"?

2. What is your general understanding towards of the term "sustainability"?

3. "which area of sustainability (as a concept) related to traditional craft?"

4. Do you think sustainability can be apply to traditional crafts in Malaysia? If yes, how to implement?

This Section A presents four research findings:

- Finding A1: Sustainability awareness among craftspeople in Malaysia

- Finding A2: Typical understanding on sustainability among craft peoples

- Finding A3: The contrast between western and Malaysian interpretation towards sustainability

- Finding A4: Core element to implement sustainability in Malaysian craft sector

5.2.1 Finding A1: Sustainability awareness among craftspeople in Malaysia

Within this particular research context, no previous research has been conducted that explores the meaning and understanding of sustainable development among craftspeople and the relation between traditional heritage and sustainable development in Malaysia. Through the interviews, Question 1 was asked regarding the awareness of sustainability among crafts people in Malaysia.

Awareness	Producers															Supporters																Buyers						Respondent total
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	S13	S14	S15	S16	B1	B2	B3	B4	B5	B6	
Yes	1	1			1	1	1			1		1	1		1	1	1	1			1	1		1	1	1					1	1	1		1		1	22
Maybe			1							1			1						1	1			1					1	1					1		1		10
No			1																																			1
No Comment							1	1																			1	1										4

Figure 5.1 Awareness of terms in sustainability

Question 1 asked; "Have you heard of the terms "sustainability", "sustainable development" and "design for sustainability"? Results, summarised in Figure 5.1 above, show that 22 respondents claimed they were familiar with these terms. Ten stated "Maybe" and one answered "No". Four respondents did not answer this question, indicated as 'no comment'. Further questions were asked to understand the typical view of crafts-peoples' understanding towards the principle of sustainability.

Lack of clarity about the meaning and in-depth understanding of sustainability

In general, people in the Malay craft sector associate the term "sustainability" solely with environmental factors rather than with its broader, more inclusive contemporary usage, which includes social and economic factors as well as environmental considerations. According to the 23 respondents across the three groups, sustainability terms are generally associated with positive environmental awareness.

> *"Kelestarian" is the official malay word associate with sustainability, However, not all people really understand the meaning of "lestari". People familiar with the word of recycle, reuse or reduce which often associate with sustainability by in Malaysia. Sustainable development are mostly discussed under the environmental perspective. "(B1)*

Most of the artisans were uncertain about the relationship between sustainability and crafts according to two respondents (P1, S13). Understandings of sustainable development was found to be quite diverse among craft industry stakeholders' in general in Malaysia and awareness of sustainability among craftspeople in particular was found to be low (P1,S11,S12,S13,B1). As cited by respondent S13,

> *"The sustainable development concept in Malaysia is quite broad. Its actually good public relation terms coin by company but hardly become the key business strategy by any company……in cases of crafts industries, the awareness of sustainability among craftsmen's or craft authority are considered low."*

Six respondents (B2,B4,S1,S2,S9,S10) reported that the meaning of sustainability was "unclear" and "too abstract". Four explained there were "various" "similar" "semantic" interpretations and definitions of "sustainable" and "sustainability" used in multiple contexts. Hence, it causes "confusion", "misconception" and "misunderstandings". Within the traditional craft sector, five artisans said that they had "maybe heard about it" or that they had "heard about it but did not fully understand the meaning", or that they "heard about it but don't see how to relate it to their working culture". Two artisans responded that they were "not bothered" about sustainability and added, "survival and economic viability are more crucial".

5.2.2 Finding A2: Typical understanding on sustainability among craft peoples

To help better determine the understanding of sustainability among crafts people, respondents were *asked* "Which area(s) of sustainability (as a concept) is(are) related to traditional craft?". They could choose their answer objectively according to the three pillars of sustainability (Triple Bottom Line); social, economic and environmental (John Elkington, 1997b). As shown in Figure 5.2, the majority of respondents chose the concept of sustainability as applied to Environmental considerations (n=24), followed by Economic (n=8), Social (n=3) and Not Sure (n=2).

Pillar	Producers															Supporters																Buyers						Respondent total
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	S13	S14	S15	S16	B1	B2	B3	B4	B5	B6	
Environment	1	1			1	1	1			1		1	1		1	1	1	1	1		1	1	1	1	1	1				1	1	1			1		1	24
Economic			1								1			1									1					1	1			1			1			8
Social				1																																		3
No Comment							1	1																														2

Figure 5.2 Respondent view on area of sustainability related to craft

Elaborating more, they often found to be explained sustainability exclusively in terms of environmental factors using words such as "environmental" (n=12), "recycle" (n=7), "reuse" (n=4), and "eco-friendly" (n=9). Subsequently, the contribution of the crafts sector towards sustainability was frequently discussed by these respondents in terms of the practical aspects of craft production such as "production process" (n=22), "raw material" (n=17), "logistic" (n=6), "post-production" (n=13).

Five respondents (S1, B3, S4, S7, S8) gave an interpretation similar to the definition in the Brundtland Report (Brundtland, 1987). In relation to sustainable principles, they generally linked intrinsic values of crafts such as "cultural values" (S1), "local identity" (S1 and S4) and consider crafts as the "balancing force" (S8) in comparison with current mass-manufacture culture. These respondents (S1, S4 and S8) are academics, which may explain their in-depth understanding, due to the fact that this definition is also used broadly by sustainable advocates and researchers in Malaysia. Apart from them, most of the respondents (24) who claimed to be aware of sustainability had narrower interpretations than the broader definition of sustainable development suggested by the Brundtland Report.

Relationship between traditional craft production in Malaysian and sustainability

This relationship between traditional craft production in Malaysian and sustainability was discussed by the respondent within intrinsic and extrinsic values.

With respect to intrinsic values, it was noted by some respondents that:

- The artisan's possessed in-depth personal and spiritual relationship with their crafts nurtured from years of training and understanding P1,P3,P3,P6,S2,S11).

- The sense of belonging to the culture and heritage brings a meaningful feeling towards crafts. Continuing a craft tradition provides a sense of belonging to the culture and the continuation of heritage and tradition, that the interviewees found personally meaningful (P2,S2,S11,S13, S14).

- Its become a responsibility for the craftsmen to ensure the continuity of the crafts as their cultural legacy. (P1,P11,S11,S14).

Subsequently, the extrinsic values connecting craft production to sustainability are : The production process, e,g; raw material (P1,P2), localisation (P3,P4) and material culture (P5,P6).

5.2.3 Finding A3: The contrast between western and Malaysian interpretation towards sustainability

Nine of the respondents (S1, S2,P1,S3,S9,S10,S13, B1, B2) discussed the difference of meaning and interpretation of sustainability in Malaysia compared to western perspectives. One respondent (S8) said that sustainable development has been increasingly interpreted from a strictly western-based value system. However, S8 emphasised that sustainability in the contexts of Western society and of Malaysia and Asia are different in terms of interpretation and appreciation. This may pose a challenge for Malaysian companies as they adopt sustainable practices in their operations. Although it was noted that some of this corporation real intention was to gain marketing benefit through corporate social responsibility (CSR) (S3). Respondent S8 mentioned,

> *"The sustainable development concept in Malaysia is quite broad. It's considered as a good public relation terms coined by the company but hardly becoming as a key business strategy, for crafts industries, the awareness of sustainability among artisans or craft authorities are considered low."*

Respondent (S8) added that Malaysia has a developing economy, a Muslim majority population together with other ethnic communities, and a diverse culture. Thus, a western-centric interpretation to sustainable development might be differ with local values. For example, the interpretation and application of sustainability for Malay Muslim is highly connected to religious value. This is in line with Banerjee (2003, p.144) who highlighted that sustainable development appears to have taken on an increasingly Western-centric interpretation. Hence, the fact that western centric sustainable development interpretation contrasting with local values, need to be considered.

Respondent S1 added that sustainability from the Western perspective may involve sustainable design practices that support environmental care, renewable materials, sustainable management and social development. In fact, some of traditional Malay craft practices generally accord well with this understanding; hence, in these terms it is acceptable in the cultural and spiritual (e.g. religious) context of the Malay people. Respondent S1 claimed that sustainability is;

> *"..an agenda of westerners to correct the damage and destruction of the industrial revolution and mass manufacture all over European countries".*

S1 elaborated, the mass manufacturing culture has led to overconsumption without consideration of environmental impacts from the very beginning of the Industrial Revolution. In further discussion about the sustainability agenda within local craft, four respondents (S8, S9,B1,B4) were unsure of its implementation at the local level. They considered it to be 'difficult'.

Respondent B3 said that sustainability 'in theory was a great concept but, is hard to implement in Malaysia without any enforcement or policy'. Respondent S8 said;

> *"We acknowledge the importance of sustainability as global agenda for a better world and humanity. It's crucial to tackle the environmental issues and meaningless consumption of product that add no value to people. But, there is a challenge to implement the concept at the local level in Malaysia."*

Four respondents (S9,S8,B1,B2) pointed out the need for 'several parties to work together' for this to succeed. It was also stated that the 'different perspectives and priorities' of stakeholders in the craft industries towards sustainable development may create some challenges. Thus, it is crucial to improve the level of awareness of sustainability among craftspeople in Malaysia in line with local values. Among the key values that most often emerged are 'cultural' and 'spiritual' values. However, the fact that the Western-centric interpretation of sustainable development contrasts, and potentially conflicts with, local values must be considered. This personal value elements is compatible with Walker's QBL, which taken into account personal and spiritual meaning for 'design for sustainability'.

5.2.4 Finding A4: Core element to implement sustainability in Malaysian craft sector
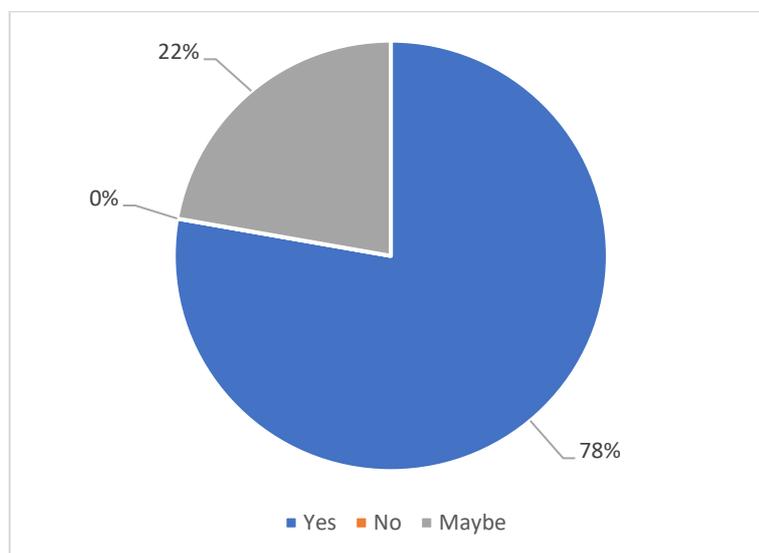
Figure 5.3 Respondent view on application of sustainability principle to craft sector

The next question asked was; *Do you agree that sustainability can be applied to traditional crafts in Malaysia? If yes, how can it be implemented?* This question was asked in order to evaluate the implementation potential of sustainability in the context of craft production. The majority of the respondents (n=28), 78%, said "Yes" and agreed that the sustainable development concept can be applied in the traditional craft sector. The remaining 22 % (n=9) said "Maybe", which indicated they are unsure as to how to apply the concept to traditional craft. "No" was not selected, showing that no respondent opposed the idea of applying sustainability principles within the craft sector. Most of the respondents who said 'Yes' were excited and curious to see how sustainability can extend beyond the context of ecological and environmental management. Further questions were then asked about how to implement these principles, and what to improve in order to find out the core elements necessary for the application of sustainability.

When discussing how and what is needed to implement sustainability in relation to craft products, four key ideas were identified. These are presented below;

1. Improves sustainability awareness among craftspeople

Generally, the level of awareness around sustainability among craftspeople and locals is low (refer finding section A1). Therefore, there is a gap in improving understanding towards broader perspectives of sustainability, especially for craftspeople. The relationship between crafts and sustainability is often ignored by artisans, government and the public (B1,S1,S8,B2,B4). Thus, most of the respondents (24) agreed that there is a need to improve awareness. Only then will the stakeholders in the craft industry understand their role in contributing to sustainable development within the craft sector (S11). People's awareness can be improved by promotion (P1,P2,S8), branding (P1,P2), multidisciplinary collaboration (S3,S11,) government policy (P4,P5) and early education (S1).

2. Adding sustainability principles through design

Regarding the role of design, 31 respondents (92%) agreed that design can contribute to improving local crafts and addressing or implementing sustainable principles. A supporter (S10) said that it will be exciting if we can see sustainable development in traditional industry that 'adds value' to craft products. This value was defined as "comprehensive" effort in craft production to support the economy and wellbeing of the artisans. In contrast, two respondents (B3 and P4) emphasised the potential for increasing commercial value by exploiting the implementation of sustainable development in crafts. They stressed the effort to increase sales to improve the economic viability of the artisans. Respondent S7 said producers can collaborate with designers to add value to woodcraft products through design. The government also encourages designers and producers to utilise local wood as their main material (S7).

3. Prioritise sustainable craft supply chain

The cost of raw materials for woodcraft is expensive and forest reserves that produce raw materials are being depleted (P5, P4, S2, S3). In addition, one of the major environmental issues in the wood industry is illegal logging (S2, P2, P4). Respondent P4 mentioned that the implementation of sustainability in local resources such as raw material management may affect the craft industries positively. For example, sustainability principle implementation may provide a better management in raw material supply chain. In further elaboration, he added that the cost of raw material and difficulty to find a high-quality wood for his craft.

4. Embracing personal value within local heritage

The significance of personal value within traditional craft was mentioned by all the producers. They hoped that more people would appreciate the intrinsic values of craft, such as the identity, tradition, motifs, philosophy etc. Five respondents (P1, P2, S7, S8, S9) urged artisans to put more effort into showing the intrinsic values of their craft, such as their philosophy and identity. Respondent S9 said that embracing intrinsic value such as personal values within a traditional craft will make the craft production process much more meaningful for artisans *and* buyers. Respondent S7 supported the connection between sustainability and local heritage. He mentioned that, having traditional elements, the product will be more unique and valuable. In a similar vein, respondent P1 mentioned the sense of belonging to the cultural value of a craft product is the key to the craft's survival.

5.3 Section B: Overview of the Traditional Craft in Malaysia and Malay Traditional Woodcarving as Selected Focus Area

This section presents the research findings relating to the current situation of the traditional handicrafts sector in Malaysia. This topic is crucial in gaining insight into Malay traditional craft and focusing on woodcarving specifically. This section discusses respondents' perspectives in the craft sector. These are significant findings to answer **RQ2:** *Does traditional Malay woodcarving hold potential for revival and what is the perceived value of preserving it?*

The findings were assessed and compared with the literature review throughout the research to gain a more comprehensive understanding. This section presents the following research findings from the interviews:

- Finding B1: Overview on Malay traditional crafts sector

- Finding B2: Malay traditional woodcarving revival as selected focus area for 'design for sustainability'

- Finding B3: Issues arising in Malay traditional woodcarving crafts and opportunity for change

- Finding B4: The key aspect of Malay woodcarving craft production

- Finding B5: Call for change to ensure the continuance of woodcarving craft production in Malaysia

5.3.1 Finding B1: Overview on Malay traditional crafts sector

The overview analysis of Malay traditional crafts is based on information given by 37 respondents in semi-structured interviews. The producers opinions are based solely on the particular handicrafts in which they are involved, e.g. forest-based products, textile-based products, metal- and mineral-based craft and earthen-based craft as categorised by the Malaysian Handicraft Development Corporation (MHDC, 2016). Producers rely on their specific knowledge rather than considering the sector as a whole. An analysis and explanation of the state of traditional craft production in the region is summarised below.

state	Producers															Supporters																Buyers					
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	S13	S14	S15	S16	B1	B2	B3	B4	B5	B6
Decline	1	1	1			1	1	1	1	1	1				1	1	1	1			1	1	1	1	1	1			1		1	1	1		1	1	1
Stable					1							1							1	1														1			
Expending				1																																	
Developing																											1	1									
No Comment													1	1																1							

Figure 5.4 The current state of Malay traditional crafts

Decline

According to 26 respondents, traditional crafts in Malaysia in general are in decline. This view is based on a reduction in purchasing orders and a decrease in production by most of the producers. Respondents P1, P2, P6, P10 (producers in wood-based craft products) said that the demand for woodcraft products has significantly decreased compared to previous decades. This includes project opportunities for their crafts received from the government and private organisations.

Respondent P1 said:

> *"In the 90's, it was the golden age of traditional crafts especially woodcarving. Malaysia had a stable economy during that period. The artisans gained economic benefit and crafts flourished. I managed to collect a great collection of crafts at that time. However, after 2000, there was a sharp decline in the craft industry and artisans have been neglected."*

According to respondents P1, P2, P7, P10, the largest job opportunities often depended on government contracts for craftwork for government buildings or premises. However, recent trends have shown that the fewest contracts were issued by government and private organisations (P1, P2, P7). This has forced some of the artisans to change profession or to take a part time job to survive. The decline in numbers of full-time artisans is also evidence of the significant decline in the traditional craft market's demand and supply (P1,P2,S1,S3,S9). These respondents also felt that handicraft production was in decline across Malaysia based on their observations, experience and current knowledge of the industry.

Stable

In contrast, stability in some handicrafts was noted by four respondents. Some producers stated that their own enterprises were stable because they were involved in famous traditional weaponry and small fine woodcrafts products, which they said have their own followers and returning customers (P5, P11). Some supporters and buyers (S4, S5, B3) explained that the state of handicraft production was largely determined by the stability of the country's economy.

Expanding

Malay traditional crafts have potential for market expansion, as mentioned by one respondent (P4). Items for home decoration, gifts and functional or fashion accessories for tourist or collectors offer a promising potential. This is based on walk-in customers' demand (P4). Some respondents (B1 and B3) also mentioned that the current lifestyles of the younger generation are closely linked to their electronic devices, and this may create a new market segment and new kinds of small and functional crafts to attract their interest.

Developing

Improvements in traditional crafts is needed in terms of production process, artisan skills and attitude, quality of material and promotion (S12 and S13).

Respondent P12 shared:

> *"why the crafts and arts of Malay woodcarving threaten and forgotten, because the use of crafts and Malay motifs should be evolving and change so it can survive."*

New product development needs to penetrate a new market for traditional crafts – it is development that will ensure economic viability of the artisans (B3).

5.3.2 Finding B2: Malay traditional woodcarving as selected focus area for 'design for sustainability'

Crafts in general are in decline. The evidences have been presented in detail through a literature review (Chapter 2) and interview findings (Section B1). This study examines the potential of 'design for sustainability' to be implemented as craft revitalisation strategy. However, even in Malaysia, there are various of kinds of traditional craft. For this research, narrowing down to one particular area of traditional craft is crucial to ensure the reliability and quality in-depth analysis for this research to be completed in the given time. Initially, this study focuses on traditional craft in Malaysia and then narrows down onto one particular Malay craft. The Malaysian craft sector has been divided into five major categories by the Malaysian Handicraft Development Corporation: namely textile, forestry, earthen, metal-mineral and various crafts (MHDC, 2014). Crafts that fall under the category of forest-based include woodcarving, weaving of fibrous material, rattan and bamboo (MHDC, 2014).

Based on the literature review, it seemed that woodcarving would be an appropriate focus for the following reasons; (i) woodcarving is one of the important ancient Malay traditional crafts and valuable heritage (see 2.13), (ii) known as highly skilled handicraft (see 2.13), (iii) it has high cultural and symbolic meanings for Malay peoples (see 2.16), and (iv) representative of the decline of craft and associated knowledge and skill in Malaysian craft (see 2.12).

The focus on woodcarving was also based on results from the pilot study (Section 4.2.2). Based on the pilot study results, and in line with findings from the literature, woodcarving was selected as the focus area for in-depth examination. In the primary field study, the respondents were asked questions regarding the potential area for a revitalisation strategy in Malay craft. The next interview question asks; *Can woodcarving become a focus area and exemplary case for sustainable craft revival in Malaysia?*

All respondents agreed that a successful woodcarving craft revitalisation strategy can become an example, aspects of which could, potentially, also apply to other Malay traditional crafts. Generally, this indicates all the respondents agreed that woodcarving would be an appropriate a focus area for developing an exemplary revival strategy.

According to respondents S2, S3 and P5, who work with the government craft agency, and based on their experience with artisans, the declining demand in the woodcarving sector is of more concern than in other crafts.

> *P5 explained that "woodcarving is a crucial Malay heritage and a great example of Malay philosophy and way of life documented by previous generations through visualisation by the artisan. It's a responsibility for the artisan to protect the craft and pass on the wisdom. But now they live in challenging times to be doing craft without a stable demand…they need to make a living at the same time. The artisan needs a boost motivation to continue their craft."*

> *"woodcarving in Malaysia is not as popular as textile crafts such as 'Batik' and 'Songket'. These kinds of fashion crafts are well known and have a mass market. Woodcarving, even though they have their own community in Besut and we have our own woodcarving style and identity derived from ancient knowledge and wisdom…people are becoming less interested in associating themselves with woodcarving craft. Especially in this modern world full of interactives gadgets." – (S2)*

> *"Compared to other crafts…woodcarving is often seen as an expensive and unaffordable craft…and definitely not compatible with a younger generation…. making it less popular. People can see themselves buying textile crafts such as Batik or metal crafts like precious jewellery…same goes for the tourist…. but they are not keen to spend money on woodcarving. Unless they are really into woodcraft." – (S3)*

Subsequently, based on the responses, the selection of woodcarving craft as focus area for this study is relevant and representing Malay craft in general. The issues arising in woodcarving craft presents in following section:

5.3.3 Finding B3: Issues arising in Malay traditional woodcarving crafts and opportunity for change

In the complete field study interviews, more respondents were asked about current issues and the significant value of traditional craft, including woodcarving craft in Malaysia. The majority of the respondents reported that woodcarving is among the fastest declining crafts in Malaysia.

> *P1 stated that; "Woodcarving craft is almost extinct…I taken the responsibility to preserve and revive it as woodcarver. If not me, who else?*
>
> *"My biggest fear is…in current pace of declining trend in woodcarving…without any proactive effort....we may lost this craft by the next decade."- (P2)*

The primary research from the interviews reveals several factors that have contributed to the decline of traditional crafts in Malaysia. The respondent feedback regarding the declining factor falls into six main group as follows:

1. Declining sales and lack of markets for crafts

Declining sales and lack of markets for traditional crafts was identified by 24 respondents (65% of total interviewed). Respondents agreed that the lack of market demand is the main factor for the decline in the number of craft artisans in Malaysia. According to respondent S12, the market for traditional crafts in Malaysia is small. The craft industry has to expand the market if craftspeople want to make a living. Some argue that craft products have their own niche market and followers, but there needs to be more promotion and market studies to expand the customer base.

> *"Crafts such as woodcarving have their own followers or enthusiasts. They often come with knowledge and a specific idea of what kind of product they want from the artisan." -(P6)*
>
> *"The market is there…. a unique market with the right promotion it has the potential to become stable. However,…. more customers are needed to sustain the craft market."- (B3)*

The demand for craft products varies during the year, coinciding with different annual ceremonies, religious festivals etc., and fashion trends (P4). Even so, the key sales factor, according to 23 respondents, is the state of the economy and the purchasing power of the customers.

A healthy economy allows potential customers to consider spending their money on crafts such as woodcarving products (P5, P7). Currently, it seems that potential customers prefer to save their money, due to the rapidly increasing cost of living in Malaysia because of some newly applied policies such as a Government Services Tax (GST) on goods (P1, S1). The GST was replaced by the Sales and Services Tax (SST) on 1st September 2018 by the newly elected government, but, there has been no significant decrease in the price of everyday goods reflected in the cost of living (B3).

> *"Everyday goods prices generally increased when GST was introduced…when it was replaced by SST by the newly elected government, there has not much difference in regards of prices…the unstable political environment and turnabout decisions of the new government also contribute to uncertainty in economic stability."- (B3)*

The respondents believed that the customers' perception of craft products was that they are "luxury goods" rather than related to their essential needs (P7). Thus, customers tend to reconsider purchasing craft products when the economy is less buoyant. Respondent P7 suggested that when people think about buying woodcarving products, they consider the following in order of priority; 1. Price, 2. Quality and 3. Design.

When discussing further the declining sales factor in woodcraft products, interviewee response fell into these categories or themes:

i) Price

According to 26 of the 37 respondents (70.2%), price is the main factor considered by the customer when deciding to buy a craft product. Compared to other crafts, Malay woodcarving products are generally considered to be expensive by customers and most of the time they demand a cheaper price without considering the value of handmade traditional crafts (P1,P7,S7S12). The producers claim that the price reflects the meticulous work of the artisan and that the value of traditional craft needs to be acknowledged (P1,P7,S11). However, according to 12 respondents, in the case of woodcarving, the biggest part of the cost comes from the purchase of raw materials, which is much more expensive today than ten years ago. Respondent P2 describes the issue of raw material for woodcraft,

> *"…before this, the raw material which is wood was cheap and the end product was affordable. Currently, the wood is expensive. Good quality wood is also hard to get because it is usually exported." -(P2)*

For easy, fast and maximum profit, high-quality raw material is exported to cater to lucrative foreign markets. Respondents P1, P4 and P5 describe this matter as being of concern and unfair to local artisans who want to make a high-quality product. This issue was also raised by the Malaysian Timber Industry Board (MTIB) in Malaysian Timber Statistics 2009-2011 (2012) (Respondent S12). It was reported that 60% of timber products in Malaysia is primary processed timber (such as plywood and saw timber) mainly for export, only 40% is secondary processed timber product with higher added value (such as furniture and woodcraft products). The government, through MTIB, aims to reverse this trend.

Some respondents from across the group (P1, P5, S12, S2, S3, B4) said that many handicraft producers often ignore or underestimate costs such as skilled labour and raw materials (especially locally sourced natural materials). This lack of understanding and information about the pricing strategy may lead to inconsistency in pricing and market price.

ii) Small market

Respondent S12 also stated the need for producers to be aware of the market demand or to have knowledge of market studies, which are often ignored. Five respondents placed emphasis on market expansion through the internet (P1, P3, P10, P11, S14). Respondent P11 explained there is a different phase of marketing and sales projection before and after the age of the internet. He added that engagement with the internet and the social media marketplace will open up new boundaries and a new demographic of customers.

iii)   Varying quality of crafts

Potential customers or potential retail buyers need to be educated about the different quality of crafts. According to respondent P1, the grading of craft products will be an indicator of quality, origin and value of the craft. He suggested a directory of crafts or artisans, so buyers can choose and value the level of quality according to their budget more easily.

> *"There is an issue of lower quality craft products in the market made by people that do not necessarily practise traditional crafts but exploit the title of artisan. Eventually, people will choose a cheaper product if they can't compare and differentiate the value of the crafts." (P1)*

Respondents P1 and P4 noted the different preferences between overseas and local customers. Local buyers care more about the price while foreign customers are more concerned about the quality of the product.

iv)   Poor packaging or product presentation

Packaging: Most traditional craft product packaging is considered unattractive, poorly designed and looks cheap. Most of the producers are reluctant to spend money on appropriate packaging to promote their product (P5, S2 and S14).

> *"The traditional craft promotion efforts are poor. The packaging rarely looks exclusive." – (S2)*

Product's Story: The intrinsic value of the product, such as the philosophy, identity and the story behind the traditional crafts, is not visible to the customers. Few producers or sellers verbally share the story of the crafts with the buyers. Respondent P4 agreed with the need for storytelling to raise the value of his craft for buyers.

> *"….there is a time I hired people to sell my craft in my exhibition but the sale was not good...Now, when I participating, I will attend and personally promote and sharing my craft story with some demonstration to attract customers. When they (buyers) appreciate the craft, they willing to pay more."- (P4)*

In similar tone, Respondent S14 said the seller selling crafts product without any explanation. The unattractive and uninformative packaging of the crafts itself not helping to attract the buyers.

2. Foreign competition

i) Invasion of mass-produced foreign Crafts

The woodcraft industry in Malaysia has also declined due to the influx of foreign craft products and foreign labour into the market as mentioned by 26 respondents. The crafts from nearby countries, such as Indonesia and Thailand, have flooded the market and are significantly cheaper than local products. The products come in bulk and the labour and the lower production costs make their prices cheaper and the products popular in the local market (P2, P4, S3). Respondents also emphasized that customers cannot differentiate between local and foreign craft products so they are unaware that they are not buying local crafts.

Respondent P4 mentioned:

> *"Sadly, some people choose to buy the woodcarving crafts unaware of the application of Indonesian motifs. The price might be cheaper but there is a difference in the quality and the soul of the crafts…. The buyers who are interested and appreciate local crafts usually understand the price is worth paying."*

ii) Cheap foreign labour

According to respondents P5, S2 & S3, the craft producers tend to use foreign artisans due to the cheap labour cost and faster production time. In woodcarving, foreign workers work faster because they are trained and hired based on their skills and productivity. However, some producers claim there is a significant decrease in the quality of the crafts compared to local artisans who make the same product at a slower pace (P4).

Mass manufacture using machine production of foreign 'craft' products is also flooding the local market. This is described by respondent S12 as the main issue in the decline of local crafts that requires government intervention.

> *"One of the main issues that needs attention from the government is the foreign craft products from Indonesia and other places in the local market." – (S12)*

Four producers (P1, P2, P4, P7) raised their concern about how to compete with foreign crafts. Respondent S12 also argued that even the local government's building projects that involve crafts, even the palaces, use foreign artisans.

> *"Once in a palace renovation project for example, most of the woodcarving was using foreign artisans. The crafts were produced by modern machinery but finished by hand by foreign labour. This kind of situation is disappointing…making local artisans feel underappreciated and harder to make a living…"- (S12)*

Respondent S13 mentioned that some producers use handmade craft as a prototype. They then produce the product in a cheaper country, such as Indonesia and India, using machines or cheaper labour, and copying the prototype designed by local artisans with some slight modification. Usually this is without the consent of the local artisan. As a result, the local market is being flooded with cheaper and low-quality products that are often mistaken by customers as local woodcrafts.

3. Concern for craft apprentice

i) Passionate apprentices

The craft industry is also declining because it is considered unpopular (P1, P6) and is associated with a too conventional lifestyle (P1, S1) by most of the younger generation. The current trend for young people is to be more interested in digital devices and other technology rather than their traditional heritage (S12). The need for skilled and passionate craft apprentices is crucial to ensure the survival of traditional crafts in Malaysia (P1,P2,P6,P7,P10,S9 and S12).

> *"…. if we don't do it, who else? the traditional crafts are dying without apprentices. For example, in the traditional Terengganu wooden boat, most of the master artisans have died. Only a handful of people are left without apprentices. Who will continue the legacy of that traditional heritage? – (P7)*

The continuation of Malaysia's traditional craft legacy, is, quite literally, in the hands of the younger generation. The tacit knowledge of traditional crafts can only be transferred through practice. There is a concern raised by the respondents regarding the decline of numbers of the younger generation taking part in traditional crafts and becoming the next apprentices.

Respondent P6 said: "The issue in woodcarvings is there are no apprentices. They need passion and to be really serious about it. They need to be creative and willing to learn the philosophy of woodcarving such as the motifs and tacit knowledge of the craft."

ii) Unpopular works

According to respondents P7, S7 and B7 realistically in Malaysia, a craft industry such as woodcraft is not a main choice for the younger generation to pursue as career path. According to P2, S2 and S3, the craft industry is not popular in today's society. Thus, the prospect of a career or business future in crafts is not a preferred option even among the artisans' families.

"Artisans should promote and glamorize the traditional craft…...so the younger people will be interested and have an increased awareness. Our heritage is not an obsolete heritage. The value is too precious to be ignored."- (P1)

There are some institutions dedicated to nurturing young apprentices in the craft industries in Malaysia, such as National Crafts Institute, Kraftangan Malaysia, Terengganu Timber Training Centre (TTITC) and Besut Woodcarving Village (P7). These institutions target underachieving students in schools and help them to gain useful craft skills as their potential source of income.

"Our craft institution aims to give a second chance to youngsters to gain skills and excel through the craft industry. They maybe a drop-out in academia but they can gain craft skills to survive in the future. We help them and at the same time ensure the traditional crafts survive."- (P7)

Most of them do not enter the craft industry voluntarily. However, when they study or follow the path of the woodcraft industry, it is important to encourage and push them forward for the sake of the industry. Nevertheless, according to respondents P3, P4 and P1, many of these students are not pursuing the crafts after finishing their studies. They either choose other more lucrative careers or become frustrated with the limited choice of opportunity in the craft industry. P7 as CEO of TTITC explained;

"The skills in local crafts such as woodcraft may give them an opportunity to survive and their involvement is also for the sake of the craft itself. We aim for 70% students in wood craft studies to continue to work in the wood craft industry. But, even if only half of the target is achieved, we consider it successful. We still struggle to ensure them to work as a woodcraft entrepreneur after finishing their craft studies. We have to train them further towards this."- (P7)

Respondent P7 also stated that the skills and technical knowledge that can be learnt by craft apprentices is useful even if the economy is weak.

4. Lack of promotion

The need for effective promotion for traditional craft was mentioned frequently (n=30) from 37 respondent throughout the interviews. Effective promotion and branding for craft is crucial to demonstrate the value and create public awareness. Respondent P1 mentioned without promotion, craft will be alienated from the people. He added that the people need to be educated about the precious value of traditional craft through various platform of promotion to traditional crafts and artisans.

> *"People need to be aware of the high value of traditional craft…..good promotion of crafts and artisans is needed." – (P1)*

i) Tangible exhibition

Promotion through state and federal governments is considered to be infrequent (P5, S2 and S3). Most of the promotion, such as through such as exhibition, is focused on tourism, but traditional crafts usually take a small part of the exhibition. The main craft exhibition in Malaysia is *Hari Kraf Kebangsaan* (National Craft Day) organised annually by *Kraftangan* Malaysia. However, the tangible exhibition of craft products and demonstrations is considered most common promotion participated by artisan (P1,P2, P3,P4 and P11).

ii) Online promotion

Online promotion via website or social media is not fully utilized by artisans. The way to promote craft products is changing. Respondent P11 said: "Nowadays, there are two types of market phase….the market before and after the internet era. Before this, artisans don't need to promote themselves, their finest work will be admired and spread out among collectors and buyers."

Only one (P1) from 12 producers interviewed have their own website to promote their product. Four of them use social media but only two who are really active communicating with customers and operating their business through social media (P3,P11) . From the demographic view, the generation of artisan engaged to the online promotion is mostly the younger generation (P10, S2, S3).

iii) Personal branding

Personal branding initiative rarely practices among artisan even though its considered essential to promote the crafts and artisan (P1, P2, P3, P4, P11, S2, S3 and S14). Some artisans prefer to work alone and not actively participate in sharing their knowledge and skills. Respondent P2 said: "Crafts such as woodcarvings is not appreciate enough by laymen's….artisan doing works alone by himself not sharing his knowledge with others is making its worst. They live in their own worlds without progressing."

Only one producer (P1) had a strong personal branding as a renowned artisan. He has his own website and received several recognitions as a master artisan. He is also actively involved in demonstrating, reviving and sharing his craft locally and internationally. Some producers also made their name through a branding strategy via social media (P10, S2, S3).

5. Needs of policies

The role of government and the need for policies to protect the traditional crafts was voiced by 27 respondents. Respondent P1 suggested the focus of government is on modern technology towards developing the country, and thus, the traditional ways of life have often been neglected. Five of the respondents specifically mentioned the misuse of Malay traditional motifs on commercial buildings, for example at *Paya Bunga Square*, Terengganu (Figure 5.5). This is a good example of how foreign woodcarving motifs and style, claiming to be traditional motifs can mislead the public. It is the evidence of the lack of awareness issues in Malay woodcarving. The fact that it was made from a concrete mold rather than wood is not the problem, but the major issue is that the building was claimed to be decorated with Malay traditional elements to promote local identity, yet foreign motifs style have been used.

> *"It represents the lack of appreciation on traditional motifs and crafts, and lack of awareness "- (P4)*

This case is an example of the need for government efforts to implement policies to helps protect local crafts and increase awareness (P1,P4,S2 and S6). Respondents S11 and S13 stressed that implementation of the policies is also crucial. The state government should take responsibility for implementing the policies and fight for a higher budget to promote the crafts through consistent promotion and campaigns. Respondent S13 stated the government should be advised on the appropriate guidelines or policies towards protecting crafts. This kind of guideline could be worked on by experts in Malay heritage, artisans and designers.

**Figure 5.5 Woodcarving imitation on *Paya Bunga* Square Mall, Kuala Terengganu, Malaysia
(Picture by author, 2017)**

> *"There should be a policy such as in Terengganu which stated that every new building should have craft elements or traditional Malay elements."- (P6)*

> *"Through guideline, government can implement clear strategy to helps crafts industry. The creative industry talks about this matter through the notion of 'Govern by Design' which aims to nurture innovative governance. "- (S13)*

He added that the Malaysian people always look to their leaders and government, and with this implementation, people would follow and become aware of the importance of local heritage.

6. Low public awareness

All the respondents agreed that public awareness of traditional crafts needs to improve. Public perception of traditional heritage is seen as invaluable knowledge. Respondent P1 thought the people should know how to value craft as valuable artworks not as commercial industrial products. People should be aware of the meaning and intrinsic value of the craft that represents their culture.

> *"The issue is that people buy a craft product and compare it to a commercial industrial item. They want the handmade craft items at a mass manufacturing budget. Craft products have their own soul and value…" – (P1)*

The soul and value of a craft product are meaningful to the artisans and to local culture. The traditional philosophy and values that result in the product and part of the product's value. This representation and meaningful value need to be understood by the customers so they can appreciate them (P1, P2, S2 and S14). Malay traditional craft with intricate motifs is complicated, hard to produce and time consuming. Thus, the price is high. However, most people don't understand this and expect it to be cheap (P4). He added that the customers who know the value and have an understanding of the Malay crafts are easier to do business with because they know the appropriate price for the artwork.

According to respondent P4, people used to ask for crafts based on Malay traditional philosophy or motifs, and fully trusted the woodcarvers to create and produce the artworks. The situation is different in today's society.

> *"Nowadays, some customers want the woodcarvers to create the design they found on the internet without any association with Malay philosophy. They do not appreciate the woodcarver's cultural knowledge…. They see the artisans as a tool."- (P4)*

In line with this, Respondent P6 said that the clients' awareness towards traditional crafts is low. People need to be informed and aware of their heritage. If the clients are aware of the value of crafts and know everything that is reflected in the price, they can accept it and are willing to pay more. He added:

> *"…..of all my clients, only about 30% understand and agree with the value of the pricetag I put on traditional craft." – (P6)*

The identity gradually being forgotten

All of the respondents agreed that Malay traditional craft has its own identity. This can be identified through unique motifs, style, application and usage (P1,P2,P3,P4,P11,S2 and S14). However, the identity of Malay crafts is not identified by the people. The knowledge of traditional craft is gradually being lost and fewer people remain who are able to distinguish this identity. This is an expanding void in cultural identity. Respondent S10 emphasised that the government should play a major role in promoting Malay motifs to the public.

> *"some of the buildings used woodcarving panels claimed to represent Malay motifs but used foreign motif templates instead. It's a disgrace and misleads the public who thought it was the traditional local motif design. The developers want to cut costs without consultation with local artisans."- (P4)*

The buyers and the general public can't distinguish between Malay craft and similar foreign crafts. Awareness of the identity of Malay craft needs to be promoted to the public.

5.3.4   Finding B4: The key aspect of Malay woodcarving craft production

In the interviews, respondents discussed the key aspects of traditional craft development. These are the factors influencing the continuity of production and preservation of Malay woodcarving crafts. Keywords with similar meanings were then put together into five themes.

1. Traditional practice and elements

The traditional practice and elements in traditional Malay woodcarvings consist of valuable cultural heritage passed down from generation to generation. It's the essence of traditional practice from previous artisan used in woodcarving craft production. The traditional practice artisan learned from their elders including the way of works, influences, motifs, philosophy, technique and many more.

> *"we are the bearer of Malay traditional practices which have been passed throughout generation. This is the crucial elements need to be preserved. For instances, the woodcarving arrangement, types of motifs, incision or perforation techniques or design and principle are traditional elements representing Malay culture." – (P1)*

Traditional practice and elements are crucial aspects of woodcarving production and become the most frequent theme mentioned by all respondents (n=122). The associated keywords within this theme are philosophy & local wisdom (n=17), religion & beliefs (n=19), tradition (n=27), inspiration (motifs) (n=22), tacit knowledge (n=15) and skills & techniques (n=22).

2. Artisan wellbeing and human capital

The next key aspect in sustaining woodcarving production is the development of artisans' attitude and mindset. This theme highlights the importance of human capital and motivation towards craft production. The artisans' well-being is important in ensuring they continue the production of woodcarving. A supportive and conducive environment is crucial.

Some respondents highlight the importance of the artisans' adaptability, human capital and willingness to learn new skills (P1, P3, P4, S1, S2).

> *"Artisan need to adapt in order to survive. They must not live in their box, doing their craft alone without expanding their other supporting skills. They need to meet people and show their craft as well as learn new knowledge. For me, I consider myself not only as artisan now. I move on. I am also a researcher collaborate with academician. I am also a collector, collecting woodcarving craft and consider myself a businessman. In that way, I can get along with many peoples and getting places." – (P1)*

To sustain craft production, it is not only the artisans' well-being and human capital that need to be taken care of, the next generation of woodcarvers also need to be motivated. Respondent P4 mentioned that the young generation of woodcarvers need to be prepared, both mentally and physically.

> *"The artisan needs to be motivated and passionate to stay in craft sector. So thus, the apprentices. For me, if somebody want to be my apprentices, I make sure they really understand what they asked for. Nowadays, craft is not a popular nor wealthy sector. I don't want them wasting my time or their times if they are not prepared. I don't want to be responsible if they not get what they expected in future." – (P4)*

During the interviews, keywords mentioned were identified from the responses are: well-being (n=18), competitiveness (n=11), social skills (n=8), enhanced skills (n=15), training (n=12), passion & attitude (n=16), adaptability (n=8), motivation (n=6).

3. Crafts community and support

Craft community and support are the tangible and intangible elements and environment that support woodcarving production. They represent the importance of the artisans' support system within the craft community to ensure craft production.

Many respondents (P1, P2, P3, P4, S3, S6, S7, B2, B3) mentioned the importance of craft ecology and support for the artisan community regarding internal and external support. Respondent P4 highlighted the lack of facilities and resources, such as the depletion of high-quality raw material sources. He added that, with a conducive working environment and support from the craft community, artisans can work together and solve many issues.

Networking between artisans and the local community is also important for ensuring craft production. There are some associations for woodcarvers such as *Malaysian Woodcarver Association* and *Malaysian Woodcarving Society (PENGUKIR)*, which often organise exhibitions and promotions for local artisans (P1, P3,P4). This union is also important between artisans and government or community.

> *"The woodcarving association is the places artisan sharing knowledge and creating network with each other. There are some jobs opportunities derived from this society. One of the biggest projects officiated by PENGUKIR is the Jerteh's Ulul Albab Mosque or known as 'Wooden Mosque'. This is millions worth of projects with high quality woodcarving produced by artisan community." – (P4)*

Figure 5.6 Interior of Jerteh's Ulul Albab Mosque or known as 'Wooden Mosque' (picture by author)

However, respondent P3 argues that he prefers working alone without relying on others or being involved in society unless necessary However, he agreed that effective networking within the artisan community is important for the survival of the craft. Keywords identified from interviewee responses under this theme consist of: networking & partnership (n=16); public acknowledgement (n=11); knowledge transfer (n=15); supporting policies (n=7); facilities (n=21); supports & resources (n=14). In total, these keywords were mentioned 85 times during the interviews.

4. Economic viability

The economic viability theme is an important consideration to ensure artisans can make a living. Demand and supply are vital for the survival of anything including craft.

> *"For my woodcarving company, I have people working for me. The woodcarving sales are not only my bread and butter, but also for them. So, I constantly need to find a project or new market for woodcarving. We need to be visible. We need to find constant demand in order to sustain and keep producing our traditional craft." - (P4).*

This theme takes into account the market stability and sales of craft products. This theme needs to be revisited constantly to ensure craft products are relevant to consumers and a stable market (respondent P1). Respondent P1 added, not every artisan is a great businessman; they need support from experts to become successful entrepreneurs.

> *"We make our craft because of our passion. But we have to make a living. Some of us do this full-time like me. Learning to become a better 'craftspreneur' is inevitable for me as a full-time artisan these days. I experienced loss multiple times because of a lack of business experience. At least, it made me better. However, not all artisans want to learn something new and explore the new market. That's why many of them are putting away their chisel, changing their career."- (P1)*

From the interviews, the associated keywords elements within this theme were mentioned 97 times altogether which are market study (n=22), product positioning (n=13) customer awareness (n=20) and promotion (n=42).

5. Identity

According to 37 respondents across the group, woodcarving is associated very closely with the identity of the Malay people. From the interviews, keywords related to this theme were: national identity (n=21); cultural identity (n=55); and personal identity (n=25). Malay woodcarving can be identified with its unique motifs and style and is generally associated with national identity (P1, P4, S3, B3).

These distinctive features are based on knowledge passed down from generation to generation. It very unique because the motifs are based on elements such as local flowers and local culture (P1, P7, S12).

According to S7, "The traditional elements in woodworking craft represent the nation, state and people… the identity of the not only Malay but Malaysian people."

Clearly, cultural identity is an important aspect of woodcarving. Culture has a crucial impact on the crafts made by artisans. According to respondent S3, we can identify the country of origin of a woodcarving product in the same way we identify people through their languages.

> *"Culture have a strong influence on craft and artisans. It's very similar to language that give identity to people, ethnic or nation." - (S3)*

Personal identity is the identity of an artisan that is expressed through their craft. According to P2 and P7, there are currently five systematic and well-known schools of thought teaching Malay woodcarving founded by great master carvers: Wan Muhammad Su (deceased), Latif Long/Ibrahim Long (deceased), Nik Rashiddin (deceased), Tengku Ibrahim (deceased), and Norhaiza Noordin (active). All current woodcarvers will have essentially learned from at least one of these schools of thought. P7 explained, for example, Wan Muhammad Su famously known for the '*Bunga Mas*' motifs stylises from local flowers, Nik Rashiddin was heavily influenced with Pattani style and *Bakawali* flower motif. Their style of carving can be recognised based on their respective schools in terms of motifs used, technique and stylisation. However, eventually, woodcarver can develop their own style or personal identity; and if their work and personal identity can be established by the people, they are considered an expert woodcarver.

Table below summarize the key factor of craft production in themes:

Theme	Theme elements
1) Traditional practice and elements (n=122)	1. philosophy & local wisdom (n=17) 2. religion & beliefs (n=19) 3. tradition (n=27) 4. inspiration (motifs) (n=22) 5. tacit knowledge (n=15) 6. skills & techniques (n=22).
2) Artisan wellbeing and human capital (n=94)	1. well-being (n=18), 2. competitiveness (n=11), 3. social skills (n=8), 4. enhanced skills (n=15), 5. training (n=12), 6. passion & attitude (n=16), 7. adaptability (n=8), 8. motivation (n=6).
3) Crafts community and supports (n=84)	1. networking & partnership (n=16) 2. public acknowledgement (n=11) 3. knowledge transfer (n=15) 4. supporting policies (n=7) 5. facilities (n=21); 6. supports & resources (n=14).
4) Economic viability(n=97)	1. market study (n=22) 2. product positioning (n=13) 3. customer awareness (n=20) 4. promotion (n=42).
5) Identity (n=101)	1. national identity (n=21) 2. cultural identity (n=55) 3. personal identity (n=25)

Table 5.1 summary of key aspects of Malay woodcarving craft production

5.3.5 Finding B5: Call for change to ensure the continuance of woodcarving craft production in Malaysia

21 respondents across all the groups addressed the need for change and development to ensure a long-term viable future for handicraft production such as woodcarving. They were open to any appropriate change to boost the craft production from any parties. However, specifically, they were uncertain as to which are the most effective changes to be made, but a few suggestions have been shared as follows;

- Improving artisans' conditions at the local level (e.g.: production process, facilities, social development, promotion and marketing strategy) (P1,P3,P4,P11,P12,S2,S7,S8,S9,B2,B6).

- Possible change and improvement regarding product design and development to foster market feasibility without neglecting the cultural value of craft (P1,P2,S2,S3,S8,S7,S9,S10,S12,B1,B2,B5) ;

- Changes in attitudes and mentality of artisans, in terms of embracing change, adaptability and development (P1,P2,P10,S9,B6,S10).

Regarding "sustainable development" as a direction for change relevant to craft industry, some respondents gave further suggestions of changes or approaches that would be required :

- Collaboration and knowledge transfer between artisans and various groups of people or stakeholders with appropriate expertise (P1,P2,S2,S9);

- Implementation of support system, especially from the government followed by private sector and stakeholders. Other terms related to "support system" were used, including direction (n=4), approaches (n=4), vision and policy (n=2), environment (n=6), framework (n=3), ecology (n=1), strategy (n=4) and communication (n=2).

5.4 Section C: Potential Area and Direction for Design Strategy

This section explores the potential area and suitable direction in traditional woodcarving where design can help positive contribution. Subsequently, this section presents findings on current market scenario for woodcarving sector, examples of design previous design intervention and direction of approach for design intervention for craft production. These findings provide insight for, **RQ3:** *How can woodcarving, as a culturally significant craft practice, be revitalised in Malaysia through effective design contributions in accordance with sustainable design principles?*

This section presents three research findings:

- Finding C1: Current market, products and customer for woodcarving craft

- Finding C2: Potential woodcarving product for design intervention

- Finding C3: Potential areas for revitalisation strategy in Malay traditional woodcarving craft

- Finding C4: Design roles

- Finding C5: Previous example of design intervention in craft related project

- Finding C6: Approach for design intervention

5.4.1 Finding C1: Current market, products and customer for woodcarving craft
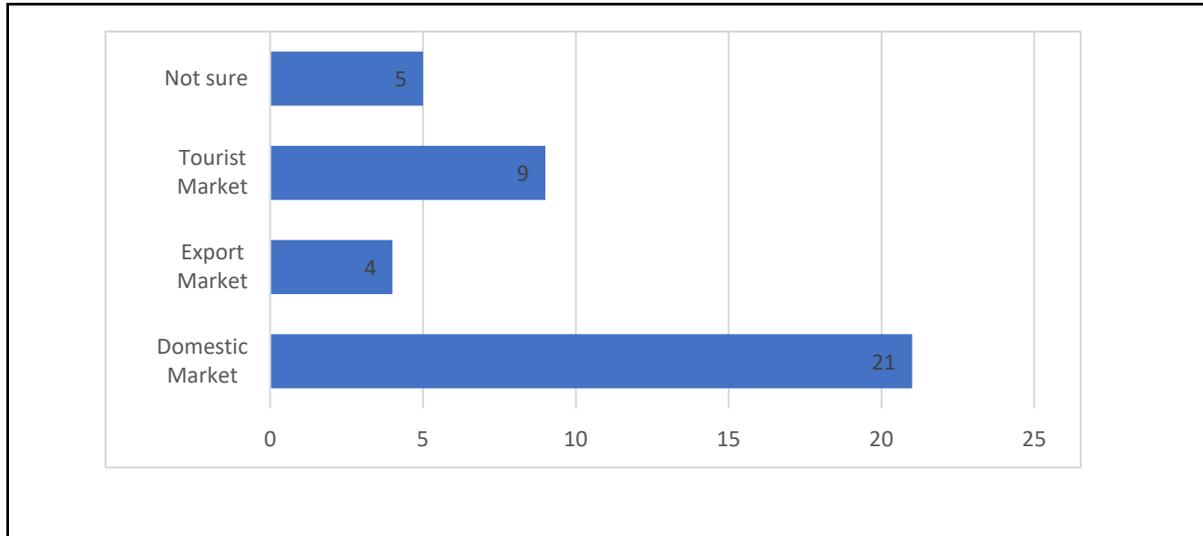
Figure 5.7 Current target market for woodcarving craft products

From the interviews, 26 respondents consisting of 14 producers, 7 supporters and 5 buyers answered the questions and the rest 11 respondent choose not to answer due to lack of knowledge on this matter. They can answer more than one for their preferred target market. According to them, there are three main markets for woodcarving products; domestic market (for local buyers), tourist market (for foreign and local tourists), and export market (for overseas buyers). The domestic market is the biggest market for woodcarving craft, according to 21 respondents. Next is the tourist market (n=9) and then the export market (n=4). Five respondents were unsure.
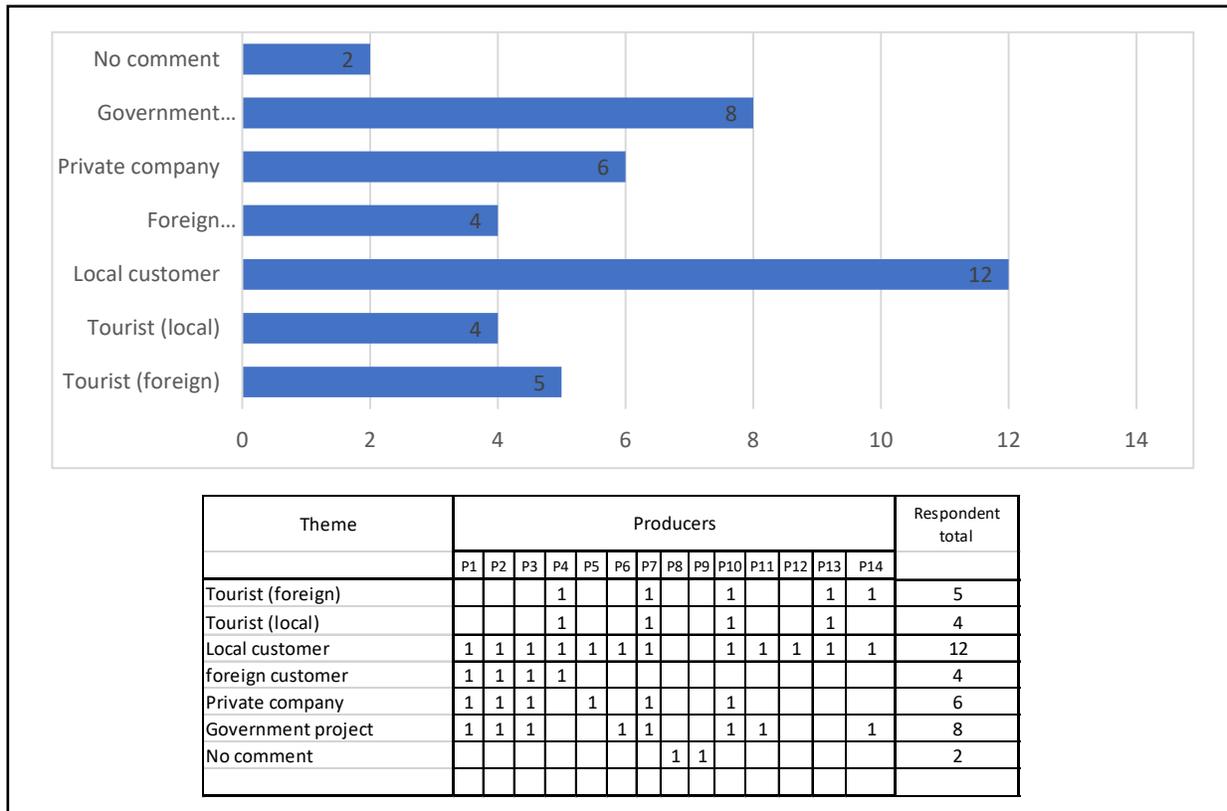
Figure 5.8 Current customer based for woodcarving craft products

Theme	Producers														Respondent total
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	
Tourist (foreign)				1			1			1			1	1	5
Tourist (local)				1			1			1			1		4
Local customer	1	1	1	1	1	1	1			1	1	1	1	1	12
foreign customer	1	1	1	1											4
Private company	1	1	1		1		1			1					6
Government project	1	1	1			1	1			1	1			1	8
No comment								1	1						2

Regarding previous buyers of woodcarving products,14 producers shared information on more than one of their previous buyers. One producer, P15 refused to answer the question due to privacy. The highest number of buyers are local customers mentioned by 12 respondents. Next is government projects (n=8), private companies (n=6), foreign tourists (n=5), local tourists (n=4), foreign customers (n=4) and the remaining two respondents made "no comment". Target buyers are specifically foreign tourists, local tourists, corporations (private and government agency), supporters and collectors.

Most of the craft products are targeted at low-value or medium-value markets, especially for tourists (S2). According to respondent S2, woodcarving craft is generally considered as a high-value craft product. However, respondent P4 argued that the price is high because of the high cost of the raw material, thus not everybody can afford it. Hence the high-quality woodcarving market is small.

Small woodcarving products for tourist are considered as side jobs or for novice woodcarvers (P4). Artisans generally target high-volume projects for woodcarving craft (P1,P4). Artisans focus on interior installation woodcarving products, such as large decorative panels, doors, windows, signboards etc. These are project-based jobs which require a large amount of time to be completed but guarantee a secure income for the artisan for that time (P1,P4). Government projects are preferred because they come with a larger profit margin and secured payment, although they rarely occur nowadays (P1, P3,P4). According to respondents P1,P2,P3,P4,P10, the most popular product segment for woodcarving craft is the interior and exterior installation market for buildings and houses (government and private). Some of the previous biggest projects for woodcarving installation in Malaysia are royal palaces (National Palaces, Terengganu Palaces), and museums (Terengganu Museum, National Museum). There have also been installations in overseas buildings, such as Oxford's Islamic Centre in the United Kingdom (P1). Some artisans also used to be involved in projects ordered from foreign buyers in Thailand, Indonesia, the Middle East and Europe (P4). This kind of international project was mostly received through government agencies aiming to promote local crafts; however, this kind of project rarely happens now (P1,P4).

Respondent P1 states that the early-'90s was the peak of woodcarving activity in the Besut area. Besut known as woodcarving district in Malaysia. Many people became woodcarvers because there were so many projects offered by the government and other agencies. The government at that time supported the local craft scene and there was an effort to apply woodcarving elements to government buildings as part of the local identity. However, after 2000 it seems to have changed and all these efforts and jobs are declining. Naturally, the number of artisans is also in decline and interest in woodcarving is vanishing (P1). Some respondents (P1,P3,P4,S1,S2) argue that the artisans' dependence on government projects is one of the reasons their business model is not sustainable. The tourism industry has huge potential to promote local crafts, but current tourism promotion does not focus on local arts and crafts but is more geared towards landscape and the natural beauty of the country(S2,P5).

5.4.2   Finding C2: Potential woodcarving product for design intervention
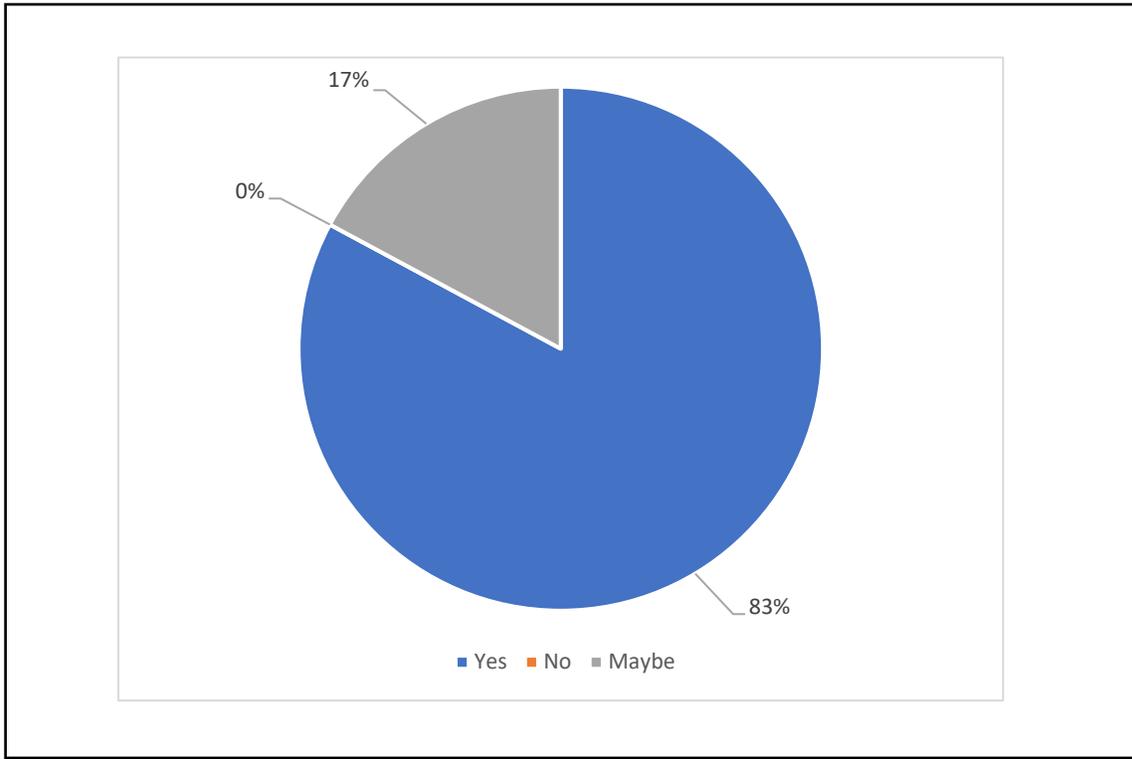
Figure 5.9 The needs of design intervention in woodcarving craft

All respondents were asked whether they agree that the woodcarving craft needs design intervention for its revival. 31 said 'Yes' and the other six were unsure, answering 'Maybe'. However, no respondent answered 'No' to oppose the idea of design as a potential revival strategy. This shows the respondents are open for design to contribute to the revival of the woodcarving craft. According to P1, every effort to revitalise woodcarving craft is welcome, to increase the chance of craft survival and to make people aware of the existence and realise the significance of the woodcarving craft in Malay culture.

Theme	Producers														Supporters															Buyers					
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	S13	S14	S15	B1	B2	B3	B4	B5	B6
Architectural (Interior)	1	1		1	1	1				1	1			1	1				1	1				1	1	1	1		1	1	1		1	1	1
Architectural (Exterior)		1	1				1			1	1	1							1	1															
Historical/cultural items	1		1		1							1			1	1		1							1	1		1	1	1	1	1		1	
Utilitarian items	1			1	1	1			1					1						1	1	1		1			1	1				1	1		1
Furniture						1							1			1					1												1	1	
Transportation (eg; boat)											1					1										1	1	1							
Souveniers		1	1	1										1	1		1	1	1						1	1		1		1		1			
Misscellaneous items						1				1													1												1

Figure 5.10 Potential woodcarving product for design intervention

The question regarding intervention was "*Which woodcarving products are suitable for design intervention?*". 32 respondents responded and with no more than three suggestions of products. Their suggestions were grouped according to type of woodcarving product. As shown in Figure 5.10, the most popular products are the interior architectural products, which means woodcarving products for a building's interior such as decorative woodcarving panels, doors and windows (n=21). Next are historical or cultural items (n=15) together with utilitarian items (n=15), souvenirs (n=13), architectural exteriors (n=8), furniture (n=6), transportation (n=5) and miscellaneous items (n=4).

According to P1, the artisans' biggest market for woodcarving craft is architectural products (interior and exterior) and is substantial. This is probably why architectural products are among the highest number suggested. However, S2 mentioned that depending too much on architectural products may cause artisans to overlook other high-potential markets as well as contemporary high-end utilitarian or tourism markets. Respondent S2 added that products for this market are portable, contemporary, and, therefore, suitable for design intervention and have a high-potential for export markets.

207

5.4.3 Finding C3: Potential areas for revitalisation strategy in Malay traditional woodcarving craft

This section finding out the future direction for design can contribute to Malay traditional woodcarving revival. The respondents were asked to elaborate further on the potential area that can inform revitalisation strategy in Malay woodcarving craft. Their responses categorised into the following themes.

Area	Producers														Supporters															Buyers						Total mentioned
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	S13	S14	S15	B1	B2	B3	B4	B5	B6	
Product development	4	2	1	5	2	3	5	0	0	2	0	1	0	0	2	5	5	0	0	0	10	7	3	1	0	6	4	5	4	2	1	3	1	1	2	87
Value of place	4	6	3	6	2	1	0	0	0	1	3	2	0	1	1	3	2	1	1	5	2	3	4	5	1	0	0	3	0	2	1	3	1	0	2	69
Production process & technology	3	5	2	5	0	3	6	0	0	3	4	1	0	1	2	2	1	0	0	0	4	5	5	0	0	2	1	3	1	1	2	0	0	2	3	67
Human capital and wellbeing	2	7	0	5	4	1	8	0	0	5	1	1	0	0	3	5	4	0	6	5	4	5	2	4	0	0	2	0	0	0	2	3	1	0	3	83
Craft ecology & business networking	1	0	0	1	0	1	2	0	0	2	1		0	1	1	0	1	0	0	1	1	0	0	0	1	1	0	0	0	1	0	1	1	0	0	18
Promotion and marketing	7	6	2	3	4	2	5	1	1	4	5	1	2	1	1	4	1	3	2	1	7	10	5	4	2	5	3	3	4	4	1	3	1	4	3	115
Collaboration & knowledge exchange	4	7	0	3	3	1	5	0	0	1	2	3	0	1	3	6	4	0	1	2	6	5	4	1	1	4	1	3	0	1	2	0	0	0	1	75
Research & education (documentation)	4	2	5	2	0	0	2	0	0	0	1	0	0	0	2	1	1	1	1	5	1	4	0	1	0	0	0	0	0	1	0	1	1	0	0	36
Policy making	2	1	0	2	0	0	4	0	0	0	2	0	0	0	0	0	0	0	0	0	4	2	3	0	0	2	2	0	0	0	0	0	0	2	1	27

Figure 5.11 keywords mentioned in themes

1. Product development

The theme associated keywords mentioned by respondent 87 times altogether in the context of product development. Keyword associated with product development (sustain through design) emerged from the interview as following; new design (n=20), designer (n=9), product growth (n=8), new product (n=5),new market (n=11), innovation (n=6), creativity (n=6), newness (n=7), new application (n=5), modernity (n=4), value added (n=4), reintroduce (n=2). Generally, all respondents agree that woodcarving craft needs to evolve to sustain. There is a need for artisan to explore new market and come out with craft product that relevant to current consumer. This can be done within the product development process through newness and innovation such as in the new design and new application. The new application of woodcarving motif or woodcarving works on other medium can also promote the craft. This can create awareness as well as expands the product possibility.

> *"Artisan can try new media to promote and shows their skills for a new product. Woodcarving skills is a tool that can be used on other medium. However, they need other people such as designer to help them in this matter. "- S10*

Regarding sustain through design, respondent S7 shared some examples of his previous involvement in the cultural reviving initiative. He is addressing the importance of market research to develop new product for the right customer. He added the importance of product quality as well as informative packaging to deliver the meaningful value of craft products. Respondent P1 in a similar tone agreed with the vision for a high-end market for woodcarving product need to expand more.

> *"if we can penetrate a high end with small, portable and well-designed craft product, we gain more customer with better profit margin." P1*

Most of the producers (P1,P2,P4,P5,P6,P7) strongly agree for the designer to contribute in woodcarving craft. For example, designer can help the artisans in developing new product innovation (P2,P4,P7), new application (P1,P7), packaging (P1,P3,P6), technology adaptation (P1,P2,P3,P7).

2. Value of place

The value of place theme-oriented responses mentioned by respondent 69 times altogether. Keyword associated with this theme emerged from the interview as following; value of place (19), natural resources (6), historical value (n=14), local identity (n=9), well-known (n=7), sense of belonging (n=9), localisation (n=5).

The keywords mentioned related to the value of places can be defined into tangible and intangible value. Intangible values are identity, sense of belonging, value of location based on popularity and historical aspects. A tangible value such as natural resources, material and product localisation.

Keyword 'value of place' often mentioned by the respondents within the context of where the craft was made. The craft product originated from local area especially from Besut area is highly valued by the respondents. According to P3,P4,P10,P11 and P13, Besut is the epicentre of Malay woodcarving craft. All of these respondents are producer and at some point came to Besut to train with master woodcarvers. They all are very proud to become part of Besut woodcarving community even though some of them currently working in a different area. P11 said:

> *"For woodcarvers, Besut is the place you need to go and learn. It's a must. So, they will gain true Malay woodcarving knowledge and skill. Almost every Malay traditional woodcarver will visit Besut at least once. For some, if you never come to Besut, you are not truly Malay woodcarver."*

Generally, in Besut for example, the locals are proud of the craft popularity associated with their area.

3. Production Process & technology

The production process theme-oriented responses mentioned by respondent 87 times altogether. Keyword associated with this theme emerged from the interview as following; Technology adaptation (n=17), machine (n=11), new process (n=9), new technology (n=7), new system (n=7), raw material (n=10), increase output (n=6), consistent quality (n=4) viable production (n=4).

Design intervention should consider effective production process and technology to increase the efficiency of woodcarving craft. The importance of technology adaptation in craft production was mentioned regularly by the respondents (n=17). P1 suggested that artisans must adapt to modern technology in order to remain relevant like artisan methods in other countries. "Now, I can say artisan use 70% their job manually. This should be increased to increase production and make living. We cannot compete with the foreign artisan who can work faster. Plus, their labour cost is much cheaper."- P3

Using a machine to speed up the production process can help them save cost. However, some respondents, P1,P3,P4,S1,S2,S5 and SS14 agreed, there should be a limit to what extend the machine can be used for craft product.

> "We do not want to jeopardise the value of handmade craft in the craft product. Machines and technology are important for artisan profit growth. However, the end product must be finished by hand."- P3

All the producer agreed the machine only supporting the production system and manual works need to be done to ensure valuable and refined works. As P1 said, without human touch, the craft is soulless.

4. Human capital and wellbeing

From the interviews, the associated keywords elements within this theme were mentioned 83 times altogether from 27 respondents from across the groups. All this theme keywords are considered as intrinsic value which are wellbeing (n=18), competitiveness (n=11), social skills (n=8), enhanced skills (n=15), passion & attitude (n=16), adaptability (n=8), motivation (n=6) networking & partnership (n=16), public acknowledgement (n=11).

Respondent P1 mentioned it's important to artisan to improve their social skills equally to their technical skills. He said some artisans prefer to work alone.

> *"Some artisans don't want to improve their skills such as social skills and communication skills. They don't want to collaborate with others. They often copy other people works. Even though they are highly skilled in their craft, they will be left out. They prefer shortcuts."- P1*

As a result, many artisans who worked alone can't reach a bigger audience or creating original artwork. Respondent P4 said, they eventually frustrated and shifted to another profession or see this career as a part-time job when they needed extra income. According to P1P3, P4, P10 and P12, the artisan must be committed, passionate about their craft and proactive to be seen by others. He said, government body such as Kraftangan Malaysia aware of this issue has organised some trainings (e.g; soft skill and managerial training). However, the interest from artisan to join is considered low. According to S3, unless they are being paid, usually only the same artisan participated with Kraftangan Malaysia activities.

5. Knowledge transfer

The keywords in this theme consist of apprenticeship (n=9), knowledge transfer(n=17), supporting policies (n=7), training facilities (n=21), supports & resources (n=14). These keywords were mentioned 85 times during the interview from 30 respondents from across the group. All the respondents agreed, the knowledge transfer initiative from experienced artisan to apprentice is very crucial for the survival of traditional craft. According to P1,P3 and P10, apprenticeship is the pragmatic and effective approach or young carver learning from the experienced artisan. A young apprentice will follow the instruction and helping their master every day. P10 said this has been done by artisan in past. Every artisan will follow their master technique and carving style until they developed their style of carving. P10 and S3 added, now, there are formal and informal apprenticeship.

"Only a handful number of graduated artisans from the training centre end up working as a woodcarver. Most of them change to a more lucrative career. As a result, producers like me continue to struggle to find a committed worker. However, we cannot blame them because they are still young and need to make a living. If they cannot turn this as an economically viable business and career, they will leave."- P1

Training at woodcarving training centres such as *Desa Ukiran Kayu (DKU)* and National Craft Institute (IKN) considered formal apprenticeship. According to P10, the selected trainer needs to be a certified experienced artisan. Most of them joined the training because they have nowhere to go due to their poor academic qualification. However, P1 argues, they need to be nurtured with the right and entrepreneurship mindset because graduated apprentice tends to choose a different career path.

6. **Promotion and marketing:**

All respondents agreed that promotion and marketing is a crucial area and need to be revisited consistently. The promotion theme associated keywords mentioned by all 37 respondents at least once. Associated keywords with similar meaning in this theme was frequently mentioned by all respondent across all group with total 115 times. Keyword associated with promotion and marketing through the interview are; promotion (n=35), Marketing (n=28), awareness (n=11),campaign (n=5),encourage (n=7), advertising (n=3), shows (n=6), publicity (n=4), popular (n=6), storytelling (n=4), packaging (n=4), and branding (n=6).

" Craft needs to be visible to the people. We must involve in any opportunity to promote and market our craft. For full-time artisan, if they are not being proactive, they will not be able to sell their product and will be struggling to sustain" – P2

The importance of effective promotion and marketing is crucial for the survival of traditional craft. Respondent P2,P4,P6,and P7 said promotion is the key to increase the awareness and product visibility to the customer. Hence will boost the sales for the producer ensuring the economic stability of the artisan.

Promotion type

Ten respondent (P1,P4,P7,S4,S6,S7,S8,B1,B2,and B3) outlined two types of promotion strategy have been identified used by the artisans; tangible and intangible promotion. Tangible promotion including exhibition (museum, public area, universities), gallery, art and craft show, workshop, craft demonstration at an international or local venue. Intangible promotion including promotion through the internet (such as website and social media) and mainstream media.

Tangible Promotion is a conventional promotion that is still highly used by craft producers. Every producer stated they involved at least once a year in promoting and showcasing their craft physically (e.g; sale exhibition, expo, art exhibition, showcase and others). These events organised by government or privates' organizers. Among the top exhibition is National Craft Day or *Hari Kraf Kebangsaan* (HKK) which held annually for three months at *Kraftangan Malaysia*, Conlay Road (Respondent S5). This is the biggest craft events sponsored by the Ministry of Tourism, Malaysia. Respondent P4 said, most of the time, artisans are more likely to participate in a tangible promotion if there is some sponsor from the government to cover some or all the participation fee. However, beside of the fee, other cost needs to be considered such as logistic cost. Respondent P4 said, he will be there to promote his craft to ensure targeted sales acquired.

> *"I hired people at my booth for National Craft Day before which ended with disaster, low sales and lost money. When a salesperson doesn't have knowledge and passion about craft, it will affect the buyers. We need to engage with the customer and tell them the story behind the craft. Customer who understands the meaningful values of craft will eventually be willing to pay."- P4*

Intangible promotion agreed as a highly potential medium for promotion yet often neglected by the producers. Only one producer (P1) has his own website and personal branding for his artworks. Respondent P1 also a well-known woodcarver with an extensive portfolio. He involved with many people such as academician, authors, government agency and curators to promotes woodcarving craft as his strategy to create his branding, so people have somebody in craft industries to look up for.

Regarding social media platform, some producers claiming using social media platform such as Facebook and Instagram to promote and market their works. However, only three producers (P3 and P11,P14) considered social media as their main business platform. These producers are the younger artisan generation (below 45) and avid social media users. Older artisan claimed they are not preferred to update their social media constantly and consider this is the trend for younger peoples and not suitable with their age group.

However, these three producers who actively using social media claimed most of their business comes from social media and they are gaining popularity through social media. P3 said that social media is the main source of his order at the moment. He is fully working as woodcarvers from his garage but his works capturing attention globally.

"I'm connected to the world with internet. My friends shared my works in their social media and sometimes published in foreign articles. I have some order from Europe and Middle east. However, I have no experiences regarding the shipping process and had to reject it. I am proud to promote and share…and feel like an ambassador to Malay craft."- P3

P3 visibility on social media made him popular among youngster and become a source of reference by many academician and teacher who teach woodcarving at school. He added, as a result, he regularly invited to demonstrate woodcarving in school and university. At the moment, there is no official and outstanding online marketplace specifically for crafts product. Some respondent (S1,S7,S9,S11,S13) argues that a proper and effective marketplace with the great promotion will bring huge potential for craft revival. Respondent S13 argues that we are now in industrial revolution 4.0 and the revolution in online marketing is the key to a successful product. Now, people don't have easy access to the pool of craft product, a one-stop marketplace for high quality and modern craft product is needed. There is some successful marketplaces for everyday items in Malaysia such as Lazada.com, shopee.com and Mudah.com. But there is no online marketplace specifically for art and craft items until 2020.

7. Collaboration & knowledge exchange

The theme associated keywords mentioned by respondent 75 times altogether in the context of collaboration and knowledge exchanged. Keyword associated with this theme emerged from the interview as following; collaboration (n=28), partnership (n=8), networking (n=8), knowledge exchange (n=7), upgrade skills (n=12),

Respondent P1,S1,S3,B3 mentioned the artisan need to collaborate with others to promote their works. S3 said, "*For craft to revive, collaboration is needed between various parties. Craftspeople need to exchange knowledge and skills with other peoples. Only then, we can see the result.*" – S3

P1, P14,S1,S2,S7, S8,S13 and S14 mentioned the importance of artisan collaboration in order to broaden their networking outside of the craft community. Respondent S7, added, his agency involved with a local artisan in the past. However, there are some challenges when collaborating with the artisan.

> "As a design agency, we want to help the artisan. However, not every artisan open to change. We had an experience when working with artisan. We found out, only a few ready to commit and eager to exchange knowledge with others.*"- S7*

8. Government support

Government support theme-oriented responses mentioned by respondent 27 times altogether. Keyword associated with this theme emerged from the interview as following; policy-making (n=13), government enforcement (n=8), political support (n=5).

Eight producers (P1,P3,P4,P6,P10,P11,P12 and P14) believe the most effective way to revive traditional craft is through policymaking. P1 mentioned the politician has the power to revitalise craft with policymaking. He pointed out during the early '90s, the Minister of Culture and Arts at that time was very keen to promote traditional craft and succeeded. An academician, S8 agreed policy-making can revitalise craft. He added policy-making might be the fastest route for any change in craft revival. However, the most important thing is the implementation of the policy after endorsement.

> *"Change can be done faster from top to bottom in Malaysia. Policy from the government will be followed by the people. However, it only can be done with proper implementation by the government. Policy without real implementation will only be forgotten." – S8*

9. Research & Documentation

The research and education theme-oriented responses mentioned by respondent 36 times altogether. Keyword associated with this theme emerged from the interview as following; documentation (n=18), research (n=7), records (n=4), archives (n=3) academic study (n=4).

All respondent agreed proper documentation of traditional craft is very crucial. According to S1, although there is some initiative from academician, museum, artisan, NGO's and many stakeholders, there are plenty of areas need to be covered. She mentioned the research on heritage is not as popular as research in science and technology. Thus, the interest and funds are lacking compared to other popular research areas. P1 said, he is among the few artisans actively involved in academic research and documentation. He produced some books on his craft and becoming a reference to others. He collaborated with academician and many others. However, only a handful of artisans capable to do it.

5.4.4 Finding C4: The role of design

Some mentioned the need for proper promotional strategy advice from experts such as designers (P2,P4, S2,S3,S7,S8). Designers can add value in some areas which are identified as lacking: such as storytelling (n=4), packaging (n=4), branding (n=6), and advertising (n=3). Respondent S10 reported that the magnificent values of woodcarving, such as historical, philosophical, local wisdom and many more, are not well presented to potential customers. Respondents P5 and S2 said, artisans are rarely able to share or tell the story behind their craft because they're not usually at the end of the sales chain to promote their craft to the customers. Hence, the designer can add weight to the 'missing link' between artisan and the customer.

> *"There is a missing link between artisans and their buyers…the story and the vision behind artisans' works are usually unable to be shared with their customers. If people know the story behind the craft, they will appreciate this meaningful value and often be willing to pay more."- S2*

Respondent P1 added that most of the time, the buyers who know Malay woodcarving are fully aware of the value of the craft. They are willing to pay more because they understand the cultural value of the products. However, some respondents have seen that awareness among new buyers regarding the value of cultural significance product is decreasing (P1,P4,P10,P11,P12).

> *"Currently, we often found people said traditional woodcarving is expensive. They may think it's not worth its value. They don't understand it's not only about a piece of carved wood. It's about our legacy and our culture. It's like a time tablet. Full of ancient wisdom passed from generation to generation. We desperately need to teach people about this because it's part of their culture as Malay people." – P1*

There is an opportunity to improve the way meaningful values are presented to customers through design. Respondents P7 and P8 described the importance of design strategy to make the craft product more visible to the customer.

"Design can play a role to convey a better story to the customer and spread awareness. For example, through graphic and packaging design. usability of the product or a new application that can be explored by the industrial designer. This can greatly add value to the craft product." – P8

Respondent P7 added that design can promote craft products efficiently. Good design can steer craft products into new markets and expand the craft market. Designers can help to tune craft products according to current trends. He suggests that the designer can play a role to effectively position craft products towards a better market segment. Additionally, S2 said that craft product is rich with valuable elements that can be explored by the designer, such as historical value, local skills, local materials, sustainable materials and cultural identity.

S7 mentioned possible platforms to promote and recognise craft products that are not fully utilised by the artisans.

"The government design agency has a design recognition platform known as 'Good Design Mark'. Generally, we evaluate and recognise mass-manufactured products for the contemporary market. However, recently, we have launched categories for craft products. Sadly, participation from craft product is very low. Naturally, the accepted product for craft categories is even lower. For 2017, only one craft product has been awarded this mark."- S7

S7 coined the term 'design for craft' to explain the role of design to elevate the traditional handicraft product. It means adding values to handicraft product using design. Local designers from MIMOS (an innovation company) under the program organised by Malaysian Design Council (MRM) led by S7 are helping to promote Malay traditional craft elements by designing exclusive and modern design for stationery items using traditional craft motif (see Figure 5.13).

5.4.5 Finding C5: Previous example of design intervention in craft related project

Some of the respondents (n=9) shared examples of previous design projects and creative promotions by companies involving handicraft products:

1. Kraftangan Malaysia

Respondents P5,S2 and S3 shared the Kraftangan Malaysia project which aimed to innovate local weaving craft. The weaving craft process used fibrous material to produce products such as mattresses and souvenirs. According to respondent S2, this project involved in-house designers of Kraftangan Malaysia with artisans to produce contemporary and high-value fashion products using the same weaving technique and mixed materials. They developed clutch bags and accessories for women.

Figure 5.12 Contemporary weaving product from Kraftangan Malaysia (Picture by Author,2017)

2. Mimos Design

This is a collaboration project between Malaysian and Korean designers, organised by Mimos Design. According to respondent S7, this project aims to apply decorative Islamic craft patterns to modern products. They used wood and pewter with modern technology for prototyping processes such as CNC milling, 3D printing and CAD modelling. They developed exclusive and modern designs for stationery items decorated with craft patterns.

Figure 5.13 Stationery items inspired by craft motif designed by Mimos Malaysia (Picture by Author, 2017)

3. Tanggam Design Centre

Respondent S7,S12 and S13 mentioned about the design initiative of Tanggam Design Centre. Tanggam Design Centre aims to nurture young designers and focusing on local wood and local material. Most of design produced are furniture and home living products. According to respondent S12, some of the designer use local craft elements and working with artisan to produce contemporary furniture design. Handcrafted parts made by artisan such as wicker furniture and weaving elements.

Figure 5.15 Aur Chair designed by Shahril Faisal from Tanggam Design (Picture by Tanggam Studio)

Figure 5.14 Anya chair designed by Bo Qiang from Tanggam Design (Picture by Tanggam Studio)

4. Starbucks Malaysia

Respondent S8 and S14 mentioned about the project initiated by Starbucks Malaysia collaborated with local artisan. The village of Felda Chini Timur has a workshop that specialises in the crafting of *Mengkuang* (also called pandanus weaving), based weaving products. They produced a line of products that includes hot cup sleeves, coasters and bags, made from delicately weaved processed Mengkuang leaves. The initiative was a part of the Starbucks Connecting Communities in Malaysia campaign and was launched in 2015 to celebrate Starbucks' 15th anniversary in Malaysia.

Figure 5.16 Example of product from collaboration project between Starbucks Malaysia and local artisan (Picture by Author)

5.4.6 Finding C6: Approach for design intervention

Nine respondents (P1, P4, S2, S7, S8,S9,S10,S12,S14) shared the view that the most suitable approach for design intervention for a Malaysian craft revival especially in product design and development, is to connect handicrafts from local communities with potential customers. They talked about development directions for the handicrafts sector and the potential areas in which design could make a positive contribution. Their views were grouped into four themes of design approaches for Malay traditional craft revival:

Recreate

Recreate or duplicate the lost craft as accurately as possible. This approach ensures the end result can be appreciated and revived as per original. The result however may be tangible or intangible.

P1 explained that artisans can recreate the lost craft with the same process, and produce it as accurately as he can according to his skills and knowledge. The aim is to revive the lost craft that is no longer being produced, such as the 'Telepuk' wood stamp. 'Telepuk' is an intricate textile craft with golden motifs, made using a carved woodblock to transfer the design pattern. P1 described his efforts to collaborate with Selangor Museum to recreate a 'Telepuk wood stamp' based on the museum's craft collection and photographs. Some masterpieces, however, might be impossible to recreate without losing their historical value and could be very costly (S2 and S9). For example, the exceptional woodcarving of Tengku Long Palace is full of historical value and was made by a royal artisan. The condition of the palace is deteriorating (S9). Another way to ensure the preservation of this kind of craft is to document it and recreate the craft virtually. According to S7 and S8, designers can contribute their knowledge by helping to recreate the lost craft accurately with the application of new technology such as 3D scanning, 3D modelling, virtual reality and others. The result can be seen and documented virtually for future reference.

Upgrade

Upgrade means upgrading the production process of traditional production to increase the production and profit margin for current craft products. According to respondent P1, application of technology in craft should be at least 70% by machine and 30% by hand to ensure economic viability for the artisans. Furthermore, upgrading artisan skills is also crucial to ensure they can compete with current technology. Respondent P4 claimed that the supply of machinery without proper training results in the artisan abandoning the machinery. Design can contribute to facilitating suitable production processes through the recommendation of appropriate machinery, technology and design. Respondents S8 and S9 suggested that designers can help artisans to produce craft products that fully utilise the artisans' skills and the machinery.

Integrate

Integrate means integration between craft (or craft elements) and other crafts or products. This approach is based on traditional production, but with changes in some features for other purposes. This approach calls for the craft to expand their products to other crafts or new product lines for consumer visibility. The elements of craft (such as motif, technique, colour, material etc.) can be integrated between traditional craft categories to promote and revive one another (P1,S8,S12,S14). For example, the Batik craft (textile craft) can use the traditional woodcarving motif for its design or the woodcarving craft can be integrated into the design of furniture production (S12).

Innovate

Innovate was mentioned in terms of development of traditional craft beyond the traditional production process or original appearance of craft products (S7,S8,S9,S10,S12). This approach encourages the possibilities for artisans to collaborate and engage in fresh exploration of traditional crafts. Similarly, existing traditions, including traditional skills and traditional appearance, can inspire development and innovation. The end product does not necessarily need an artisan's manual input. However, innovation can elevate the craft product in terms of promotion and creating awareness could lead to expansion of a new market, new products, new technology and process, and new applications. The application of traditional crafts can inspire modern products, for example, the woodcarving motif can be applied to a mobile gadget's accessories to promote the craft and embedding local identity

5.5 Summary of Chapter

This chapter has presented the research findings from semi-structured interviews as part of the primary data collection. There are 14 findings in total, grouped into three sections namely: Section A; Crafts and sustainability (four findings); Section B: Overview of traditional crafts in Malaysia and Malay traditional woodcarving as the selected area of focus area (five findings); and Section C: Potential areas and directions for design strategy (six findings).

In summary, there is potential for a sustainable development strategy to be created and implemented in Malay craft as discussed in Section A. Respondents are curious and interested as to how to connect sustainability with traditional craft. Most of them support any effort in sustainable development, such as via an efficient design strategy in Finding A1 (5.2.1). However, the awareness of sustainable development among craftspeople is generally low or limited to the environmental perspectives, instead of in the broader context as defined by the Brundtland Report found in Finding A2 (5.2.2). Hence, some respondents failed to see the relationship between sustainability and traditional craft further than as tangible approaches (e.g., recycle, reuse, reduce) (see Finding A1). Nevertheless, some argue the need to acknowledge the difference between local and Western values of sustainability especially in terms of internal values in Finding A3 (5.2.3). Malaysians, especially Malay Muslims, are highly attached to personal values, such as spiritual and cultural values, in their way of life. The Western-centric sustainable development interpretation, although it contrasts with local values, needs to be considered for sustainable strategy.

This led to the identification of core elements for the implementation of a sustainability strategy in Malaysian craft in Finding A4 (5.2.4).

From the overview of Malaysian craft (Section B), crafts in general are in decline, which is consistent with findings from the literature review (Finding B1:5.3.1). Hence, there is a call for craft revival in each craft sector. All respondents support the effort towards craft revival. Focusing on one particular craft in this present study is appropriate to ensure the efficiency and depth of the proposed approach.

Based on the pilot study results, in line with findings from the literature, woodcarving craft is regarded as a highly valuable Malay craft and is among the most rapidly declining crafts. Thus, it has been selected as the focus area for this study (Finding B2:5.3.2). The respondents agreed that an appropriate revitalisation approach for the woodcarving craft could become an exemplary case for traditional crafts in general. From the semi-structured interviews, the issues within woodcarving craft in Malaysia were identified (see Finding B3). Next, the key aspects of woodcarving craft that need to be considered to sustain its production were highlighted (Finding B4: 5.3.4). These led to the identification of the call for change to ensure woodcarving craft production in Malaysia discussed by respondents (Finding B5 : 5.3.5).

Section C discussed the potential area for design strategies. This section explores the current market situation for woodcarving craft and potential product segments for a design strategy (Finding C1:5.4.1 and C2:5.4.2). The potential area for revitalisation strategy in Malay woodcarving craft (Finding C3:5.4.3) is the important key factors that will be discussed further in the discussion of main findings. The roles of design were discussed, and examples of previous design- and craft-related projects described by some respondents (Findings C4:5.4.4 and C5:5.4.5).

From the examples and respondent experiences, some respondents suggested four approaches for design intervention in terms of craft production which are; Recreate, Upgrade, Integrate and Innovate (Finding C6:5.4.6). These approaches can become directions for design strategy in the Malay traditional craft sector.

Subsequently the key findings from these chapters were taken together for analysis in relation to the three main research questions. This generated the discussion of the main research findings and conclusions (Chapter 7). Validation of aspects of the research findings was conducted through a conference paper presentation and discussions based on feedback received. The following chapter presents the findings from the case studies.

Chapter 6 Findings from the Case Studies

6.1 Introduction

This chapter presents findings from the two case studies of woodcraft community and strategies for craft revival:

- **Case Study 1 (CS1):** Woodcarving community in Besut, Terengganu (East Coast of Malaysia)

- **Case Study 2 (CS2):** Telepuk woodblock stamp revival strategy by master woodcarver

6.2 Case Study 1: Woodcarving Community in Besut, Terengganu (East Coast of Malaysia)

A case study of the woodcarving community of Besut District was conducted in Kampung Raja village (Kg. Raja). The study's main research site was in two prominent woodcarving centres run by master woodcarvers; specifically: *Tunjang Bakawali* run by Norhaiza Nordin and *Balai Seni Lukis Wanpo* run by Wan Mustafa Wan Su. There were also secondary sites at two independent woodcarving workshops and a state government sponsored woodcarving centre, *Desa Ukiran Kayu* (DKU). This case study involved 15 respondents, including 9 artisans/producers, 3 buyers/collectors, and 4 supporters (2 government officers and 2 academics) residing in Besut. The same set of questions are used in the case studies with the ones in semi-structured interviews as a guideline.

Analysis of the information collected for this case study is presented as five main findings:

- Finding 1: Values associated with traditional woodcarving for Besut community
- Finding 2: Besut woodcarving production, demand and issues
- Finding 3: Challenges for woodcarving industry in Besut
- Finding 4: Initiative in revitalising woodcarving craft
- Finding 5: The main area for future development of woodcarving craft community at Besut

6.2.1 Background of woodcarving craft community at Besut

6.2.1.1 Brief history of woodcarving craft community at Besut

The history of the woodcarving community in Besut was strongly influenced by kings who ruled Besut in its early days. Besut became a district instead of an independent state after the end of the royal era, but the royal artists and artisans remained. Tengku Long was regarded as the last King of Besut, and Tengku Long palace, which incorporates many examples of intricate traditional Malay woodcarving, is very well preserved. It is now in the State Museum of Terengganu in Kuala Terengganu after being transported from Besut. The royally appointed artisan families passed their skills and traditional knowledge on to their children. Almost every modern master woodcarver is related to an artisan family that once served the kings. For example, the late Che Long Yusof, a master carver for the king, passed on his skills and knowledge to his sons, Che Latif, Abd Rahman and Abdullah, who later became Malaysia's master woodcarvers or the 'Adiguru' craft. Other master woodcarvers based in Besut, later honoured with National Artisan of the Year awards, are Haji Wan Su, Wan Mustafa, Usman and Norhaiza Nordin. These people are the embodiment of Malay heritage and the pride of the Besut community.

6.2.1.2 Golden era of woodcarving in Besut

The 1990s was a golden era of traditional art and craft, particularly for the Besut woodcarving community, due in large part to the government policy of supporting local art and craft at that time. For example, a policy required all government buildings to use local and traditional products, and government offices were required to install elements of local identity on their facilities. At this time, Malaysia was a developing country with extensive construction taking place. Thus, traditional woodcarving with a Malaysian heritage identity ticked the 'traditional element' box, and the demand for woodcarved products grew enormously. The woodcarving industry in Besut, known for its high-quality workmanship, was also becoming a popular destination for tourists. People also went to Besut to learn from master carvers how to practise woodcarving as their main source of income.

However, there was no formal institution for woodcarving training at that time. Young Norhaiza Nordin - now a Master craftsman - was one of the lucky artisans to earn a decent income through his woodcarving. Furthermore, with a stable economy and lower raw material costs, and hence lower end prices, people could afford to buy the woodcarvings. Naturally, this resulted in the woodcarving industry becoming a viable and popular source of income in Besut.

6.2.1.3 The economic sector in Besut

The three main economic sectors of the Besut district are business, services and agriculture. The business sector is growing very rapidly, especially in the town of Jertih, with a wide range of businesses, such as textiles, food, crafts and others, in line with the growing population. This is resulting in more effective transport and communication networks. Accessibility between small towns such as Jertih, Kampung Raja and Kuala Besut is also helping to intensify the business sector, with the tourism industry being one of the main service sectors. Offering tourists accommodation in private homes is also growing in popularity, alongside commercial hotels, due to the increase of online web services (e.g. apps and social media platforms). These target tourists coming to Besut for its natural and cultural attractions, and increasingly as a recreational area. Agricultural activities include the sub-sectors of crops, livestock and fisheries – products which are sold locally or exported overseas (Besut District Local Plan, 2020). However, the local economic sector has been severely affected by the Covid-19 pandemic in 2020, particularly in the service and tourism industries. Besut's community is adapting to the new norm to recover its local economy, including a focus on online services.

6.2.2 Finding 1: The values associated with traditional woodcarving for Besut community

The economic value of woodcarving craft has been associated with Besut's local community since Besut was founded around 1700, when royal artisans came to serve the Besut kings. Today the woodcarving industry is still an important source of income for the community. According to Respondent P1, there are around five hundred woodcarvers in Besut, mostly part-time, making woodcarving crafts as a source of income. Some woodcarvers are also collectors or have inherited valuable carvings from their predecessors. This valuable heritage is considered a cultural asset and an important source of income. The reputation of Besut woodcarving craft's is also generating some service industries, such as craft tourism, which benefits the whole community.

The abundance of wood in Besut, with densely forested resources, provides practical value to the woodcarving community. In 2018, Terengganu produced 442,424.00 tonnes of logs in 102 sawmills. However, high-quality wood is often exported by the logging companies, unless the woodcarver is prepared to pay a premium price for the desired quality of raw material. Artisans sometimes pay people to go to the forest to search for high-quality raw material in order to cut costs.

6.2.2.1 The personal value of Malay traditional woodcarving craft

Personal values and meaning were found to be among the most significant themes when investigating the importance of woodcarving craft as a culturally significant product, design and practice. Personal values associated with woodcarving craft were discussed by all respondents in various contexts. This included both the extrinsic and intrinsic personal values of woodcarving craft for Besut artisan and locals. Traditional woodcarving is regarded as a highly valued tradition among the locals in Besut. All the respondents agreed that the personal value of woodcarving craft as perceived by artisans and locals is vital. However, some people tend to relate the values of woodcarving with something tangible and measurable (P1, P2, P14); for example, in relation to business purposes and opportunities for the locals, or the number of sales and amount of profits.

For the woodcarving community, this craft is a source of income and business that attracts people to the area. Furthermore, it is easy to appreciate the tangible shapes, patterns and motifs of woodcarving craft, and, therefore, extrinsic values such as traditional knowledge and skills, and the spirit and imagination of woodcarvers from many generations can be seen through the motifs and styles. According to Respondent P2, potential customers are attracted by the value of quality and beautiful work. Perhaps when they appreciate these extrinsic factors, they will be interested to learn more about the intrinsic factors such as the meaning and the story of the craft.

Respondents P1, P2, P10, P14, S5, and S9 mentioned that people often overlooked the intrinsic values and so it is crucial that these be made more prominent. Also, some respondents (P1, P2, P10, P14) suggested that only a few, mostly experienced artisans and enthusiasts, could clearly explain the intrinsic values, such as in the context of philosophical, religious, and spiritual meanings of the motifs and patterns. According to Respondent P1, making woodcarving with Malay traditional motifs and principles is like preaching. For the artisan, the motif and pattern are filled with deep spiritual and religious philosophies. The artisan feels they are protecting local heritage and passing on the message when making the craft. Thus, it provides a sense of achievement and purpose. For the local people, the significant values are local identity and sense of belonging, and local heritage (P1, P14).

6.2.2.2 The integration of machinery in woodcraft production

Traditional woodcarving is open to integrated techniques or mechanised processes that would accelerate production, but there is a limit to how machines can and should be used. Generally, all the woodcarvers use machinery, particularly in the earlier stages of the process, cutting the wood into small pieces. But the human touch is needed for the finishing. Woodcarving craft done completely by machine is not considered to be genuine by the artisans, some of whom may feel offended by the result (Respondent P2).

Respondent P10 shared a piece of work done by a Computer Numerical Control (CNC) machine shown in Figure 6.1 (left). It was produced by a local contractor for a government building without any consultation with the woodcarver. He believed the design was taken from the internet but claimed to be traditional Malay woodcarving. The result was criticised by the artisan (P10) as 'soulless' and 'stiff' compared to the handcrafted woodcarving shown on the right side in Figure 6.2.

Figure 6.1 Fully CNC woodcarving

Figure 6.2 Handcrafted woodcarving

234

The making process is time-consuming. Making one piece of a wood-carved door could take a month or more, depending on the design. The stylisation of carving motifs is a difficult skill to master, and it combines extrinsic and intrinsic values. Because this traditional process is complicated, it requires a skillful and experienced woodcarver with the knowledge to choose the right wood and tools. The woodcarver's skills and intuition harnessed from years of training are the most important elements in traditional woodcarving. The motif and style of woodcarving from Besut is also well-known for its originality and high quality. However, the intrinsic knowledge, which includes the underlying philosophy manifested via the motif's expression and style of carving, is the principal value of the woodcarving craft. A machine can imitate, but cannot truly embody these intrinsic values – they are a product of the artisan's knowledge, skills and commitment – all working in harmony with tools and material. This can be seen from the comparison between Figure 6.1 and Figure 6.2. It's really shows the difference very well – the one on the left is 'perfect' but soulless and 'stiff' as explained by P10. Respondents P1, P3 and P14 argue that the value of authentic Malay woodcraft products is in the human touch. Without it, the work cannot be considered woodcarving craft.

6.2.3 Finding 2: Besut woodcarving production, demand and issues

6.2.3.1 Types of product made by Besut woodcarvers based on demand

Generally, there are two types of manufacturing practice, Custom-made and Ready-made. Custom-made products are commissioned and bought by individuals or organisations (private or government-owned), mostly Malaysian customers. These products are usually for interior and building decoration, such as woodcarved panels for interiors and exterior walls, doors, dividers, and façades. All respondents considered these to be the leading products with the best profit margin. Interior products tend to be large in size, hence time-consuming and expensive to produce. The preferred project for woodcarvers is a commissioned project from a government organisation, because they then have a longer period of income security and a larger profit margin. However, this kind of project is rather rare nowadays.

Ready-made products are typically smaller and cheaper, they include ceremonial gifts, products for sales exhibition and online sales, and products aimed at walk-in tourists. They are usually in the form of an affordable utilitarian product, such as coaster, tissue box, bookend, picture frame, utility box and so on. Typically, it is only full-time artisans, who own a gallery shop who offer ready-made products. The desired target for ready-made products is a bulk order for wedding ceremonies or gifts for company events. This is regarded as a side product by all nine respondents from the producer group.

All the respondents were asked about the different types of woodcarving products and examples of their purpose or usage. Generally, those produced in Besut can be categorised into four categories: decorative, utilitarian, souvenir, and ceremonial or traditional:

Decorative: Woodcarving motifs provide the identity or meaning of these products. For example, the decorative carving for a mosque often blends with a verse from the Quran. The chosen motifs will often symbolise Islamic practice and philosophy. However, some designs have functional purposes, such as allowing air circulation or dispersal of light. This is the most preferred and popular product among Besut woodcarvers because they have relatively high profit margins and ensure a viable income and work for a significant period of time.

Utilitarian: Created and used mainly for its specific function, this type of product can be categorised by its practical aspects, e.g., furniture, lighting, picture frame, clock etc..

Souvenir: Small, relatively inexpensive gifts and mementos purchased by tourists as a reminder of a visit or a special occasion organised by local for their guest (e.g., wedding, *Kenduri* (feast and gathering with relatives) and others). Generally, woodcraft souvenirs are ordered in bulk for special occasions. Examples are; an egg basket/box (a boiled egg in a basket is a customary door gift at a Malay wedding), business card box, jewellery box, tissue box, coasters etc.

Ceremonial or traditional: Some woodcarving products are used specifically for ceremonial purposes, thus having the special function of symbolism or spiritual purpose. For example, the Malay traditional dagger, *'Keris'*, with a finely carved hilt and sheath, that is used for royal ceremonies and as exclusive wedding ceremony accessories. Other traditional items with woodcarving decoration are also made by Besut woodcarvers. Often based on customer requirements, they include : wooden biscuit moulds '*Sarung Putu'*, quail traps '*Jebak Puyuh'*, Malay traditional games '*Congkak',* and a textile motif mould for traditional pattern application on textiles such as *"Batik"* and *'Telepuk'.* Even though these traditional items can be functional, they are mainly for decoration or are collectors' items.

Table 6.1 summarises the production practice of woodcarving products produced by Besut woodcarvers. Nine respondents (producers/artisans) were asked further questions regarding the frequency of demand and their interest based on product categories. Their responses are summarised using three indicators, Low, Medium and High.

Categories	Purpose	Production	Demand Frequency	Producer Interest
Decorative	Interior – for indoor decorative purpose in house, buildings, mosques, hotels and others.	Custom-made	High	High
	Exterior – outdoor exterior or outdoor construction such as pergola and patio.	Custom-made or ready-made	High	High
	Others –small decorative items such as woodcarving frames and handicrafts.	Ready-made	Low	Low
Utilitarian	Functional products	Custom-made	Medium	Low
Souvenir	Gift or memento for tourist or special occasion	Ready-made	Medium	Medium
Ceremonial Traditional	Ceremonial (spiritual) or traditional product for Malay people.	Custom-made	Low	Low

Table 6.1 Production practice of woodcarving products

6.2.3.2 Issues in production management

Producers and artisans were questioned about issues related to production management. These are discussed below:

- **Accounting:** There is lack of proper accounting in woodcarving businesses. There is no proper financial reporting that can inform strategic business recommendations. None of the respondents who were producers employ a qualified accountant. Most craft businesses are small cottage industries, and they typically use their partner or family member to take charge of the accounts.

- **Product Quality Control**: Quality is based on the skill and experience of the artisan. Currently, there are no guidelines, standards or indicators available to evaluate the quality of the woodcarving products. However, all the producers agreed that low-quality products and foreign woodcraft products damage the market

- **Product Pricing**: There is no pricing standard for woodcarving products. Respondents P2, P10, B1 and B7 insisted that there is a need for some standards to stabilise the profit margins to avoid over or under pricing. Product pricing is discussed further in sub-topic 6.2.4.1.

- **Tensions between various groups**: Generally, artisans work together in harmony. However, there are some issues in woodcarving production relating to business: (i) competing claims to be leader in the market in order to lobby projects; (ii) issues of job allocation, production capacity, product quality and punctual delivery of products when outsourcing or collaborating on projects; and (iii) tensions between collectors and shop owners over issues such as pricing and profit margins.

6.2.3.3 Design in woodcarving craft production

According to Respondents P2, P3, P12 and P10, the design of woodcarving products that happens in the early phase of the production process is based on customer demand. The customer usually has their own design idea and the type of item they want. The artisan or producer will follow these customer preferences. For the stylization of motif and pattern, however, the artisan will usually propose designs to the customer based on the brief. The signature style of a well-known artisan or some particular woodcarving style, such as signature motif or carving technique (*e.g. Bunga Mas, Bunga Bakawali, Tembuk Tembus, Tembuk Timbul, etc*) are sometimes requested by the customer.

Design in the artisanal context is described as:

- The modification in the components, styles, patterns and colours of the traditional woodcarving products, to blend in with the contemporary style.

- Designing the motif and pattern exclusively based on Malay traditional style, which is derived particularly from their local identity.

- Contemporary style woodcarving products are often produced as functional products, such as furniture items. However, Respondent P1 claims that artisan and producer resources, knowledge, skills, equipment and production technique for this product are limited.

6.2.4 Finding 3: Challenges for the woodcarving industry in Besut

The woodcarving industry in Besut is facing declining demand for its craft products. However, continued production depends on a stable market to ensure the livelihood of the artisans. Respondent P1 stated that the popularity of the craft has been steadily declining since the golden era in the '90s, and this has become even worse over the past decade. The number of dedicated woodcarvers is diminishing, with many once full-time craftsmen now doing part-time work or changing their career. The challenges were discussed as follows:

6.2.4.1 Unfavourable pricing factor

Many customers consider high-quality woodcarving products to be unaffordable. The high cost of the raw material is the main reason for this. All of the producers agreed that most of their costs go to the purchase of raw materials. Good quality wood is becoming costly and difficult to obtain, and sawmills prefer to export high-quality wood rather than sell it to the local market. Respondent P10 stated that, on average the material costs around 40-60% of the woodcarving price. Hence, woodcarving products have become associated with luxury and only wealthy customers or organisations can afford to buy them.

The pricing of woodcarving products is complicated. The producers have no officially standardised pricing, which is a problem for artisans and producers, according to Respondents P1, P2, P10, S5 and S15. In addition, foreign woodcarvers are affecting the local market. They offer cheaper, low- quality, foreign styled woodcarving products. Respondent P2, who is also a woodcarving society leader, pointed out that the influx of foreign craft is disrupting the local market and worrying local producers. Full-time producers and artisans with decades of experience are respected by the locals but their services are not necessarily preferred, as many people perceive them as exclusive and unaffordable.

In the current unstable economy, people prefer cheaper alternatives. He added that while these customers may want good quality Malay traditional woodcarving, they are being misinformed about lower-quality, foreign-styled woodcarving (usually from Indonesia or Thailand). Some customers do not even care about the originality and identity of the woodcarving as long as it is affordable. Respondent P2 highlighted the issues of customers' lack of ability to identify original Malay woodcarving, which affects their buying decisions. Hence, the Malaysian woodcarvers' organisation currently led by him is working on formalized pricing standards, to be adopted by local woodcarvers.

Generally, the pricing of woodcarving products depends on these factors:

Material	Type of raw material (wood quality such as species, hardness, colour, age, etc).
Size	The dimensions of the woodcarving product.
Complexity	The intricacy of motif's design, level of carving techniques used (*silatan level*), finishing quality, dateline, detailing and other technical aspects.
Artisan	The artisan's reputation based on popularity and experience.

Table 6.2 Pricing factors for woodcarving products

6.2.4.2 Declining popularity of woodcarving crafts

Traditional craft is not popular at the current time. According to respondents P1, P3, S5, S15, S16, the younger generation is more exposed to globalisation and modern culture, and they are distancing themselves from traditional craft. Respondent P10 said traditional craft is often associated with older people, which further distances the younger generation. They will eventually have the buying power but they lack the sense of belonging necessary to buy traditional crafts. Respondent P1 feels that traditional craft may eventually be considered a relic by the younger generation and not relevant in modern society.

6.2.4.3 Woodcarving product relevance

Respondents P1, P14, S5, S9, and S16 highlighted that woodcraft's image needs to be revitalised. They said consumers associated 'craft' with cheap and backward products that are not relevant in today's technological society. Currently, woodcarving craft mainly serves a decorative purpose. Utilitarian products are sold as ready-made wood carvings or crafts but currently looks cheap and unattractive. Respondent P1, pointed out the need to develop a new market through proper promotion. He added that woodcarving products must be sold as premium handcrafted products, but people must be informed as to why.

"Woodcarving products should be seen as high-quality hand made products with precious, culturally significant value…however, many people do not understand these values and are not willing to pay more for craft products…….some people only value the raw material, they want the wood product, the craft becomes secondary" – Respondent P1.

6.2.4.4 Quality of craft apprentices

To ensure the future of traditional woodcarving craft, young apprentices need to be nurtured. Some training centres have been established by the local government in Besut. However, Respondents P1 and P14 claim that most of the trainees choose another career after graduating, so producers are still facing difficulties in getting committed workers. Respondent P1 said it is still hard to find skilful and committed young apprentices, claiming that the training centre produced woodcarvers not craft entrepreneurs, who move to other fields when they get the chance. Respondent P2 said some producers preferred foreign woodcarvers from Indonesia because they work faster and at a cheaper cost. He added it's easier to get apprentices from students who have dropped out of their studies. They cannot continue studying and so want to gain a manual skill as a viable way of living. However, there is a discipline issue among this group.

> *"It's very rare to get a fast learner, committed and disciplined apprentice from drop-out students. They nowadays prefer fast and easy jobs according to their preferred working hours" – Respondent P2.*

One of the producers (Respondent P15) expanded on the negative stigma among the current generation regarding the wood and woodcraft industry. He referred to the wood industry as the '3D' industry: Dirty (dusty and untidy), Dangerous (technical and risky) and Demeaning (wood industry workers are considered less educated than white-collar jobs). All of which make many young people less eager to enter the industry.

Respondent P15 has established an initiative to try to change this perception:

- **Cleanliness** – clean workplace and make it more orderly by using 5s method (a workplace organisation method that uses a list of five Japanese words, translated as "Sort", "Set In order", "Shine", "Standardize" and "Sustain") and Lean Manufacturing Systems.

- **Safety** – provide training for safe use of manufacturing tools and systems.

- **Pride** - elevate carpentry and woodcarving skills by producing high-quality and beautiful eco-friendly products for local and international markets.

According to P15, over 75% of his current workforce is made up of local young people. This initiative can be adapted by other companies to attract more young people into the industry and eliminating '3D' industry assumptions.

6.2.4.5 Negative mindset of the artisans

All the artisans agreed that it's important to have more initiatives to support the development of the woodcarving industry, particularly in Besut. However, not everyone was eager to be personally involved. According to Respondent P2, the artisans need to become more involved with each other. Even though it is normal for artisan to share jobs or hire other artisans, some prefer to work alone and only contact others when they are desperate for work. Respondent P2 emphasised that the experienced artisans need to be more involved in sharing their knowledge. He suggested that, with the right motivation and promotion, they will participate more. Respondents P1, S15 and S16 stated that another negative mindset among artisans is reliance on government funds and projects, and a reluctance to improve themselves by learning new skills or collaborating with others. S15 added that, to survive, artisans need help in basic marketing and business skills. They should also embrace technology and exploit online business & social media. It mostly younger artisans who actively use an online platform to promote themselves as well as to educate the public about woodcarving craft.

6.2.5   Finding 4: Initiatives in revitalising woodcarving craft

Over time, several craft preservation initiatives have been implemented for woodcarving community in Besut. These involved government agencies, academic institutions, scholars, schoolteachers, community developers and journalists. Most development projects had the same broad aim of revitalising and preserving traditional woodcarving in ways that offer a sustained supply of apprentices, commercial activities and economic viability at a local level. However, some respondents (P1, P3, P14, S5 and S15) suggested that in parallel with this direction, development initiatives for woodcarving craft should fully utilise current trends and platforms. This is crucial to ensure that the presence and meaningful values of woodcarving crafts are conveyed to a bigger audience. Additional directions need to be developed to connect woodcarvers with various stakeholders, especially the younger generation, both in Malaysia and abroad.

Some of the agencies involved in supporting woodcarving craft in recent years (2017-2019) are listed below:

Type	Agency Name
Government	Ministry of Tourism, Arts and Culture
	Terengganu state (local state government)
	Malaysian Handicraft Development Corporation (MHDC)
	Terengganu Entrepreneur Development Foundation (YPU)
	Terengganu Timber Industry Training Centre - TTITC
	Malaysian Timber Industry Board (MTIB)
	Higher Education Institution (IKN,UniSZA,UMK,UiTM,UMT,USM,UPM and others)
	Various State Museum and Galleries
Non-Government (NGO)	Sultan Mizan Royal Foundation (YDSM)
	Hasanah Foundation
	Selangor Arthouse (Russel)
	Abdul Aziz Royal Foundation (YIAA)
Associations	Malaysian Woodcarvers Association (PENGUKIR)
	Langkasuka Movement

Table 6.3 Agencies involved in supporting woodcarving craft in Besut

6.2.5.1 Types of initiatives for Besut woodcarving community

Besut community generally welcome programmes and initiatives from any agencies, especially those of the government, and a number of potential initiatives have been suggested by the respondents. These initiatives and their suggested levels of impact on the woodcarving community were divided into six categories. The levels of importance according to the respondents were divided into three indicators: Low, Medium and High. A summary of these initiatives is shown in Table 6.4:

Purpose	Level of importance	Previous or potential initiatives according to the respondent
Promotion	High	- Exhibition - Documentary - Roadshow - Research and documentation - Mainstream media coverage - Social media - Branding
Business marketing	Medium	- Trade exhibition - Online sales & marketing - Newness (new market and new product direction) - Pricing standards
Human capital	Low	- Artisans' soft & hard skills training - Business management training for artisans
Funding & legislation	High	- Roadmap - Government Act - Grants & loans
Facilities	High	- Community facilities - Workshop - Gallery - Training centre - Tourist centre
Knowledge transfer	Medium	- Seminar - Workshop - Apprenticeship - Collaboration

Table 6.4 Summary of previous initiatives

Many of the suggested initiatives have been previously implemented in the Besut community. However, not all were effective. According to the respondents, most of the efforts involved popular individuals or groups of influential woodcarvers. Respondent P2 claimed that artisans need to be proactive in promoting themselves and becoming more involved in community activities. Participation is mainly voluntary, and many are reluctant to participate unless they are being paid. Some chose not to be involved because they were comfortable with their current situation and preferred to work alone. Respondent P1 said artisans with no motivation to improve themselves will be left behind. Many of these initiatives aim to improve artisans' knowledge and skills as well as broadening their network. But not every artisan is motivated to improve their situation or eager to become involved.

6.2.5.2 Recent key initiatives for the Besut woodcarving community

Every year there are many government-led programmes which the Besut community regard as compatible with their way of life, supporting their livelihood and strengthening the woodcarving community. Some of these projects are still running and are managed by the Besut community and artisans. Some recent key initiatives for the Besut woodcarving community are:

1. **Woodcarving Village Heritage Complex, 'Desa Ukiran Kayu' (DKU)**

In 1999, in conjunction with the declaration of Besut as a Woodcarving District, the State of Terengganu launched the construction of a heritage complex, Desa Ukiran Kayu (DKU); this was a tangible a manifestation of government support for the traditional woodcraft community. DKU was set to become the official woodcarving community centre and tourist attraction at Besut with a training centre, craft community centre, workshop, gallery. The construction of DKU was delayed until 2005 due to political changes and budget cuts. The construction was finished in 2007 and is currently operating under local government management. It was officially launched and opened to the public on 21st February 2008.

Figure 6.3 Tengku Anjang palace, DKU (Picture by Author, 2017)

DKU offers certified woodcarving courses accredited by Malaysian Skills Certificate (SKM). Trainees receive eight months of training for a Level Two course and twelve months for a Level Three course. These are sponsored by the local government under the Terengganu Entrepreneur Development Foundation (YPU) for Malaysian citizens aged between 16 and 30. The targeted group is school leavers who failed to get a place in any educational institution and are motivated to explore skill-based training. Trainees from a low-income families and originally from Terengganu are primary targets. The trainers or instructors are highly skilled woodcarvers from Besut with at least 5 years' experience. As of 2019, a total of 125 trainees have undergone training in the DKU with an average of 20 trainees for each intake. Some have already worked with woodcarving workshops and some have ventured into the field of wood carving entrepreneurship. However, according to Respondent P1, only a few graduate trainees remain in the woodcarving business after a few years. Most preferred another profession as their main source of income.

2. Branding Besut as a "Wood Carving District"

In 1996, Dato 'Seri Idris bin Jusoh, Member of Parliament for Besut and Deputy Minister of Entrepreneur Development, had the idea of establishing a heritage complex as a tourist centre. Besut District Cultural Council later took on the role of realising this idea in order to promote and sustain the future of traditional woodcarving heritage. The aim was to present Besut district as the national centre of woodcarving, including to international visitors. As a result, Besut was officially declared the "Wood Carving District" on August 12 1999, by the state of Terengganu. The recognition was awarded due to the well-known woodcarving community and quality woodcraft products from the area. In addition, the most prominent master carvers are all based in Besut. Hence, 'Woodcarving District' Geographical Indicator (GI) was registered by Yayasan Pembangunan Usahawan (YPU), a local government agency, for branding purpose. Customers supposedly can recognise woodcarving products from Besut with the 'GI' branding. However, many artisans were not aware of this and, thus, did not utilise this label. Moreover, YPU only registered the 'GI' but there was no promotion to the artisan or any clear instructions about how the label should be used (Respondent P1).

3. Ulul Albab Mosque, Jertih: Woodcarving community contribution

Ulul Albab Mosque, formerly known as Seberang Jertih Wooden Mosque, is located about one kilometre from the town of Jertih and is one of the prime destinations when visiting Terengganu. In association with this mosque, an important state project was to promote Malay woodcarving heritage blended with Islamic values. The construction of the mosque was launched by the Sultan of Terengganu on 24th February 2012 with a budget of RM12.3 million (ca.$3M) on 0.2 hectares area. The construction was led and designed by master craftsman, Wan Mustafa Wan Su, and involved many woodcarvers from Besut. The mosque was completed within two years. The architectural design was inspired by the oldest mosque in Malaysia, the 250-year-old Masjid Kampung Laut in Tumpat. Its raised floor is to prevent flooding and the entry of animals, and it has a three-tier, overlapping, pitched roof. There are open windows, and partly- or fully-pierced wooden panels *(tebuk tembus or tebuk tembus bersilat)* for airflow, natural light and comfort.

The motifs of the woodcarvings are traditional, they include *Songket* motifs and calligraphy based on Malay and Islamic philosophy and spirituality. For example, the head of the stairs has a carved wave motif representing the spiritual journey for Muslims.

The patterns and motifs often feature six elements that symbolise the six pillars of Islamic virtues and five elements that symbolise the five pillars of Islamic teaching. Ninety per cent of the materials used are Malaysian hardwoods such as Cengal and Balau woods, with concrete used only for the pillar beam and floor. Ulul Albab Mosque is the embodiment of Malay philosophy in architecture and woodcraft, both functionally and aesthetically. The woodcarving community from Besut led by Wan Mustafa Wan Su worked directly on this project to ensure the identity and quality of this mosque are well presented as an epitome of Malay traditional heritage.
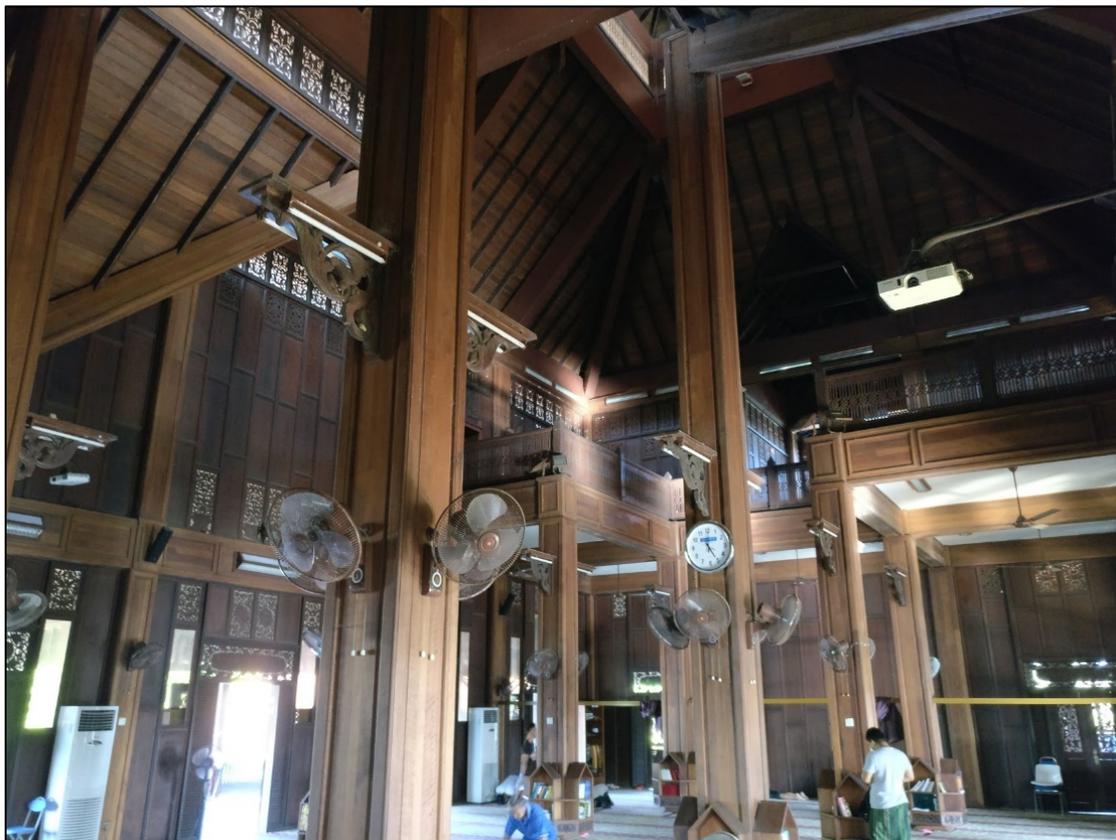
Figure 6.4 Ulul Albab Mosque interior (Picture by Author,2017)

4. Initiatives by Malaysia Handicraft Development Corporation (MHDC)

The government development projects for craft in Malaysia are mainly led by the Malaysia Handicraft Development Corporation (MHDC). MHDC is given a special budget by the government each year, according to Craft ACT 1970, to ensure the development of craft. MHDC also organises various activities for artisans and communities, covering every craft in every state in Malaysia including woodcarving in Besut. Among the main MHDC initiatives that directly involve Besut woodcarvers are: **National Craft Day** – prominent annual marketing event for the local craft industry. It aims to encourage Malaysians to support and buy locally made products. The Kuala Lumpur Craft Complex is open to the public daily from January to March. **One District One Industry Programme** - initiative to develop local communities with various activities that are closely tied to the unique products, history, culture and identity of a place**. National Craft Institute (IKN)** - established in August 2001 as an educational institution offering studies in the field of crafts, including woodcarving. IKN offers full-time study programmes at the Diploma and Certificate levels with the aim of providing a workforce for the woodcarving craft industry. **Online marketing platform** – Kraftangan Malaysia offers an online platform for artisans selling their crafts such as karyaneka.com and mycraftshoppe.com (launched in 2020).

6.2.5.3　Feedback on development projects led by government agencies

Respondents gave feedback on significant initiatives organised by government agencies which were considered to be in line with their way of life. These initiatives directly involved artisans and producers in Besut.

Activity	Purpose	Organiser	Positive feedback	Negative Feedback
National Craft Day	Promotion/business marketing	MHDC	• Well-known craft event with wide promotion coverage. • Opportunity for artisans/producers to expand and find new markets/customers	• Transporting products and managing sales at exhibition for almost a month is costly and profit is not guaranteed. • Failed to compete with other more practical and popular crafts such as textiles. • People prefer cheap and small items, unparallel criteria with most woodcarving crafts exhibited.
National Craft Institute (IKN)	Knowledge transfer	MHDC	• Transferring knowledge • Provide proper credentials (certificate) for woodcarvers	• Only small numbers of graduate apprentices working in the woodcarving industry.
Online marketing platform	Business marketing	MHDC	• Expanding market, promotion and sales	• Underutilised – artisans (mostly veteran) are not familiar with an online platform
One District One Industry Programme	Promotion/human capital	MHDC	• Stimulating other industry such as tourism industry with branding and marketing. • The projects provide an information system and promotion which helps to connect producers with buyers at a local level • Benefit for the local community. Compatible with their way of life. • Give a sense of pride and value of place. • Provide working and business opportunities	• Declining promotion and interest. This programme was started in 1992. The promotion pace and people's awareness have declined for the past two decades. • Terengganu state is associated with textile craft in a larger context by MHDC, even though the district of Besut is famous for woodcarving craft.
Branding Besut as "Wood Carving District"	Promotion/business marketing	Local Government		• 'woodcarving district' Geographical Indicator (GI) was registered by local government agency but many artisans were not informed, thus didn't utilise this label.
Woodcarving Village Heritage Complex, 'Desa Ukiran Kayu' (DKU)	Promotion/ knowledge transfer/ Facilities	Local Government		• Only small numbers of graduate apprentices working in the woodcarving industry. • Rarely get passionate students of quality. Most registered because they had no other choice.
Construction of Ulul Albab Mosque, Jertih	Promotion	Local Government		• Disagreement regarding project distribution creates disunity among producers in the district.

Table 6.5 Summary of feedback on woodcraft development project in Besut

6.2.6   Finding 5: The main area for future development of woodcarving craft community at Besut

The future development for woodcarving craft community in Besut needs to be compatible with the artisan way of life. The future development of woodcarving craft needs to be strategically aiming at Product, People and Place. Future developments in traditional crafts need to directly involve at least one of these targets for effective impact on craft revival. In addition, it must consider the 'time factor' of past, present and future of the craft. Any area of development should consider on benefitting these factors.

- Past: the value of craft knowledge inherited from past generation

- Present: the practical value of craft in current days (e.g., source of income)

- Future : the legacy of heritage to pass down for the next generation

Seven Respondents (three lead producers/artisans (P1,P2 and P14), two Supporters (S5, S6 and S16) and one buyer (B7) addressed the main areas for the future development of woodcarving craft in Besut as follows:

- **Value of place –** It is crucial to increase public awareness of the value of Besut as a woodcarving craft centre. Promotion on woodcarving craft, the artisan, the Besut community and their way of life will make the craft known. Respondent S16 mentioned the promotion of woodcarving craft from Besut should be more widespread to the public, beyond craft enthusiast. Respondent B7 stated, strategic promotion using various channel is the key. Social media is easier to reach the audience in the current trend rather than mainstream media. Example of promotion mentioned is using famous people such as artist or influencer, as a brand ambassador.

- **Human capital** – Artisan need to improve their adaptability. They need to develop versatile skills (soft and hard skill) or working with other people to strive. Collaboration or training is the recommended mechanism suggested by the respondent (P1, P14 and S15). Currently, collaboration and training between artisan and government personnel under government development program are common. However, it is more on technical training, tendering project, business opportunity and craft promotion. The useful extra skills for artisan or producer are business & accounting skill, marketing skill, communication skill and digital skill. According to respondent P1, P14 and S15, collaboration in the early phase of product development is very minimal. Artisan rarely had an opportunity working with a product designer.

- **Research and documentation** - One way to ensure the preservation of traditional woodcarving craft is through proper documentation. Generally, the collecting of woodcarving craft done by collector, museum and artisan. The documentation of woodcarving motif using a conventional medium such as books, documentary and academic research. There is a suggestion for comprehensive documentation of motif and pattern with the storytelling and explanation using current industrial revolution 4.0 technology (such as Virtual Reality (VR), Augmented Reality (AR) and 3D printing) (Respondent S5, S9 and B7).

- **Product Development** – In order to sustain, artisan must make living. New product development to expand market for woodcarving product is needed. Collaboration between woodcarvers and product designer is an example of highly potential mechanism. The efficient production process and application of new technology can be explored within the new product development process.

- **Promotion & Marketing –** To ensure the economic viability of artisan, the market of craft product need to be promising and stable. Expending the market with new design of premium woodcarving product is possible. Great marketing skill of artisan can help to promote the sales of woodcarving products. Branding can be focusing on artisan personal branding, quality of the product, value of heritage and the value of place.

- **Policy-making –** According to respondent P1 and P14, the most efficient way to see a change is through the implementation of craft-friendly policy. For example, government successfully made 'Batik' popular when implemented ''Batik' Day' policy. One of the policies stated that a government servant needs to wear 'Batik' shirt every Wednesday. Policy for woodcarving craft not only important for promotion, but for standardizing product price, regulating raw material price and foreign craft invasion. Respondent S9, an academician suggesting, sustainable reporting policy for woodcarving industry is also a possible area to look at.

6.2.7   Conclusion of Case study 1

From the findings, the woodcarving craft industry at Besut is deeply connected to the local people since Besut was founded. Besut became popular with its woodcarving industry and once become the major source of income for their peoples in the golden age of woodcarving in '90s. Traditional woodcarving is regarded as a highly valued tradition among the locals in Besut. For the local people, the significant values are local identity and sense of belonging, and local heritage. Now, the demand for woodcarving craft in Besut has been steadily declining since '90s, and this has become even worse over the past decade. Thus, Case study 1 identified the challenges in woodcarving craft to revitalise (6.2.4) as follows ; i) unfavourable pricing factor, (ii) declining popularity of woodcarving crafts,(iii) woodcarving product relevance, (iv) reducing quality of craft apprentices, and (v) negative mindset of the artisans. There are some initiatives by various parties, such as from government, private and personal party, to support the development of woodcarving craft in Besut (6.2.5). However, most development projects had the same broad aim of revitalising and preserving traditional woodcarving in ways that offer a sustained supply of apprentices, commercial activities and economic viability at a local level. Furthermore, there is no design for sustainability approach that involved collaboration with creative personnel such designer have been done in Besut.

To conclude, it was clear that the future development for woodcarving craft community in Besut needs to be compatible with the artisan way of life. Hence, its needs to be strategically aiming at Product, People and Place. In addition, it must consider the 'time factor' of past, present and future of the craft. Any area of development should consider on benefitting these factors. Key finding from Case study 1 addressed the main area for future development in Malay traditional woodcarving in Besut that can support the findings from interview and Case study 2. Six main area for future development in Malay traditional woodcarving found in Case study 1 are; (i) value of place, (ii) human capital, (iii) research and documentation, (iv) product Development, (v) promotion & marketing, and (vi) policy-making (6.2.6). This finding was analysed and compared together with findings from other data collection to develop the framework for design strategy in later section.

6.3 Case Study 2: Telepuk Woodblock Stamp Revival Strategy by Master Woodcarver

The second case study focuses on a revival strategy for a traditional woodblock stamp of Malay's ancient royal fabric known as 'Telepuk' by a master wood carver. The secondary data was gathered from document analysis and literature review. The primary data was gathered through a 'Telepuk' Process & Wood Stamp Making Workshop organised by the Sultan Alam Shah Museum of Selangor and led by a well-known master woodcarver in Malaysia in 2016. The observation method was conducted during the workshop to gain data for this case study with consent from the museum and master carver, Norhaiza Nordin, the organiser. There were eight key respondents, whom the researcher contacted for questions and interviews. The informants were three Producers, three Supporters and two Buyers.

Analysis of the information collected for this case study presented four main findings:

- Finding 1: The issues and values of Telepuk craft

- Finding 2: The role of woodcarvers in Telepuk craft revival

- Finding 3: Revival strategy of master woodcarver

- Finding 4: Researcher experience participating in Telepuk woodblock carving workshop

6.3.1　Methodology of case study

This case study aims to investigate the strategy and role of woodcarvers in revitalising traditional textile craft in Malaysia. This is based on the recent collaboration between different artisans and craft supporters, including governments, non-governmental organisations, businesses, enthusiast groups or committed individuals. More particularly, this case study explores the relationship between woodcarving crafts and traditional Malay textiles and to what extent woodcarvers might contribute to the revival of the lost craft of traditional textile gilding known as Telepuk. This case study used data collection that include literature review, observation, and conversations with experts. These are summarized in Table 6.6 below:

Methods	Literature Review	Observation	Interviews with experts
Data Types	Secondary Data	Primary Data	Primary Data
Sources	Conference proceedings Annual reports Books Journal articles News and Magazines Web-based information	Telepuk Process & Woodblock Stamp Making Workshop organised by the Sultan Alam Shah Museum of Selangor and led by master craftsman	Artisans (traditional woodcarvers and textile maker) Designers Researchers Curators Buyers Supporters

Table 6.6 CS2 Data collection

Primary data was gathered through participating and observing the workshop described above. The observation focused on the efforts made by the master woodcarver to revive Telepuk Woodblock through knowledge sharing and documenting of Telepuk motifs. Subsequently, a key informant interview was conducted with the master woodcarver to gain feedback on the workshop and insights into Telepuk revival strategies. In addition, feedback from six participants in the workshop was gathered through semi-structured interviews.

6.3.2   Background of Telepuk craft

6.3.2.1 Introduction of Telepuk

'Telepuk' is a fabric that is gilded with floral and other motifs made from gold dust or gold leaf (kamus dewan, 2017, p. 1402). It was developed from the process of gilding called *'Menelepuk',* which applies gold leaf or "water of gold" using pieces of metal to form the composition of motifs on the surface of traditional finely woven cloth called *Kain Sarong Bugis*. In its most basic form, gilding can be described as the covering of a base or common material with a layer of gold. It is achieved through the application of gold leaf to an adhesive which has been applied to the surface to be gilded. The patterned Telepuk design is transferred using a carved woodblock, usually in a floral design. Telepuk is considered an important textile heritage and is exhibited permanently at the National Textile Museum in Kuala Lumpur (Museum, 2018). In Malay society, Telepuk has rich historical and cultural significance (Ismail, 2004), and new approaches need to be undertaken today to ensure the survival of Telepuk craft (Baharom and Nawawi, 2015, p. 638).

Figure 6.5 Telepuk woodblock (*Sarang Bunga*), Noorhaiza Nordin (2016)

Figure 6.6 Telepuk Textile (Picture by Author 2016)

6.3.2.2 Development of Telepuk crafts in Malaysia

In Peninsular Malaysia, Telepuk craft combines three traditional Malay crafts – woodcarving, *Gerus* or calendering, which is finishing process used to smooth, coat, or thin material for textiles (Harmuth, 1915, p. 106), and hand looming (Alina Ranee 1985). Originally thought to be from Sulawesi, there is some evidence that Telepuk was brought to Malaysia by Bugis traders from Indonesia, between the 17th and 18th centuries. Telepuk became popular in states that had Bugis royal houses, such as Selangor, Johor, Terengganu and Perak. Variations of Telepuk exist in India, Bali and Brunei, but Telepuk is no longer practised in its native Sulawesi. Moreover, the Malay history, *Hikayat Misa Melayu,* written by Raja Chulan in 1882, suggests that Telepuk may have originated in Perak, a state in the northwest of Peninsular Malaysia. In this manuscript, Telepuk textiles with golden imprint motifs were mentioned as a valuable gift from the Perak Sultanate to royal guests (Ismail 2004, p.87). Telepuk is also mentioned in ancient Malay literature as a luxurious and highly regarded textile, as described in *Hikayat Acheh* (Rosmahwati 2013, para 2).

262

Telepuk motifs are usually applied to *seluar* (trousers), handkerchiefs, *sarongs*, and *destars* (men's headcloths). Kain Telepuk would be worn by nobility when attending special functions such as a wedding. It would appear in all its glory at auspicious ceremonies, celebrations, initiations, rituals and other important occasions. Such occasions are closely linked to Malay society's ideas about the value of beauty. Telepuk fabric, when styled correctly, is very attractive because the light causes the gold to glitter, which is a unique characteristic of the fabric. It said to last for up to 200 years without fading (Alina Ranee 1985). Telepuk cloth was widely used in Selangor during the reign of Sultan Hisamuddin Alam Shah (5th Sultan of Selangor 1938-1942.) and worn by his consort, Tengku Ampuan Jemaah (Galeri Taming Sari, 2010).

6.3.2.3   The production process of Telepuk craft

For the best result, Telepuk design printing must be done on a fine and closely woven fabric such as *Sarong Bugis*. The first step is the *Menggerus masak* (calendering and burnishing), which calls for the material to be evenly smeared with freshly-made starch. After it is dried, next comes the difficult task of burnishing the whole cloth with the smooth side of the cowrie shell until a waxy sheen is achieved. Then the cloth is printed with the desired motif, using a wooden block. A woodblock *(Sarang bunga)* bearing the motif is first pressed onto glue, which is evenly spread on the arm or thigh. The glue is then transferred onto fabric, which is stretched across a folded sarong. Thin gold leaf or foils are then pressed onto the glue on the cloth.

This process is repeated until the desired pattern is complete. The production process of Telepuk textile is meticulous and time-consuming. In the past, it was widely practised by women of the ancient royal households. The combination of the time-consuming, painstaking production process and the high cost of gold has contributed to the decline of this craft.

6.3.2.4 Visualising the Telepuk motifs through wooden block carvings

A 'motif' is an image or feature used for a base or pattern in some visual artworks. It can be repeated or combined with other motifs to generate various patterns. The motif is an important element in producing patterns on Malay decorative crafts. Through such means, artisans are able to convey their thoughts and ideas. Here, is it important to recognise that the motifs used in Malay crafts contain inner meanings. Their use conveys a philosophy which can benefit, teach, and be a reminder of traditions and values for Malay society. The carved woodblocks bearing the motifs are known as *'Sarang Bunga'*. The most common motifs are of bamboo shoots *(Pucuk rebung)* and a geometric motif used as a border between designs *(Teluk Berantai)*. The same motifs are commonly used in other Malay traditional crafts, such as on carved wooden objects because they are rooted in the Malay ornamental philosophy. In former times, Telepuk makers used the expertise of woodcarvers to create a woodblock stamp for them according to their design preferences. These artisans would have worked for wealthy aristocrats or royals. Naturally, a decline of Telepuk fabric production also meant that work on Telepuk woodblocks was rarely needed. This is why the Museum of Selangor had a difficult time finding knowledgeable woodcarvers willing to create new Telepuk woodblocks.

6.3.3 Finding 1: The issues and values of Telepuk craft

The Telepuk craft declined rapidly during and after World War II. A shortage of material during wartime was the immediate cause, but the changing role of royalty in the Malay peninsula may also have contributed to its fading popularity (Alina Ranee 1985). Telepuk craft is now regarded as lost due to modernisation. Factors include the lack of demand, unprofitable market, lack of apprentices, high costs of material and production, and the unpopularity of the finished product. Nowadays, Telepuk fabrics can only be found in the Textile Museum, in private collections, or at craft centres such as MHDC. There is no longer any active Telepuk textile producer in Malaysia.

The end of Telepuk also eliminated the need for Telepuk woodblock makers. Contemporary society seems not to appreciate or value the aesthetics of Telepuk textiles, which is created by the arrangement of the various motifs. Even though currently there appears to be a lack of interest in, and a lack of market viability for, Telepuk textiles in today's Malay society, these crafts represent important aspects of Malaysia's intangible (in terms of practices) and tangible (in terms of products) cultural heritage. Within the practices is contained much empirical and tacit knowledge in the form of skills related to traditional textile making, woodcarving, and application of gold to the fabric. In terms of the resulting products, there is the aesthetic value of the textiles themselves, as well as the relationship they have to traditional ceremonies, cultural rituals and practices, and other formal Malay occasions, which have their own norms and conventions. If the practices are allowed to disappear, this will represent a deep loss to Malay culture.

 For all these reasons, there is a need to revitalise the craft of Telepuk textiles, which today has become neglected compared to other well-known Malay traditional textiles such as silk, *Songket,* and *Batik* (Baharom and Nawawi, 2015, p. 638). To identify the significance and value in revitalising traditional craft and its various elements in accordance with the principle of sustainability, Zhan & Walker (2018, p.5) classified values related to craft within the two dimensions of extrinsic and intrinsic. They suggested the craft revitalisation strategy could utilise the intrinsic value of traditional craft that accords with sustainability and contributes to economic growth. This is similar to the classification of cultural heritage into tangible and intangible cultural heritage outlined by UNESCO (2021).

This classification of value also reflects Elkington's Triple Bottom Line (TBL) of sustainability and addresses the personal meaning and spirituality within traditional craft in accordance with Walker's Quadruple Bottom Line (QBL) as additional elements of sustainability (Elkington 1997; Walker 2014). Hence, Telepuk craft is rich with intrinsic values, mostly because Malay people are typically devoted to their culture, community and religion (Bahauddin, 2002, p. 25). Furthermore, for Malay Traditional craft such as Telepuk, many of their products are long lasting and passed on from one generation to the next – not only reducing waste but also contributing to the heritage and cultural value of material artefacts.

6.3.4 Finding 2: The role of woodcarvers in Telepuk craft revival

Woodcarvers can make an important contribution to the survival of other crafts as well as making their own craft stay relevant. This relationship between crafts emerged from the study of the Telepuk revival project at the Sultan Alam Shah Museum of Selangor. The initial objective of the museum was to document Telepuk motifs based on the woodblocks in their collection and to create new motifs. One reason for this was that Telepuk textile was recognized as a textile worn by the Selangor Royal family (Galeri Taming Sari 2010, p.3). However, there are no woodcarvers today who create these woodblock stamps. To complete this task, the museum approached a well-known master woodcarver. Fortunately, a well-known Malaysian master woodcarver was keen to take the challenge. Initially, this master carver had only limited knowledge about the textile craft, however, he did have his own expertise in Malay traditional motifs and skills in woodcarving. Working with the museum, he demonstrated how woodcarvers can contribute to the survival of other crafts as well as promoting traditional Malay woodcarving.

Local woodcarvers need to have an in-depth knowledge of Malay motifs, a willingness to explore textile crafts and impeccable woodcarving skills. The expertise of a woodcarver is needed to create the traditional motifs. Although the motifs of Telepuk are closely related to those used in woodcarving products, the difference between the two lies in the application of the motifs, because of the different media.

Figure 6.7 Revived Telepuk woodblock by woodcarver, Norhaiza Nordin
(Picture by Author, 2016)

The application of motifs on textile is two dimensional, whereas, for woodcarving, the artisan can produce more sophisticated three-dimensional motifs. The motifs for textiles are usually from a top view or cross-section view of the subject, while the motifs of woodcarving can be done more realistically. Despite these differences, the motifs of Telepuk textiles have a lot of similarity with woodcarving craft because the motif in Malay traditional crafts are generally derived from the same sources (e.g; local flowers, animals and objects).

6.3.5   Finding 3: Revival strategy of master woodcarver

There are several strategies led by master woodcarvers to revive the traditional Telepuk craft in collaboration with Museum of Selangor as the main supporter and organiser. The approach used here can be divided into two categories: *1) Documentation and 2) Promotion,* to assemble the necessary information as a way of transferring knowledge, and to raise awareness of Telepuk crafts to a broader audience. To implement this approach, museum staff and master woodcarvers focused initially on documenting Telepuk motifs and production processes. This documented information could then be shared with and promoted to the public. The promotion was planned and executed with support from the Sultan Alam Shah Museum. The details of the approach and outcome of the revival strategy are summarised in Table 6.11.

The revival strategy of Telepuk crafts, which has been in process since 2016, has already achieved some successes. The documentation of motifs has been translated into published works and exhibitions. The most crucial contribution from the woodcarvers has been to help with documenting the motifs of Telepuk woodblocks in the museum collection and in creating a new Telepuk motif exclusively for the State of Selangor. This new motif may lead to further branding strategies in future. Following this, the promotion of these traditions will be crucial to raising public awareness. Thus, the organiser is actively promoting Telepuk in the media as well as through exhibitions, seminars and craft workshops. The master woodcarver has continued presenting Telepuk seminars and workshops on many occasions and at various locations all over Malaysia.

	Action		Outcome	Target Audience
Documentation	Recreated and revived old Telepuk woodblock	Reviving and repairing Telepuk woodblocks untouched for at least half a century in museum storage.	Museum exhibition	Public
	Consultation	Documentation of names of motifs and origins based on experience and knowledge in Malay motifs.	Books Research Articles	Museum Personnel
	Creating new Telepuk motifs	Proposed new motif design with regional identity of Selangor for the state-level museum.	Branding	Museum Personnel
	Documentation in articles, research and books.	Publishing articles and books about the revival process.	Books Research Articles	Researchers Artisan Academics Public Craft supporters
Promotion	Telepuk Exhibition	An exhibition on Telepuk textile and revived Telepuk woodblock collection.	Exhibition	Researchers Artisan Academics Craft supporters
	Presentation in crafts and textile seminar	Knowledge exchange with experts in textiles and Malay crafts.	Research Articles Future collaboration	Researchers Artisan Academics Craft supporters
	Telepuk Woodblock making and Telepuk Process Workshop	Knowledge transfer of Telepuk making process focusing on woodblock making and Telepuk motifs knowledge.	Crafts workshop Live demonstration	Researchers Artisan Academics Public Craft supporters
	Local media coverage	Promotion in electronic and printed media.	Promotion	Public

Table 6.7 Approach for Telepuk revitalisation strategy

6.3.6 Finding 4: Researcher experience participating in Telepuk woodblock carving workshop

The master woodcarver offered two days Telepuk woodblock workshop for anyone interested. The first workshop was co-organised with Selangor Museum to revive Telepuk craft in 2017. Later on, the workshop was held once in 2018 and 2019 at Selangor museum. Besides that, the master woodcarver also has been invited to organise a similar workshop at several places such as Pahang in 2018 and Kuala Lumpur in 2019.

The researcher took one of the workshop sessions in 2017 because of a curiosity about the workshop and woodblock carving. The workshop was started with the lesson on the historical perspective of Telepuk craft, the production process of Telepuk textile and the example of finished textile. Then, the participant introduced to the function of carved woodblock, the motif used and the role of the woodcarver in the woodblock making process. The second day is the practical part of the workshop. The participant was given a woodblock carving set to start making a basic woodblock for Telepuk textile. Then, they will be making Telepuk handkerchief using their woodblock carved by themself. The overall experience was full of excitement and enlightenment. It's given some insight into how meticulous the process of Telepuk and woodcarving craft. The process is difficult to master in a short time. However, the hands-on experience in the craft making process makes the participant understand more the value of the craft. The researcher has a better understanding of the exclusivity and justification behind the high price of the end product.

Figure 6.8 Telepuk woodblock workshop in 2017 (Picture by Author)

6.3.7 Conclusion of case study 2

From the findings, it is important for artisan and stakeholders in traditional crafts to collaborate and to create engaging and innovative ways of promoting their work in order to raise public awareness. However, to ensure traditional crafts continue to flourish, artisans have to make a living from it. The feedback from the participants emphasised the importance of new product innovation or a proper marketing strategy to ensure economic viability for artisans such as woodcarvers and textile producers. Therefore, a future collaboration with creative industry personnel such as designers – for the context of this case study, product designers, textile designers or graphic designers are among the relevant options. The stakeholders in crafts can be grouped into three:

a) Producers: artisan/craft producers, designers, enterprise manager, SME owner, etc.

b) Supporters: academia, locals, students, government agents & agencies, curators, NGOs

c) Designers: Creative personnel, design manager

Each stakeholder may contribute to a craft revival based on the intrinsic meaning of the traditional craft to them. The intrinsic meanings visualise motivations, values, responsibilities and something of the outlook of stakeholders (Walker *et al.*, 2016, pp 32-37). Drawing on the participants and craftsman's feedback, we have identified the potential relationship between craftsmen, supporters and designers for a future crafts revival strategy, as shown in Figure 6.9;

CRAFTSMEN
Meanings
continuing tradition
sense of duty
new knowledge
self belonging

1

2

DESIGNER
Meanings
seek new knowledge
sense of duty
social contribution
Passion

3

SUPPORTER
Meanings
obligation to society
sense of duty
sense of place
sense of history

Figure 6.9 The potential relationship collaboration

Feedback from workshop participants suggests that the designer can contribute by developing a new application of high-value Telepuk textile products, which are relevant to contemporary audiences and appropriate in terms of contemporary fashions. Furthermore, Malay craftsmen tend to work alone, doing their own craft, which tends to isolate them from broader society. Through cross-disciplinary collaborations, new design knowledge and new thinking could be developed that would improve real practices for the crafts community (Hall and Hall, 1996, p. 42).

The potential strategy and action for collaboration, as summarised in Figure 6.10, is based on the feedback from the artisan and the workshop participants. It involves details of a potential collaborative relationship between Designer+Craftsmen, Craftmen+Supporter and Supporter+Designer in Malaysia. through such means, a local craft industry can be targeted to import knowledge from other craft/discipline/industry or can become a source of knowledge for export to others. In woodcarving apprenticeship, transfer of skill learned through repeated copying of master craftsmen artwork. Good craft apprentices will be able to develop their own identity or style of carving after years of practice. However, to accomplish knowledge transfer between multidisciplinary participants, it is crucial to examine and drawn on all accessible resources. In this study, by using the expertise of woodcarvers in carvings skills and knowledge of traditional motif, just such a strategy was attempted in order to bring the lost craft of textile printing to members of the general public.

Figure 6.10 The potential strategy and action for collaboration

To conclude, from this case study, two main area for future development for reviving culturally significance product has been identified:

1. **Collaboration strategy:**

   The key strategy for the artisan in this case study is collaboration with resourceful partners. The craftsman collaborated with several parties, including multi-disciplinary artisans, government agencies, museums, researchers, craft enthusiasts and academics. The artisan needed to work with different experts for an effective revitalisation strategy. Experiential learning and knowledge gained through collaboration are significant elements in the professional development of practitioners (Szabó and Négyesi, 2005, pp. 63–85). Knowledge exchange enabled through such collaborations is also vital, not least for the development of other culturally significant products. Knowledge creation and knowledge transfer are sources of innovation, which is a key factor in the stimulation of local development (Bathelt, Malmberg and Maskell, 2004, pp. 37–47). In the context of this study, the museum and woodcarvers need each other to revitalise the lost craft of textile heritage. The craftsman pointed out that future collaborations for revitalisation may involve additional parties such as designers and those in the creative industries.

2. **Raising public awareness**:

> To raise broader awareness, public engagement is needed. Promotion through the media and exhibitions for a public audience is necessary to reintroduce the Telepuk crafts. Important approaches involve craft workshops and seminars for members of the public, including other craftspeople. The workshop and seminar successfully drew stakeholders willing to contribute to the survival of Telepuk crafts. The knowledge transfer occurred through these sessions. It also gathered various multidisciplinary experts and expanded the possibilities for future collaborations. The workshop also allowed the participants to learn new crafts – in this case, woodcarving and textile crafts. The participants also raised the possibility of making their own craft at home, using the Telepuk craft kit that was provided at the workshop. This is considered as a *documented and fixed* domestication strategy to promote traditional craft as a hobby or therapeutic activity by the organiser (Holroyd, Twigger and Al, 2015, p. 9).

This case study explored the contribution of artisans, in this case, a woodcarver, in revitalising other crafts while at the same time promoting their own craft. This study has demonstrated the importance of collaboration among craftspeople as an important approach for stimulating interest in culturally significant products. Drawing on feedback from this study, we have identified the important factors for successful traditional craft revitalisation strategies, namely: collaboration between stakeholders, and promoting public awareness. In the future, co-creation or collaboration with designers and others in the creative industries may open the possibility of developing a new application of woodcarving craft, or to consider the use of new technologies, which could reduce production cost and time. The value of the product can become higher with better market positioning and promotion. Such promotion and understanding is important to justify the relatively high price of the product so that the craft practices can be made economically viable.

6.4   Conclusion of Chapter

The data gathered from both case study is important to investigate current practice in Malaysian woodcarving industry. **Case Study 1 (CS1): Woodcarving community in Besut, Terengganu (East Coast of Malaysia)** has given crucial information regarding current situation in local woodcarving community in Besut**. Case Study 2: Telepuk woodblock stamp revival strategy by master woodcarver,** looking at different perspective. This case study explored the role woodcarver in revitalising other crafts while at the same time promoting their own craft. Later, the possible collaboration mechanism with other stakeholders. The key findings examined from both case studies are:

1. Significance value of woodcarving craft

Woodcarving craft associated with historical value, economical value and practical value among local community and artisan as elaborated in CS1. In relation to sustainability, CS1 highlighted the importance of good sustainable practice in woodcraft production process. Its importance to improve perception and reduce negative stigma in woodcraft industry. Also, it was found that personal value associated with woodcarving craft plays very important for local, either extrinsic or intrinsic. Significantly, the intrinsic value of traditional woodcarving is the main motivation to protect the craft from fading away. In line with CS2, the intrinsic meanings of woodcarving craft towards stakeholders are the main drive for them to contribute and working together with artisan. CS2 outline the potential relationship between craftsmen, supporters and designers for a future crafts revival strategy, as shown in Figure 6.9. Evidently, feedback from stakeholders suggested personal meanings are a crucial motivation factor for them to involve in craft product revival.

2. Issues and challenge in woodcarving industry

The challenges for woodcarving industry have been identified: i) unfavourable pricing factor, ii) declining woodcarving craft popularity, iii) woodcarving product relevancy, iv) quality of craft apprentice, v) negative stigma of the industry and vi) negative mindset of artisans. In CS2, as comparison, the end of Telepuk textile also eliminated the need for Telepuk woodblock makers. The key issues identified as factor to the end of Telepuk craft are i) lack of demand, ii) unprofitable market, ii) lack of apprentices, iv) high costs of material and production, and, v) the unpopularity of the finished product. There is similar pattern of challenges can be found from both case studies. These challenges can be classified as production, market, promotion and human capital issues.

3. The role of designer

In CS1, previous initiatives in revitalising woodcarving craft at Besut outlined in Finding 5. However, most development projects had the same broad aim of revitalising and preserving traditional woodcarving in ways that offer a sustained supply of apprentices, commercial activities and economic viability at a local level. There is no initiative in early phase of production process. For example, artisan never directly involve with designer (such as product or graphic designer). Additionally, finding in CS2 suggested the need of designer skills in production process of culturally significance product. Designer such as product designer or graphic designer can navigate craft product into new potential market with new innovation and creative promotion.

4. Main areas for the future development

The main area for future development gathered from CS1 can be found in Finding 5 (6.2.6). It was found that the future development for woodcarving craft community in Besut needs to be compatible with the artisan way of life. To ensure this, the area of future development must consider the factor of past, present and future of the craft. CS1 addressed the main areas for the future development of woodcarving craft in Besut as follows; (i) Value of place, (ii)Human capital, (iii) Research & documentation, (iv)Product development, (v) Promotion & Marketing and (vi)Policymaking.

These areas for future development are important area to explore for revitalising woodcarving craft according to Besut woodcarving community. Meanwhile, from CS2 we have identified two additional main area for successful traditional craft revitalisation strategies: collaboration between stakeholders and promoting public awareness.

Furthermore, co-creation or collaboration with designers and others in the creative industries may open the possibility of developing a new application of woodcarving craft, or to consider the use of new technologies, which could reduce production cost and time. The value of the product can become higher with better market positioning and promotion. Such promotion and understanding are important to justify the relatively high price of the product so that the craft practices can be made economically viable.

From the findings from both case studies, eight main area for future development of revitalisation strategy have been concluded. Six areas from CS1 and remaining two gathered from CS2. This finding will be compared with result from other data collection (literature review and semi-structured interview) then will be discussed further in following Chapter 7.

Case Study 1	Case Study 2
1. Value of place 2. Human capital 3. Promotion & Marketing 4. Product development 5. Policymaking 6. Research and documentation	1. Collaboration 2. Raising public awareness (promotion)

Table 6.8 Summary of main area for future development from case studies

Chapter 7 Discussion of Findings

7.1   Introduction

This research investigated the key factors and their relationships that can inform the revitalisation of woodcarving craft in Malaysia in accordance to 'design for sustainability'. This thesis has already presented the research findings from the three major data sources:

- Literature Review (LR) – about sustainability, design and craft gathered from international and local sources (Chapter 2).

- Semi-structured interviews – conducted with 37 respondents in three groups based on their different roles and clusters in Malaysian design and craft industries: producers (n=15), supporters (n=16) and buyers (n=6) (Chapter 5).

- Two case studies – Case Study 1 (CS1), Woodcarving community in Besut, Terengganu (East Coast of Malaysia) and Case Study 2 (CS2), *Telepuk* woodblock stamp revival strategy by master woodcarver (Chapter 6).

In this chapter, five main research findings are identified in relation to the research questions. These findings are derived from the analysis of information from the three major data sources mentioned above and are summarised in Section 7.7.

7.2 Main Research Finding 1: The Level of Sustainability Awareness among Craftspeople in Malaysia can be Improved

This section addresses Research Question 1: *What is the current level of awareness of sustainability among craftspeople in Malaysia and what is the perceived relationship between sustainability and craft?*

One of the main differences between this study and previous studies is its focus area. Previous studies (Silah *et al.*, 2013; Ruzaika, Legino and Mohd Yusof, 2014; Yusof, Khair Ibrahim and Nafida Raja Shahminan, 2020) revolved around the significance of Malay woodcarving craft while research findings from this thesis show the relationship of sustainability and design to the continuation – and potentially the rejuvenation – of traditional woodcarving in Malaysia. Hence, our research expands the research scope for this topic by focusing on the meaning and significance of traditional craft revival.

From the primary data it is apparent that many people in the craft sector do not fully understand the meaning of the term "sustainability" in its contemporary usage, as presented in the literature review (Chapter 2). Also, in Section 5.2, it was revealed that the craftspeople's understanding of the meaning of sustainable development is quite broad. From the semi-structured interviews, the responses from 37 respondents indicated that the term sustainable development differs from one person to another. This is consistent with the findings of Byrch et al. (2007, pp.26–52) which stated that local stakeholders in the Malaysian crafts industry seem to incorporate "their own understanding of sustainable development into various aspects of their operations".

There were only a five respondent (S1, B3, S4, S7, S8) who understood the meaning of sustainable development in ways that align with the definition in the Brundtland Report (Brundtland, 1987) (Section 5.2.2). This term is generally associated with positive environmental consciousness. Besides these five respondents, most of the others who claimed to be aware of the definition of sustainability have a far narrower interpretation (5.2.1). The different perspectives and priorities of stakeholders in the craft industries towards sustainable development might present a few challenges.

Thus, it is crucial to improve the level of awareness of sustainability among craftspeople in Malaysia in line with local values. Among the key values that most often emerged from interviews are 'cultural' and 'spiritual' values (5.2.3) which were also emphasised in the literature review (2.16). However, it was found that personal values such as cultural and spiritual values for Malaysian craftspeople are different compared to western perspectives (5.2.3). Thus, the local values determined from this study are important to be considered for any future craft revitalisation strategy. This is in line with the CS1 finding, which requires the compatibility of future development with local's way of life (6.2.6).

The intrinsic value of cultural heritage may provide a way of stimulating production and embracing a material culture that is culturally significant and meaningful. This inner value is a part of the comprehensive sustainability principle to contribute to meaningful material culture, as suggested by Walker (2017). This is also consistent with the findings from the semi-structured interviews. The relationship between sustainability and traditional craft production in Malaysia was explained by the respondents as intrinsic values: (i) understanding of craft philosophy; (ii) sense of belonging; (iii) responsibility safeguarding cultural legacy; as well as external values within the production process (e.g. raw material, localisation and material culture). It is evident that the intrinsic values linked to the concept of sustainable development should be better understood by craftspeople in Malaysia (P1, P2, P3, S8, S9 in Section 5.2.4).

As evidenced in all sources, traditional crafts such as Malay woodcarvings are rich with meaningful personal values for Malaysians. Recognizing the importance of personal values of traditional crafts will make the craft production process much more meaningful for artisans and buyers. Artisans are encouraged to put more effort into better communicating the intrinsic values of their craft such as their philosophy and identity (5.2.4). However, it is clear that we cannot leave this task to the artisans alone. Stakeholders in the craft industry need to play their part in craft revival initiatives and increase their awareness of the cultural meanings and significance to sustainability of traditional crafts. It was found from the findings that the artisan and craft producer are open to appropriate changes from any parties if it can boost interest and sales (5.4.5, 6.2.5). Hence, the efforts of all stakeholders in contributing to craft revival initiatives are clearly welcomed by the artisans.

7.3 Main Research Finding 2: The Significance Value and Meaning of Malay Traditional Craft, Including Woodcarving, in Accordance with the Principles of Sustainability

This finding partly addresses Research Question 2: '*Does Malay traditional craft hold potential for revival and what is the perceived value of preserving it?*', through an understanding of the relationship between craft and sustainability.

This research concludes that the values of handicraft products (including Malay traditional woodcarving) are compatible with all the elements of Walker's Quadruple Bottom Line of Sustainability (Walker, 2011, 2014, Mullagh, Walker and Evans, 2019) i) practical meaning, (ii) social meaning, (iii) personal meaning, and (iv) economic means. These elements can be categorised into the two categories of intrinsic and extrinsic value (Zhan & Walker 2018, p.5).

This has become apparent based on the findings obtained from the literature review, the semi-structured interviews and the two case studies. Based on the analysis of value in heritage conservation and key theory in sustainability in the literature review (2.4.2), this research classified values relating to traditional craft into four categories within extrinsic and intrinsic dimensions.

The values of traditional craft revival mapping with the main sustainability theory and findings from the primary data collection are presented in the Table 7.1:

Value of traditional craft in relation to sustainability	The elements of Sustainability (Walker, 2011)	The value and benefit of woodcarving craft		
		Semi-structured Interviews	Case Study 1	Case Study 2
Intrinsic Values	**Socio-cultural Meaning**	• Craft community and support (5.3.4) • Identity - local, national, cultural. (5.3.4)	• Local identity (6.2.2) • Socio-economic development (6.2.2) • Artisan community well-being (6.2.2)	• Local identity (6.3.5) • Knowledge transfer (6.3.6)
	Personal Meaning	• Traditional practice and elements - religious and spiritual value, meaningful tradition (5.3.4) • Identity (personal) (6.2.2) • Philosophy (5.2.2) • Sense of belonging (5.2.2) • Responsibility (5.2.2)	• Personal meaning (6.2.2) • Sense of belonging (6.2.2) • Value of place (6.2.6)	• Responsibility (6.3.4)
Extrinsic Values	**Practical meaning**	• Traditional practice and elements - tacit knowledge, craft skills & technique, (5.3.4) • Craft community and support - facilities, resources (5.3.4) • Craft products use - utilitarian & ornamental means (5.4.2) • Production process (5.2.2)	• Source of income (6.2.6) • Craft product use & manufacturing practice (6.2.3) • Localisation (6.2.4)	• Economic sustainability (6.3.5)
	Economic means	• Economic viability (5.3.4) • Environmental awareness (5.3.4) • Localisation (5.4.3) • Material culture (5.2.2)	• Ethical income generation (6.2.2) • Sustainable supply chain (5.2.4)	• Market expansion (6.3.5)

Table 7.1 Values of Woodcarving Craft

285

The results from the findings illustrate the benefit of craft revival in relation to the elements of sustainability (Walker, 2011, p.190) as stated in the literature review. As presented in the table 7.1, the significance of Malay traditional craft within these elements are elaborated as follows:

7.3.1   Intrinsic values

Intrinsic values of Malay traditional craft can be found within the social and personal meanings of traditional craft. For the artisans, traditional craft gives meaning to their lives in many ways. It is a valuable heritage passed down from generation to generation; it is also an important facet of local identity and is still treasured by most Malaysians. Unlike craft's extrinsic values, craft's intrinsic values are hard to measure, but can be defined and evaluated. The meanings within craft production's intrinsic values are:

- **Socio-cultural meaning: ethics, common identity, social equality and justice**

As identified from the literature review (2.11.5), semi-structured interviews (5.2.3, 5.3.4, 5.3.5) and two case studies (6.2.2, 6.3.2), findings from this study discuss social meaning in terms of ethics, common identity, social equality and justice. Furthermore, socio-cultural meaning can be enhanced by strengthening the communal and social capital, socio-economic development and better social well-being (5.3.4, 6.2.2). These are essential elements to ensure the harmony of the people working in the craft community, and they create social bonds that have resulted in a strong support structure within the craft community to ensure continuous production of crafts. Traditional woodcarving crafts are considered as a significant heritage filled with local identity, common religious & spiritual beliefs, and pride in local art, tradition and history. Socio-cultural value within traditional craft is cultivated from these elements. Traditional crafts bring together people who cherish the same cultural heritage, local identity and the national/local culture.

- **Personal meaning: conscience, spiritual well-being, questions of ultimate concern**

As identified from the literature review (2.4, 2.6, 2.11), semi-structured interviews (5.2.4, 5.3.4) and two case studies (6.2.2, 6.3.5), Malay traditional craft is closely associated with the personal and spiritual values of artisans. The elements of these values for craft include: beliefs, faith, sense of being, responsibility and self-fulfilment through making. Furthermore, maintaining the crafts can be seen as the artisan's devotion to religion (2.11.3), royalty, traditions and the Malay people (Said, 2002b; Noor, 2003). For Malay artisans, the knowledge of craft they possess comes with great responsibility.

'Allah has promised those who believe and do righteous deeds [that] for them there is forgiveness and great reward.' (Qur'an, 5:9). Majority of woodcarvers are Malay Muslim. They place great importance to personal and spiritual values in their way of life in accordance to their faith. Their craft is as a way to preach or *'dakwah'*, conveying good values in line with Islamic teaching. Hence, the continuation of traditional craft is considered as their good deeds that will be rewarded in afterlife.

7.3.2   Extrinsic values

Extrinsic values of traditional craft can be found in practical meaning and economic means. For the artisan community, traditional craft is considered an integral part of their way of living, particularly in terms of the ways in which they produce, trade and use handicrafts. Craft production's various benefits & meanings within extrinsic values are presented as follows:

- **Practical meaning: providing for physical needs while enriching environmental impacts**

As identified from the literature review (2.11.5), semi-structured interviews (5.2.2, 5.3) and two case studies (6.2.2, 6.2.3, 6.3.5), the contribution of the craft sector towards sustainability and environmental meaning was frequently discussed in terms of the practical aspects of craft production practice (e.g., production process, raw material, logistic, post-production and localisation) (5.2.2,6.2.3). The development of traditional craft is closely related to its practical value. In CS1, the practical value of woodcarving craft is due to its strategic location within a strong woodcarving community, and the value of the place as a well-known woodcarving centre. There are two types of manufacturing practice – custom order and ready-made and four product purpose categories: (i) decorative, (iii) utilitarian, (iv) souvenir and (iv) ceremonial/traditional (6.2.3). Practical meaning can be translated as a utilitarian need that has an environmental impact. Thus, the elements within this theme from the findings are; environmental awareness, sustainable production, design for sustainability and localisation. These are manifested through the craft's use of eco-friendly materials and production processes, use of renewable resources and skilled labour rather than energy-intensive, machine-based production.

- **Economic means; financial viability, but not as an end in itself**

The elements within 'economic means' that emerged from the findings are: socio-economic development, local business, source of income (LR), sales and profit (CS1), and market expansion (CS2). It is crucial to ensure the economic viability of the artisan's business as this is crucial to ensure the delivery of the other meanings. It is seen as a way of achieving the other three, not as an end in itself (Walker, 2011). From the literature review (2.11.6), common initiatives by the government and other agencies towards the survival of culturally significant products focus on commercialisation strategy. However, without proper planning and support, most strategies failed to have significant impact, as highlighted by the findings from CS1 (6.2.5). Hence, feedback from respondents revealed that the initiatives must be compatible with the community way of life, supporting their livelihood and strengthening the woodcarving community. The improvements in the local economy and well-being of craftspeople addressed through this research is also in line with government policies (6.2.5). Consistent with the government's vision of 'Common Prosperity,' craft is a community-based social and economic development agenda (Ministry of Economic Affairs, 2019). The revitalisation of the craft industry plays a role in enhancing people's social wellbeing by improving quality of life through the creation of job opportunities and income generation enterprises.

The classification of potential traditional craft values and meanings in regard to sustainability is rarely addressed in Malaysia. This finding contributes to the field by taking the compatibility aspect in the QLB theory from the previous studies (stuart walker, 2014; Zhan and Walker, 2018)and implementing it in Malaysia through the study of woodcarving crafts revival. It is a good opportunity to expand the study and see the compatibility of the theory with this region. From the Malaysian cultural heritage perspective, Bakri et al. (2015) argue that the interest of the stakeholder in valuing cultural heritage is strongly related to tangible heritage, but there is also serious concern about intangible heritage. This segmentation will provide a more comprehensive view of sustainable impacts by showing the connections between each thematic group. The intrinsic and extrinsic values of traditional craft are acknowledged by various groups in Malaysia as part of their way of living. This can be seen in terms of how they make, exchange and use handicrafts. Thus, the revival of traditional craft will benefit people in many aspects.

7.4   Main Research Finding 3: Opportunity for Change and Current Challenges for Malay Traditional Woodcarving Craft Practice

This finding addresses the second part of Research Question 2: *Does Malay traditional craft hold potential for revival and what is the perceived value of preserving it?*

The potential and challenges for traditional craft in general were identified from the literature review (2.11.6). Then, issues in woodcarving craft were further investigated and presented in the semi-structured interviews (5.3.4, 5.4.2,5.4.3) and in the CS1 (6.2.3, 6.2.4,6.2.5.6.2.6). The following section provides justification of woodcarving craft as a focus area.

7.4.1   Malay woodcarving craft as a focus area and exemplary case for sustainable craft revival

Traditional crafts in general are decline in Malaysia, as discussed in the literature review (2.11.6) and interviews (5.3). Hence, there is a call for craft revival in every craft sector in Malaysia, as discussed in Sections 2.11 and 5.3.1. All interview respondents supported the efforts towards craft revival (5.3). Focusing on one particular craft is relevant to ensure the effectiveness of the proposed approach. Furthermore, the selected craft area is in many ways representative of all crafts in Malaysia (5.3.2). Based on the pilot study results (4.2.2), in line with findings from the literature (2.12), woodcarving craft is regarded as a highly valuable Malay craft and is among the most rapidly declining. Hence, it has been selected as focus area for this study (5.3.3). Significantly, from the interviews, all respondents agreed that a successful woodcarving craft revitalisation strategy can become an example to be implemented by other Malay traditional crafts (5.3.2).

Likewise, findings in CS2 demonstrate how the revival of lost crafts (e.g. Telepuk woodblock carving) by master carvers, can become an exemplary case for traditional craft revival in general (6.3.5). The issues and challenges of woodcarving craft found from each data source are presented in the following section.

7.4.2 Current issues in Malay woodcarving craft

Issues within the woodcarving craft in Malaysia have been identified in the literature review (2.12), and further investigated and presented in semi-structured interviews (5.3.3) and Case Study 1 (6.2.4). The findings can be grouped in six main issues;

1. Diminishing practice; in terms of craft practice relevancy, difficult to maintain and survive.

2. Declining sales: economic viability issues (e.g. falling sales, product standard & quality, small market, foreign competition, pricing, product design & packaging).

3. Fading public interest; decreasing popularity and awareness among locals

4. Craft apprentice recruitment; in terms of finding new young apprentices of quality.

5. Negative artisan mindset; issues of motivation, passion, and personal development.

6. Lack of effective strategy; need for compatible revival approach and support (e.g. promotion, policies, documentation, facilities etc.).

From all sources, woodcarving craft is considered to be a diminishing practice and is often seen as an outdated practice in comparison with modern, mass-produced alternatives. Also, there is lack of awareness and understanding of the value of traditional craft (2.11.6;5.2.4;5.3.3). Therefore, this leads to a decreasing interest, especially among the younger generation (2.11.6;5.3.3;6.2.4). This intricate, time-consuming craft is difficult to learn, and thus very costly to maintain (2.11.6). Findings from semi-structured interviews (5.3.3) and CS1 (6.2.2) added declining sales as an important issue, which, conversely, is not discussed in detail in the literature review. This also reveals the contributory factor of falling sales of the woodcarving craft, which ultimately affects the economic viability of the artisans. This is a vital element to make it worthwhile for the artisan to make ends meet. There are some contrasts in the findings regarding apprentices. In the literature review findings suggest that it is difficult to attract young apprentices into woodcarving (2.11.6). Whereas in the interview, the growing number of woodcarving institutions is seeing an increase in the number of young apprentices with formal training (5.3.3).

However, the main issue is that only few remain working in the craft industry after graduation; thus, producers are still facing difficulties in keeping committed workers (P1 and P4 in Section 6.2.4). The apprentices' lack of ability and quality (in terms of absorbing tacit skills and commitment) is also mentioned in the interviews (P2 in Section 6.2.4). On the other hand, the negative mindset among the artisans is a challenge only found in CS1. It was found in terms of a lack of commitment, self-improvement and motivation (6.2.4.5). Notably, these issues and the need for an effective revival strategy in woodcarving craft are found from every source.

The mapping of the themes is summarised in Table 7.2.

	Literature Review (2.12)	Interviews (5.3.3)	Case Study 1 (6.2.4).
1. Diminishing practice	/	/	/
2. Declining sales		/	/
3. Fading public interest	/	/	/
4. Craft apprentice issues	/	/	
5. Negative artisan mindset			/
6. Lack of effective strategy	/	/	/

Table 7.2 Issues in woodcarving craft

Next, the key aspects of woodcarving craft that need to be considered to sustain its production were highlighted (see Finding 5.3.4). Along with the supporting data from both case studies, the nine main areas that can inform the revitalisation strategy of Malay traditional woodcarving and to address the issues in woodcarving craft are presented in following section.

7.5 Main Research Finding 4: Nine Main Areas for Revitalising of Malay Traditional Woodcarving Craft

This finding addresses Research Question 3: *How can woodcarving, as a culturally significant craft practice, be revitalised in Malaysia through effective design contributions in accordance with sustainable design principles?*

From the findings, nine main areas for revitalising of Malay traditional woodcarving craft have been identified (five focus areas and four broader areas). The design strategy for Malay traditional craft revitalisation can be focused within these areas separately or jointly. One focus area is the emphasis on internal factors of the craft. The strategy within this area revolves around the craft and its stakeholders. A broader area is the revitalisation strategy of utilising external factors of traditional craft.

These main areas were developed from primary data findings, semi- structured interviews and case studies. Significant findings related to the key factors for production and preservation of Malay woodcarving crafts are from the semi-structured interviews (5.3.4). Additionally, these are supported in the main area for future development in CS1 (6.2.6) and additional recommendations from CS2 (6.3.5). The mapping of findings and instruments used leading to this result are presented in Table 7.3;

Focus Area (Internal Factors)				
Area	**Literature Review (Chapter 2)**	**Semi-structured Interview (Chapter 5)**		**Case Study (Chapter 6)**
		Theme	**Keywords**	
1. Product development	Design Value (2.17)	Product development	New product, new design, new application, new market, innovation, creativity, modern craft, current market, designerly way, designers	Product development (CS1)
2. Value of Place	Localisation (2.17)	Value of place/ localisation	Well-known place, craft district, woodcarving village, historical place, sense of belonging, Malay origin	Value of Place (CS1)
3. Production Process & Technology	Technology adaptation (2.17)	Technology Adaptation	New technology, craft production, machinery, man/machine, modern technology.	Production Process (CS1)
4. Human Capital and Well-being		Skill enhancement motivation	Reskilling, retooling, learning, enhanced skills,	Human Capital (CS1)
5. Knowledge Transfer		Apprenticeship training exposure	Knowledge transfer, mentoring, learning, teaching craft, practise craft, demonstration, workshop	
Broad Area (external factor)				
Area	**Literature Review (Chapter 2)**	**Semi-Structured Interview (Chapter 5)**		**Case Study (Chapter 6)**
		Theme	**Keywords**	
6. Promotion and Marketing	Promotion and product positioning (2.17)	Promotion, marketing and Branding	Promotion, awareness, shows, uplifting, storytelling, marketing, embedding, branding	Promotion and marketing (CS1) Raising awareness (CS2)
7. Collaboration	Collaboration and knowledge exchange (2.17)	Collaboration and co-creation	Collaboration, exchange knowledge, artisan networking	Collaboration and co-creation (CS2)
8. Policy-making		Policy making, legislation	business networking, craft ecology, supply chain, organisation, financial support	Policy-making (CS1)
9. Research and Documentation	Documentation (2.17)	Documentation, research and study	Documentation, records, research, archives, collectors, academic study,	Research and documentation (CS1)

Table 7.3 Nine main areas for revitalising of woodcarving craft

Area 1: Product Development

The importance of product development became evident from information gathered from the literature review (2.6.6), the semi-structured interviews (5.4.1, 5.4.2,5.4.6) and both case studies (6.2.6,6.3.5). The first area of product development relates to the design process and aspects related to the early phase of the product development process. Product design and development could help to increase product values (e.g. monetary value, customers' perceptions of handicrafts) and sales potential. The activities happen at the early stage of production process. The research identifies potential strategy areas for production development, including:

- **Design for craft**: Designer involvement to integrate design into new craft product development: (i) fresh designs to keep products up to date with customer preferences (e.g. in terms of colour schemes, forms and functions); (ii) designerly way to embed traditional elements; (iii) design to increase production efficiency with technology adaptation; and (iv) assimilate more product information and storytelling (e.g. in the packaging design).

- **New applications**: applying carving skills to new products, new applications, new media or new materials.

- **New products**: product diversification (e.g. expanding more to functional and contemporary products instead of decorative woodcarving product).

- **New markets**: identifying a particular type of product to sell to a small number of customers who want unique and exclusive products (niche product/market).

These development areas are associated with the research aims for traditional craft business that promotes economic viability and advocates for a better future through better end product.

Area 2: Value of Place

The value of place in the revitalisation strategy for traditional craft was identified from the literature review (2.7.2), the semi-structured interviews (section 5.3.4) and CS1 (5.3.4). Traditional craft such as woodcarving is often defined by the history, quality and cultural meanings associated with a particular place. For example, the epicentre of the Malay woodcarving craft is known to be based in Besut. Specific to place, potential strategies include:

- **Utilise value of place:** The value of place for traditional craft needs to expand beyond the craft community. The public need to be informed of the significance of the craft's origin. The commercial value of craft can be increased with more promotion of the place. Besut, for example, has become popular because of its craft, which has spawned other business such as in the tourism industry. The local people who live among the craft community also value the local craft business highly. This symbiotic relationship associated with place can be utilised as a craft revitalisation strategy.

- **Localisation:** There are some key issues, such as the high price and inconsistent quality of raw materials used in production, which lead to non-standardised production and varying levels of craft product quality. A localisation strategy for raw material and associated processes can reduce the production cost. Craft production encourages the use of materials that are locally available.

  It can become a direction for development to address these issues with sustainable elements, such as growing raw materials, using high-quality material and exploring other choices of locally available raw materials. The sustainable elements highlight the use of natural and local resources which link to the larger vision for a better environment for all.

Area 3: Production Process & Technology

Optimising the production process and technology for handicraft production as one of the strategy areas was identified from information gathered from the literature review (2.12, 2.14.1), the semi- structured interviews (5.3.4, 5.3.5) and the two case studies (6.2, 6.3). The significance of this strategy is to ensure a high-quality standard and optimisation of craft production. Potential areas for the strategy are:

- **Increase output**: Increasing the output of handicraft products to supply the market demand effectively. This can improve the reliability of handicraft producers in satisfying customer needs.

- **Improve quality**: Craft products need to achieve certain quality standards to meet certain market and price demands. For example, the quality of the final product needs to be improved to cater to the exclusive market with higher profit margins.

- **Efficient production process**: Both areas can be achieved through the optimisation of production process (e.g. technology adaptation, improved production line).

However, the results of the case studies have shown that the production development strategy would depend on whether the artisan and producer wanted to follow that path. In making such decisions, other considerations are typically taken into account that are compatible with the artisan's way of life, benefitting the factor of past (i.e. local tradition, heritage), present (i.e. artisan level of skills and attitude, facilities, capital investment), and future (i.e. next generation, future policy, economy projection). This is explained further in Section 6.2.6.

Area 4: Human Capital and Well-being

Human capital and well-being are important areas for the revitalisation strategy to ensure the positive mindset of the artisan. This became evident from information gathered from the semi-structured interviews (5.2.4, 5.3.4, 5.4.3) and the two case studies (6.2.5, 6.2.6,6.4), The identified strategy for this area can be achieved through improving the artisans' interpersonal and personal skill. Interpersonal skills refer to a variety of skills, including interactive communication, partnerships and teamwork in maintaining relationships in teams and within groups. This skill is valuable in networking with people of various fields, as well as social skills/etiquette. Next, practical skills for artisans can help to add value to their work and encourage a positive mindset. Artisans can enhance their skills whether they are related to their craft or not. Practical skills can be achieved through reskilling – learning new skills (eg; business, digital and language skills (multilingual etc.), and retooling – fitting out with new tools or technologies. Enhancement of skills may enable the artisan to adapt, and with their new abilities, they will be able to perform their craft production in a different and effective way.

Area 5: Knowledge Transfer

The significance of knowledge transfer for traditional crafts revival was apparent from the examination of literature (2.11,2.12,2.13), the semi-structured interviews (5.3.4, 5.4.2,5.4.3) and both case studies (6.2.5,6.2.6).

For the long-term viability of the handicraft industry in Malaysia, traditional craft knowledge needs to be acquired and transferred as internal knowledge transfer among the artisan community. This is of particular importance between experienced and younger generations of artisans. The current main approach for transferring this knowledge in Malay traditional craft is through apprenticeship.

Now, there are both formal and informal apprenticeship training schemes for young artisans. From the findings, apprenticeship is still relevant for craft practice. However, improvement of apprenticeship schemes is needed to assure high-quality training of people who are committed to carrying on the torch of craft business. This could be accomplished by broadening the focus of the knowledge to be transferred beyond traditional practice, but also by nurturing an entrepreneurial mindset and related knowledge to young artisans.

In order to nurture the entrepreneurship mindset and share it with the next generation, most artisans need to increase their knowledge in several related fields. This knowledge can be transferred from experts or stakeholders to the artisan as an external knowledge transfer to the artisan community.

The significant areas of knowledge to support the entrepreneurial development of artisans are:

- Current technology – this includes operating online services (such as website, social media and internet application), computer software and applications (e.g business management or accounting software)

- Product development and marketing – relates to marketing and business trend research, product trading and distribution management. It can help to identify potential new products and customers as well as improving business management.

- Craft and sustainability – The practices in handicraft production conform to sustainability in many ways. From the findings, many stakeholders in the sector did not fully understand sustainability and how personal meaning, social responsibility, environmental care and economic viability intersect. This needs to be addressed to promote the importance of handicrafts that align well with sustainability. Hence, this knowledge has the potential to increase the value of traditional handicraft as sustainable products.

Area 6: Promotion and Marketing

The importance of promotion and marketing for craft revival became evident from information gathered from the literature review (2.11.6), the semi-structured interviews (5.3,5.4) and the two case studies (6.2.5,6.3.5). From the literature review (2.11.6), the importance of promotion and marketing was discussed in terms of creating awareness and meaningful value (e.g. sense of belonging, identity and understanding) within the younger generation. This is needed to generate interests and desire among this group to become involved in traditional crafts. This was partly apparent from the findings in the semi-structured interviews and case studies. However, the respondents from the field studies mainly associated promotion and marketing strategy within economic perspectives (5.3,5.4,6.2,6.3).

Based on the findings from CS1 (6.2.6), this strategy aims to ensure the economic viability of artisans. Expanding the market with new designs of premium woodcarving product is an example of design activity. Branding can focus on an artisan's personal branding, quality of the product, value of heritage and the value of place. CS2 (6.3,7) suggested that a promotion and marketing strategy helps to assemble the necessary information as a way of transferring knowledge, and to raise awareness of traditional craft to a broader audience. Ultimately, it was clear that designers can support artisans in developing a promotion and marketing strategy for craft revitalisation. Existing activities for promotion and marketing have been discussed in findings (.2.5.1; 6.2.5.3; and Table 6.7). Future key activities for this area of design strategy are:

- **Virtual and physical promotion**

Virtual promotion is the more important of these two. It consists of promotion in mainstream media – often associated with promoting information about craft and creating public awareness (i.e. TV and radio) and more importantly alternative media – for easy, free and wider (local and international) promotion (e.g. internet services, website, e-commerce, social media, etc). Recently, in the midst of the COVID-19 pandemic in 2020-2021, virtual promotion using social media proved to be crucial for artisans' survival. Handicraft sales during lockdown due to the pandemic were solely based on online sales and virtual promotion (Esther, 2021).

However, physical promotion such as demonstrations, museums, galleries and craft exhibitions are still considered significant. These offer a tangible feel and appreciation for craft products. And, according to the artisans, the understanding and beauty of traditional craft and skills are easier to share physically

- **Craft branding**

From the findings, strategic branding is crucial to boost the visibility of craft products as well as the artisans. The promotion and implementation need to happen concurrently to ensure the branding is successful. For example, the Geographical Indicator (GI) has been registered for traditional woodcarving from Besut by the local government. However, no artisan or the local community are aware of this and never use the registered GIs as the part of their craft branding. Additionally, personal branding across multiple platforms is lacking among the artisans, even though creative advertising via social media increases the popularity of the artisan and their craft. However, it is only used by some younger artisans. Other potential design activities include consultation about corporate image for craft producers, which are currently lacking (e.g.; graphic logo, packaging, company branding).

Area 7: Collaboration

A collaboration strategy was identified from information gathered from the literature review s (2.3,2.17), the semi- structured interviews (5.3.4, 5.3.5) and two case studies (6.2.5 and 6.3.5). The significance of this strategy is to ensure collaboration between artisans and various groups of people or stakeholders with appropriate expertise. Potential activities for the strategy are:

- **Collaboration with stakeholders beyond the craft community**

The importance of collaboration as an approach for stimulating interest in culturally significant products became evident from the findings. The artisans collaborated with several stakeholders, including multi-disciplinary artisans, government agencies, museums, researchers, craft enthusiasts and academics for an effective revitalisation strategy. These significant collaboration activities can be done in terms of: (i) sustainable development approach; (ii) supports system; (ii) product development; (iv) research and innovation; and (v) creative promotion.

- **Co-creation with artisans**

Co-creation between artisan and designer (e.g. product designer) is seen as essential for effective and sensitive developments in traditional crafts. Co-creation of high-value craft products for the contemporary market may elevate the commercial value of the handicraft. Previous examples of design intervention in craft-related projects (5.4) have shown handicraft products infused with design elements suitable for an exclusive market. Co-creation with designers and others in the creative industries may open the possibility of developing a new application or approach of handicraft production.

Area 8: Government Support

The development of traditional craft can be expedited with additional support from the government. This was apparent from the examination of the semi-structured interviews (5.3.4, 5.4.4) and CS1 (6.2.5). Potential government supports include:

- **Policy-making**

Policy refers to a course or principle of action adopted or proposed by the government. The research found that one of the most efficient ways to effect change is through the implementation of craft-friendly policies by the government. Potential government policies can be in the form of financial support (e.g. grants, funding, tax incentives, subsidies and loans), developing craft infrastructure, extensive craft promotion and many more. Government can deliver this support through additional funding to government agencies, such as the Malaysian Handicraft Development Corporation (MHDC), and by empowering existing policies (e.g. Act 222 – Malaysian Craft Development Corporation Act 1979 and Act 562 – Malaysian Craft Development Corporation Act 1983).

- **Legislation**

Policy without implementation is neither effective nor successful, and this has been seen in some previous government policies (5.3). Legislation aims to ensure that the drafted policy is successfully implemented. Legislation is the law, procedure or standard that people and organisations must follow.

Effective policy for the woodcarving craft is not only important for promotion, but also for standardising product price; regulating raw material price; & controlling foreign craft invasion; and reporting sustainable policy.

Area 9: Research and Documentation

The research and documentation work in traditional craft is crucial, according to data from literature (2.11,2.12,2.13) and CS2 (6.2.6,6.3.5). Research for traditional craft in terms of development and revival strategy is vital. There is need for more research in terms of sustaining craft practice, intrinsic values (meaning, philosophy and spiritual values), artisans' skills and craft product development. The documentation strategy through collaboration between artisan and stakeholders can also be explored further. The example in Case Study 2 shows significant impact of this collaboration in reviving lost crafts. Findings shows documentation of woodcarving craft using conventional media such as books, documentaries and academic research are popular. However, comprehensive documentation or promotion of traditional craft (intrinsic and extrinsic elements) using current 4th Industrial Revolution (Industry 4.0) technology (such as Virtual Reality (VR), Augmented Reality (AR), 3D scanning and 3D printing) are yet to be explored.

7.6   Main Research Finding 5: Factors to Consider, Potential Approaches and Role of Design for a Revitalisation Strategy

7.6.1   Factors to consider

Findings from Case Study 1 highlight that future development or initiatives for woodcarving craft need to be compatible with the artisans' way of life. To that end, areas of development should consider benefitting from the 'time factors' of the traditional craft which are:

i.   **Past** - the value of craft knowledge inherited from past generations;

ii.   **Present** - the practical value of craft in current times (e.g.; source of income);

iii.   **Future** - the legacy of heritage to pass down for the next generations.

Understanding and taking into account this 'time factor' value to the craft community will be helpful in developing a revitalisation strategy.

In addition, the future development of woodcarving needs to be strategically aiming at three 'target factors' - **Product, People and Place**. Hence, it needs to directly involve at least one of these target factors for effective impact on craft revival. Each focus can be targeted separately or simultaneously, and can be used for a more targeted approach, with the nine main areas previously presented. The mapping of the 'target factors' with nine main areas for revitalising of Malay traditional woodcarving craft are presented in detail in Section 7.7,

7.6.2 Approach for design intervention

From the examples and respondent experiences drawn from the semi-structured interviews, four approaches for design intervention in terms of craft production are outlined in this study: (i) recreate; (ii) upgrade; (iii) integrate; and (iv) innovate (see Finding S5). These approaches can become a direction for design intervention in the Malay traditional craft sector. It was summarised in Figure 7.1;

RECREATE
Recreate or duplicate the lost craft as accurately as possible

UPGRADE
Upgrade the production process of traditional production to increase production and profit margin

INTEGRATE
Integration between craft (or craft elements) with other crafts or products

INNOVATE
Innovation or development beyond the traditional production process or original appearance of craft products

Figure 7.1 Approach for Design Strategy

Recreate or duplicate the lost craft as accurately as possible. This approach ensures the end result can be appreciated and revived as per the original. The result however may be tangible or intangible. One example mentioned is to document and create the craft virtually, recreating the traditional craft using applications of the current Industrial Revolution 4.0 (Industry 4.0) technology (e.g. 3D scanner, 3D printer, Virtual /Augmented Reality, etc).

306

Upgrade the production process of traditional production to increase the production and profit margin for current craft products. Design can contribute to facilitating suitable production processes through suggestions of effective machinery, technology and design ideas. Designers can help artisans to produce craft products that fully utilise the artisans' skills and machinery.

Integrate between craft (or craft elements) with other craft or products. This approach is based on traditional production, but with changes in some features for other purposes. This approach calls for the crafts to expand their products to join with other crafts or adopt new product lines for consumer visibility. For example, *Batik* (textile craft) can use the traditional woodcarving motif for its design, or woodcarving can be integrated into the design of furniture production.

Innovate was mentioned in terms of development in traditional crafts beyond the traditional production process or original appearance of craft products. The end product does not necessarily need manual input by the artisan. However, innovation can elevate craft products in terms of promotion and creating awareness, leading to expansion of new markets, new products, new technology and processes, and new applications. The application of traditional craft can inspire modern products, for example, woodcarving motifs can be applied to mobile gadget casings to promote the craft.

These approaches of design intervention are suitable for Malaysian craft revival, especially in product design and development, to connect handicrafts from local communities with potential customers. It can become an enabler within the nine areas of revitalisation strategy in traditional craft.

7.6.3 Role of design and designer

To address RQ3, we need to clarify the significant role of design and designers in the traditional craft revival initiative. From the findings, it was clear that design can play a significant role in craft revitalisation. The literature review summarised that co-creation between artisans and designers employs collective creativity as an approach to the development of local craft (2.7.6). However, there is a lack of research about the role of sustainable design approaches used to revitalise traditional craft in Malaysia and which explores a broad view of design, including areas such as branding, redesign of production processes, and the communication of practical knowledge (2.11.6). This is consistent with data from CS1 which highlighted that artisans rarely had an opportunity to work with a product designer. However, artisans pointed out that future collaborations for revitalisation may involve additional parties, and every effort to revitalise the woodcarving craft is supported by the artisan community (6.2.5,6.3.5).

The roles of design were presented in the semi-structured interviews (C5.1). Designers in various fields (e.g.; product, graphic, interior, and furniture design) can add value to craft product and practice. Aligned with this, the main area for future development suggested in CS1, is that design can help to expand the craft market with premium new designs and effective promotion (6.2.6). Designers can add weight to the 'missing link' between artisan as designer, and can more effectively position craft products to capture a broader segment of the market (5.1 C3). Evidence from semi-structured interviews and CS1 also suggested that there is an opportunity to improve ways to present meaningful values to customers through design (5.1 C3, 6.2.5,6.2.6).

The main findings from this research offer potential ways for designers to be strategically involved in design-craft-based activity. Designers can perform design activities within the nine main areas for revitalising of Malay traditional woodcarving craft in consideration of the factors and approaches discussed in the previous section. These elements are interrelated and complement one another. Design practice can offer effective contributions to traditional craft using these elements.

7.7   Summary of Discussion

From the discussion, **Five Main Research Findings** have been mapped with previously structured Research Questions for this study.

Finding 1 highlighted the lack of awareness among craftspeople regarding the relationship between Malay traditional craft and sustainability principles. In light of this result, the concept of sustainability should be better understood by craftspeople in Malaysia in wider perspectives.

Finding 2 outlined that significant value of traditional craft can be categorised in four meanings (socio-cultural, personal, practical and economic) within two dimensions - intrinsic and extrinsic value. Some emerging scholars are looking at the relationship between culturally significant products and design for sustainability. The intrinsic value of cultural heritage may provide a way of stimulating production and embracing a meaningful material culture. This value is in line with the nature of the Malay traditional woodcarving practice. The craftspeople evidently valued the personal and spiritual meaning of the craft highly. Embracing these values within traditional craft will makes craft products much more meaningful for potential customers. In terms of sustainability, the locality and meaningful approaches embodied by these values enable consumers to purchase meaningful craft products that do not go out of style with changing trends. The relationship with traditional craft products, based on their meaningful value, increases attachment between the consumer and object.

Finding 3 explained woodcarving craft as one that is particularly endangered, but also highly valued and therefore has the potential for revival among Malaysian crafts. Furthermore, addressing RQ2, woodcarving craft can become a sample case for other craft revival strategy in the future. **Finding 3** concluded that six main issues contributed to the decline of the Malay woodcarving craft: (i) diminishing practice; (ii) declining sales; (iii) fading public interest; (iv) craft apprentice issues, (v) artisans' negative mindset; and (vi) lack of effective strategy.

Finding 4 and **Finding 5** present three important elements to be used in 'design for sustainability' craft revitalisation framework. These are:

 i. Nine main areas for revitalising of woodcarving craft (Finding 4);

 ii. Three target factors (Finding 5);

 iii. Four approaches to enable an effective strategy (Finding 5).

These key interrelated elements will be later used to structure the Craft Revitalisation Framework from this research. However, they must be used with consideration of significant values of craft presented in **Finding 2**. The interrelation between these elements need to be synergised into an effective method. Hence, this framework identifies key factors and their relationships that can inform the revitalisation of woodcarving in Malaysia, in addressing RQ3. A visual structure of the framework can help to synthesise the data from each main finding in the next chapter.

The key elements from main research findings are summarised in Table 7.4. These elements are the key factor used for the development of a craft revitalisation framework for Malay traditional woodcarving. This will further explain in following chapter.

MAIN FINDING 1 & 2	**Values of traditional craft (five values within two dimensions)**	*Intrinsic Values*			
		Socio-cultural meaning		Personal meaning	
		Extrinsic Values			
		Practical meaning		Economic meaning	
MAIN FINDING 4	**Nine main areas for revitalising of woodcarving craft**	*Focus areas (Internal factor)*		*Broad areas (External factor)*	
		1. Product development		6. Promotion and marketing	
		2. Value of place		7. Collaboration	
		3. Production Process & technology		8. Policy making	
		1. Human capital and well-being		9. Research and documentation	
		5. Knowledge transfer			
MAIN FINDING 5	**Target**	1. Product	**'Time factors'**	1. Past	
		2. People		2. Present	
		3. Place		3. Future	
	Four approaches for design intervention	1. Recreate			
		2. Upgrade			
		3. Integrate			
		4. Innovate			

Table 7.4 Key results from discussion

Chapter 8 Development of a Craft Revitalisation Framework for Malay Traditional Woodcarving

8.1 Introduction

This chapter aims to present the development of a Craft Revitalisation Framework for Malay Traditional Woodcarving identifies from the main findings. First, this chapter presents a Craft Revitalisation Framework (8.2) to identify key factors and their relationships that can inform the revitalisation strategy of Malay traditional woodcarving. It was followed with an explanation of various elements in the framework in a comprehensive manner. Second, it discussed the validation of the proposed framework in Validation section (8.3). The revitalisation strategy and design solution based on the framework presented in this section. The chapter ends with the result of validation (8.3.2).

8.2 Craft Revitalisation Framework

This section proposes a design framework for woodcarving craft revival visualised in Figure 8.1. This framework identifies key factors and their relationships that can inform the revitalisation of woodcarving in Malaysia. It has been developed based on the main findings of this study (7.2-7.6). This framework is also serves as recommendations to be implemented for upcoming craft revival strategy by craft stakeholders such as:

- Artisans, handicraft communities and enterprises;

- Buyers and merchandisers of handicrafts;

- Designers, design researchers, design educators, design students;

- Project managers, business owners;

- Policymakers, strategic planners.

These are potential beneficiaries from this study and craft revitalisation framework. These stakeholders will benefit especially if they are involved in educational institutions, research institutions, government agencies or non-governmental organisations (NGOs) and companies. They can identify and choose the key factors for craft revitalisation strategy based on this framework. A strategy is a plan for implementing the recommendations by the stakeholders.

CRAFT REVITALISATION FRAMEWORK FOR MALAY TRADITIONAL WOODCARVING

PRODUCT DEVELOPMENT
Design for craft
New application
New product
New market

RESEARCH & DOCUMENTATION
Research & development
Documentation

POLICY MAKING
Goverment policy
Legislation

VALUE OF PLACE
Utilise value of place
Localisation

PRODUCTION PROCESS & TECHNOLOGY
Efficient production
Improve quality
Increase output

COLLABORATION
Co - creation
Expand networking

1
2
3
4

RECREATE
UPGRADE
PEOPLE
PLACE

PERSONAL
ECONOMIC
PRACTICAL
EXTRINSIC
INTRINSIC
SOCIO-CULTURAL

CR

INTEGRATE
INNOVATE
PRODUCT

HUMAN CAPITAL & WELL-BEING
Reskill & retooling
Interpersonal/personal skill

KNOWLEDGE TRANSFER
Entrepreneur mindset
Improve apprenticeship

PROMOTION & MARKETING
Personal branding
Marketing strategy
Physical & virtual

CRAFT REVITALISATION (CR) FRAMEWORK INDICATOR

LAYER	DESCRIPTION
	MAIN AREA
1	FOCUS AREA
	BROAD AREA
2	APPROACH
3	TARGET
	VALUES & PRIORITIES
4	INTRINSIC VALUE
	EXTRINSIC VALUE
AIM	CR CRAFT REVITALISATION

Shahrul MY (2020)
LICA, Lancaster University,UK

Figure 8.1 Craft Revitalisation Framework for identifying the key factors of Malay traditional woodcarving

Figure 8.1 is a framework to identify key factors and their relationships that can inform the revitalisation strategy of Malay traditional woodcarving craft identifies from the main findings (7.2-7.6).

The Framework succinctly presents the essential issues to be addressed in a revitalisation strategy in accordance of 'design for sustainability' principle. The Strategy evolving from this puts a series of steps/timelines in place to address the various elements and issues in the Framework in a logical and comprehensive manner. The example of Craft Revitalisation Strategy developed based on this framework as presented further on Validation Section (8.3).

The key factors are presented in four layers in this framework namely ; (i) Main areas for revitalising of Malay traditional woodcarving craft (Focus Area and Broad Area), (ii) Approach, (iii) Target (People, Product and Place), and (iv) Values and Priorities. A revitalisation strategy can consider these key factors, layer by layer, converging to reach the centre aim which is Craft Revitalisation (CR). This framework can be used by stakeholders such as designers and creative innovators in their effort to contribute in craft production using their expertise. The description of layers in this framework are:

Layer 1 : Main Area for revitalising (Focus Area and Broad Area)

The outermost layer identifies the nine main areas for revitalising and relationship to sustainability presented in Chapter 7 (Section 7.5). The study identifies nine main areas for revitalisation strategy that can be categorised into two, which are Focus Area (internal factors) and Broad Area (external factors). Five Focus Area are ; (i) Product development, (ii) Value of place, (iii) Production process & technology, (iv) Human capital and well-being, and (v) Knowledge transfer and four Broad Area are; (i) Promotion and marketing, (ii) Collaboration, (iii) Policy-making and (iv) Research and documentation. Both areas can be addressed separately or simultaneously at the same time according to objective of revitalisation strategy.

A **Focus Area** can be understood as a group of internal factors that concern the craft and its stakeholders while a **Broad Area** includes other, external factors that are typically beyond traditional craft. Both areas, either independently or concurrently, should be taken into account when revitalising woodcarving in Malaysia. By determining which areas are most suitable according to the stakeholders' expertise, their willingness to help in the development of crafts can be utilised to be even more effective. It is important to note that one activity can be categorised under multiple areas. It is actually more desirable if a revitalisation strategy covers both the Broad Area and the Focus Area. For instance, in Case Study 1, woodcarving from the *Besut* district was promoted with their Geographical Indicator (GI) as a brand. This covers 'Promotion & marketing', which is under the Broad Area, as well as Value of Place which is under the Focus Area. A consideration of the main area allows more targeted revitalisation strategy.

Layer 2: Approach

The next or second layer represents the approach that can be used to put into action the practices to sustain crafts. This is based on the 'Approach for design intervention' presented in Main Finding 5 (section 7.6). In developing a craft revitalisation strategy from this framework, after the main areas are selected by the stakeholder, the suitable approach can be selected from the second layer. This layer enables all stakeholders who wish to contribute to the craft's development to choose the best method according to their competence or expertise. Every possible effort can fall into any of the categories listed in this layer. However, in contrast to the first layer, one approach at one time is more beneficial as the impact from that approach can be more easily evaluated and improved than if two approaches are combined. If one approach is found not to be effective, the stakeholders can always opt for another approach.

However, the main goal of an initiative should lead to the most suitable approach. For example, to ensure the initial carving motif of the craft was made exactly like the original, the 'Recreate' approach can be used. With the technology of a 3D scanner, the woodcarving motif can also be stored digitally. As another option, the 'Integrate' approach can be implemented to make the manufacturing process more effective without cutting out the basic values of traditional crafts.

Layer 3: Target (People, Product and Place)

While deciding on which approach to chose, the stakeholders should take into account all available sources and on what, for whom, and where it should be executed. Hence, no matter which main area the activity falls into, contributions should be made while considering the factors of People, Product and Place (Section 7.6). Future developments in traditional crafts need to directly involve at least one of these target for effective impact on craft revival. Each focus can be targeted separately or simultaneously and can be used for a more focused strategy. This is the third layer of the framework and absolutely crucial in making the right decision for the best approach.

Layer 4 : Values and Priorities

Layer 4 is closely related to the elements of sustainability presented in Main Finding 2 (Section 7.3). This is to determine or identify the value of the activity that is to be related to the sustainability of the craft itself. This will help to evaluate what are considered highly impactful activities to be more frequently implemented in the future. Importantly, here, adhering to personal, social/cultural and/or practical values are all encircled by considerations of economic viability; craft development activity must consider its impact on the artisans' income in order to ensure they can continue to make a living. This assurance will make them feel it is worth continuing with their craft-making activities. Other than that, the initiative should include the three core values, Personal Value, Practical Value and Socio-cultural Value.

These values and priorities can be either extrinsic (e.g. recognition and affirmation, awards or monetary reward) or intrinsic (e.g. inner fulfilment, pride in one's work, sense of creative contribution). In most of the initiatives, there is usually more than one value being addressed. Nonetheless, stakeholders must keep in mind that they must give at least one of the core values greater attention. For users or customers, learning about a tradition's meaning can enhance the perception of its significance and value

Overall, any attempts to revitalise the crafts will benefit from reference to this framework, which provides the components or building block for creating a strategic revitalisation intervention. By mapping sustainability values in this framework, the relationship between development activities related to traditional crafts and the principles of sustainability will be more apparent. In this study, evidently the foundation of the traditional woodcarving emphasises the personal values of the crafts for the artisan and the Malay community in general (7.2-7.3). Therefore, future initiatives that emphasise these personal values will be more meaningful to the people. This was shown to be a very important requirement for the artisans themselves. Examples of the use of this framework in design practice are shown in the following section.

8.3   Validation

The validation process for the proposed framework was carried out in March 2019. A series of design workshops was conducted involving three professional designers and six artisans. They were among the key respondents in the previous interview sessions and had been contacted again for this validation session. The designer participants are product and furniture designers, each owning a design studio that manufactures wooden products. Their capability in determining the most suitable design for the current market made them the ideal subjects to use the proposed strategy.

They were given a thorough explanation as to how to use the framework presented in Figure 8.1. They then chose the main areas, approaches and focus factors as their strategy according to what the design framework specifically suggested to them before they began the design activity. The designers also received input from the woodcraft artisans, on such topics as the important elements in woodcrafts (intrinsic and extrinsic), expected cost, previous products, and factory and production capacity. Afterwards, each of the designers used the inputs gained along with the framework to create design strategy and a proposed design solution of woodcraft revival according to their expertise in the form of a finished product.

Figure 8.2 Discussion and validation session with designers and artisans

The outcomes of their respective designs are as follows:

Design 1: Modern furniture design with woodcarving elements

The designer embedded traditional woodcarving elements into modern furniture design (Figure 8.3). The aim is to expand woodcarving craft products into the high-end furniture market. Parts from a decorative woodcarving fence for a traditional house called '*Pagar Musang'* (Figure 8.4), are used as the television's cabinet doors.

Figure 8.3 Design Proposal 1, high-end modern furniture with woodcarving element

Figure 8.4 '*Pagar Musang'*, decorative woodcarving fence for Malay traditional house

Strategy for Design 1

The designer used the framework as a guide in proposing Design 1. The chosen strategy was based on the framework layers shown in Table 8.1;

Layer		Strategy
Layer 1	Broad Area	Collaboration • Co-creation
	Focus Area	Product Development • New product
Layer 2	Approach	Integrate
Layer 3	Target	Product
Layer 4	Intrinsic Value	Personal
	Extrinsic Value	Economic

Table 8.1 Strategy for Design 1

First, the designer selected the Broad Area; Collaboration. The design proposal is the result of Co-Creation between designer and artisan. The designer used the artisan input for the proposed design. Next, the artisan will contribute to produce the finalise design. Another element in the first layer is Focus Area and the designer choose Product Development – New product as his strategy. Therefore, the designer proposing a new product segment, furniture, for craft production. The second layer is the Strategic Approach. The chosen strategy is Integrate. The designer integrates craft elements which is 'Pagar Musang' (decorative woodcarving fence for Malay traditional house) to the furniture design. This approach is based on traditional production, but with changes in some features for other purposes, in this case, furniture. Hence, for the third layer, the Focus Factor is Product.

In the fourth layer, the value-aims to embed in the design are Personal (Intrinsic value) and Economic (Extrinsic value). The designer wants the customer to relate the modern furniture to the memory and feeling of traditional wooden house. The design aims to add commercial values (economic value) towards the craft product in the new furniture segment.

The chosen strategy for Design 1 based on the proposed framework visualised further in following 8.5 ;
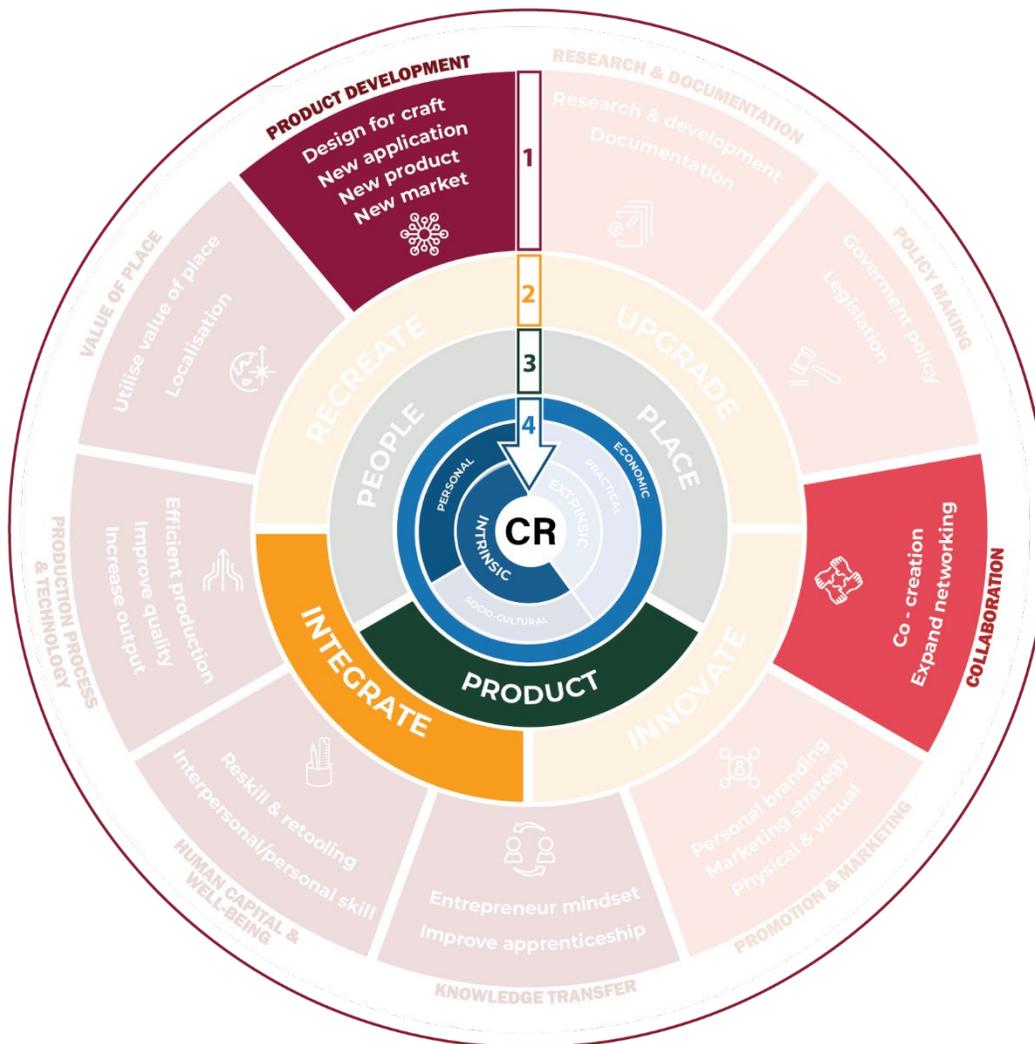
Figure 8.5 The chosen strategy for Design 1 based on the proposed framework

Design 2: Corporate gift design with woodcarving elements

The designer elevated the design of an existing woodcarving craft product made by artisans, a simple carved wooden box, into a corporate gift (Figure 8.6). The same carving was proposed as an exclusive design for the high-end market (Figure 8.7). The design aims is to increase the commercial value of the existing craft product.

Figure 8.6 Existing artisan's product, carved wooden box

Figure 8.7 Design Proposal 2, exclusive design of carved wooden box

Strategy for Design 2

This strategy used the framework layers shown in Table 8.2; `

Layer		Strategy

Layer 1	Broad Area	Collaboration
		   • Co-creation
		Promotion & Marketing
		   • Marketing strategy

	Focus Area	Product Development • Design for craft
Layer 2	Approach	Upgrade
Layer 3	Target	Product
Layer 4	Intrinsic Value	
	Extrinsic Value	Economic Practical

Table 8.2 Strategy for Design 2

For the first layer, the Collaboration (Co-creation) from the Broad Area was chosen by the designer. The designer used the artisan input to develop the proposed design and the artisan will contribute to produce the design. For the Focus Area, Promotion & Marketing was selected, therefore, the design focused on how to market and elevate the basic craft product into an exclusive market. The second layer is the Strategic Approach. The chosen strategy is Upgrade. The design aims to simplify and utilise the existing process to increase the production of current craft products. Hence, for the third layer, the Product was selected as Focus Factor.

In the fourth layer, the design aims to explore Economic and Practical value (Extrinsic value). Utilising and simplifying the existing product is a practical strategy for the artisan. The designer aims to upgrade existing woodcraft product to be compatible in the exclusive market and ultimately increasing the value and profit margin.

The chosen strategy for Design 2 based on the proposed framework visualised further in the following Figure 8.8 ;
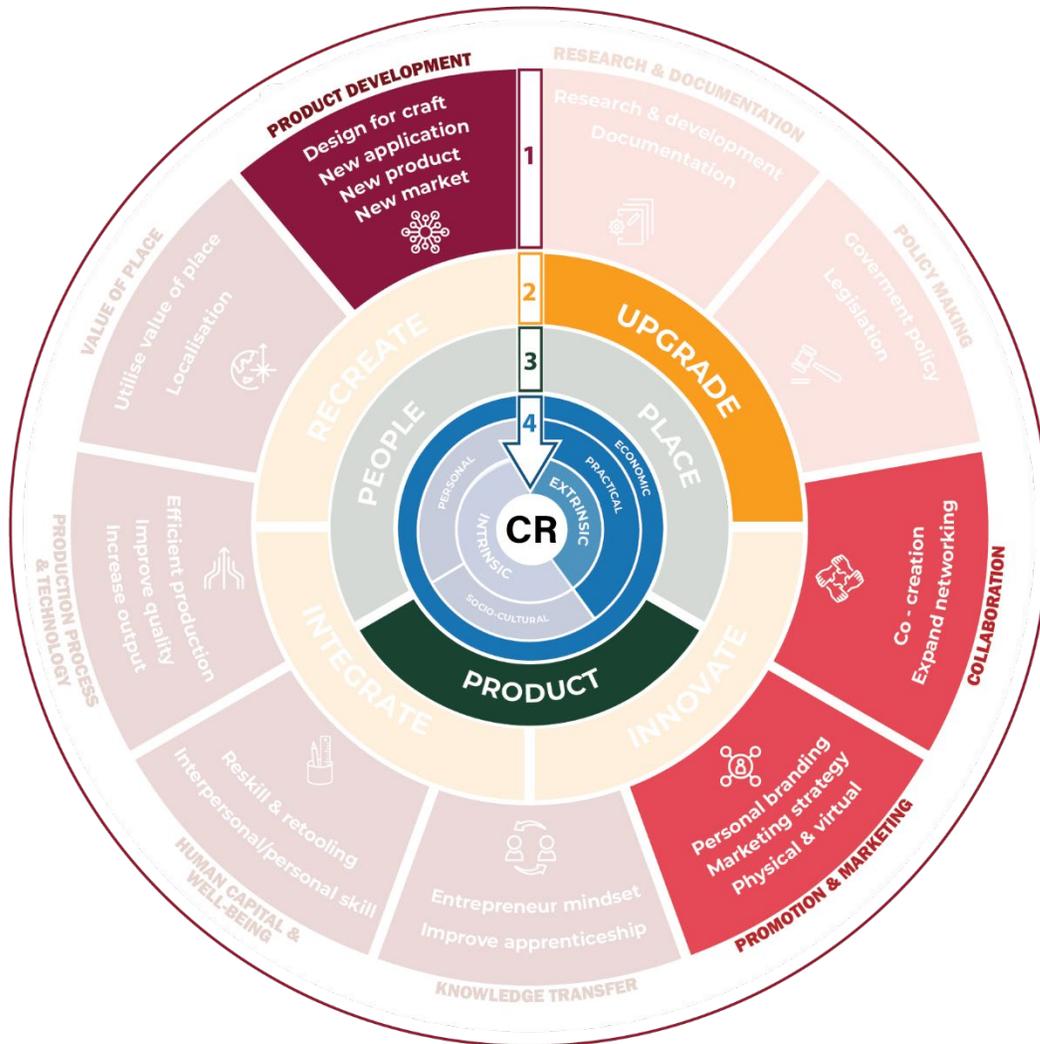
Figure 8.8 The chosen strategy for Design 2 based on the proposed framework

Design 3: Conserve original woodcarving design digitally

The designer's aim is to conserve original woodcarving crafts made by master craftsmen via a digital platform. The 3D scanner was used to scan the original carvings and they were then reconstructed with 3D modelling software. The result was then presented in a Virtual Reality (VR) exhibition (Figure 8.9), where visitors experienced a new way to appreciate the craft via a VR set or mobile gadget.

Figure 8.9 Design Proposal 3, Virtual Reality (VR) craft exhibition

Strategy for Design 3

This strategy was based on the framework layers shown in Table 8.3;

	Layer	Strategy
Layer 1	Broad Area	Research & Documentation • Documentation Promotion & Marketing • Physical & virtual
	Focus Area	
Layer 2	Approach	Recreate
Layer 3	Target	People
Layer 4	Intrinsic Value	Socio-cultural
	Extrinsic Value	Economic

Table 8.3 Strategy for Design 3

For the first layer, the Research & Documentation (documentation) and Promotion & Marketing (physical & virtual) from the Broad Area element was chosen by the designer. The designer wants to document the woodcarving craft made by the master carver in virtual space. Only Broad Area was chosen by the designer. The second layer is the Strategic Approach. The chosen strategy is Recreate. The design aims to duplicate the valuable craft as accurately as possible. The designer recreating the traditional craft using the 3D scanner technology. Then it can be experienced and appreciated by the next generation in virtual reality platform. Thus, 'People' was selected as Focus Factor.

In the fourth layer, the design aims to explore Socio-culture (Intrinsic value) and Economic (Extrinsic value). The designer wants to increase awareness of traditional culture in the new platform and bridging the gap with the younger generation. Then, nurturing the interest in the traditional craft.

The chosen strategy for Design 3 based on the proposed framework visualised further in following Figure 8.10;
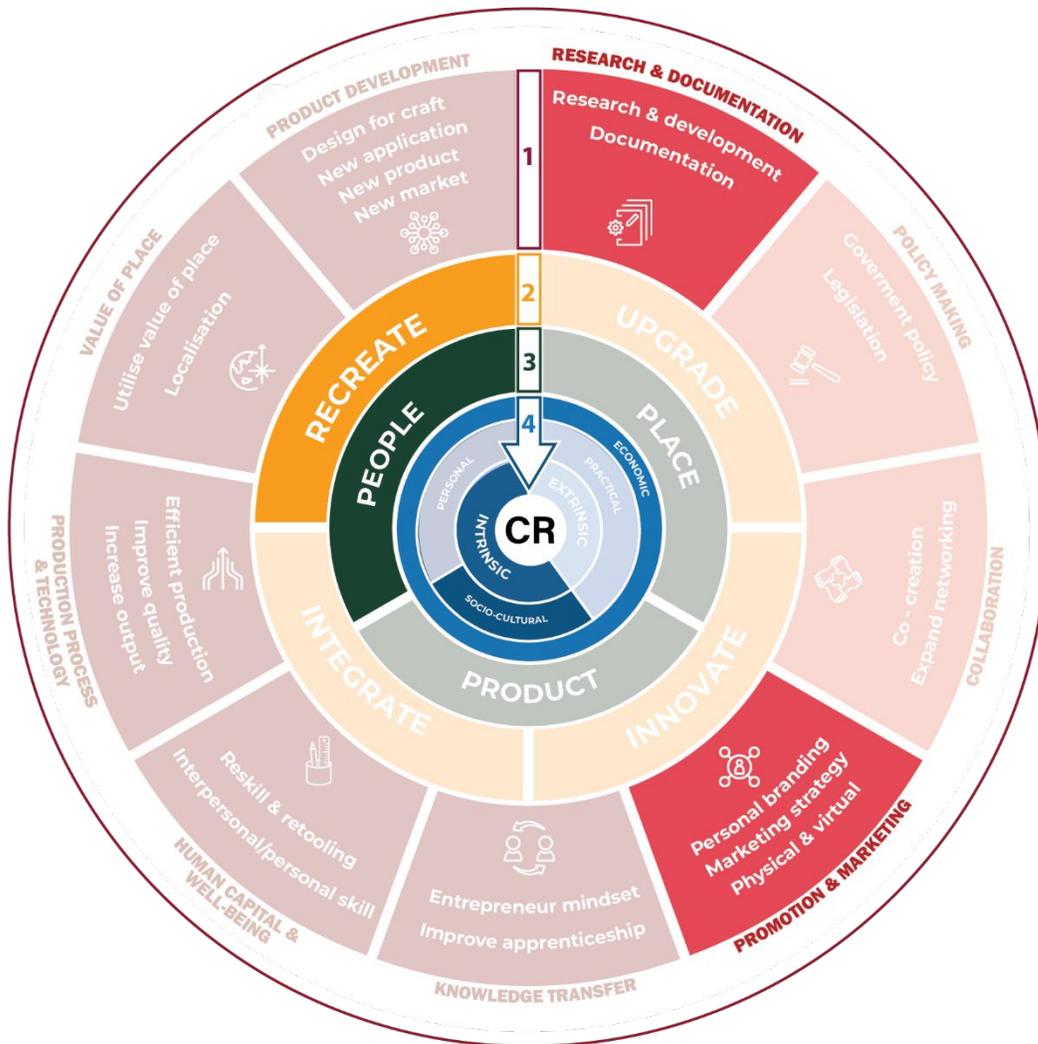
Figure 8.10 The chosen strategy for Design 3 based on the proposed framework

8.3.1   Summary of designer's strategy

The designer's strategy yields new design proposals based on the findings in this study. Designers choose the main areas, approaches and focus factors according to what is suggested by Design Framework: Craft Revitalisation for Malay Traditional Woodcarving in Figure 8.1. The mapping of all the chosen strategy according to the framework is presented in Figure 8.11.
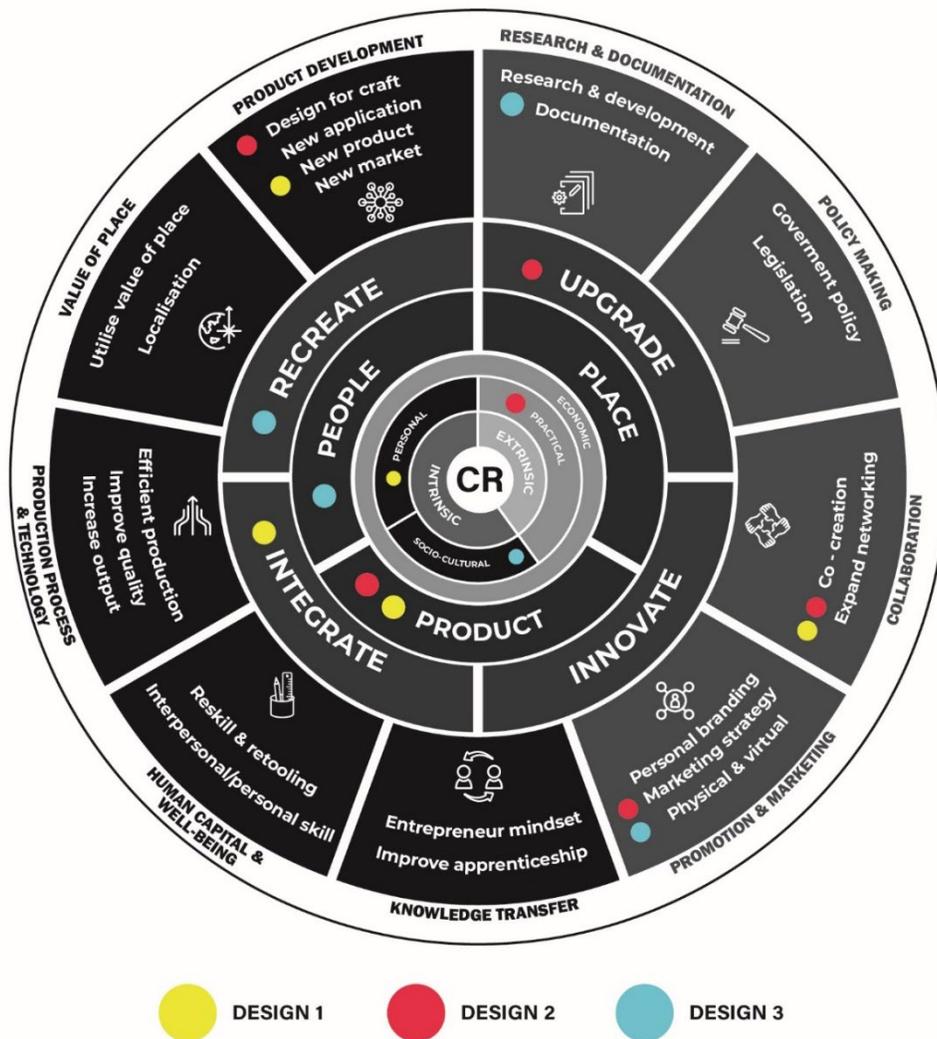
Figure 8.11 Summary designer's strategy to the proposed framework

8.3.2 Result of validation

The design proposals that resulted from using the elements of the framework were presented to nine key respondents who were not involved in the validation design workshop. The nine respondents, two producers, three buyers and four supporters, were, however, among the respondents from the prior interview sessions. The conclusions were extracted from feedback gathered online. All nine respondents agreed that all the design solutions succeeded. Seven respondents (P11,P15,S5,S8,S15,S16,B1) believe that the design strategy constructed through the implementation of the proposed design framework gives a fresh and new direction for the development of woodcarving crafts. The design strategy adds value to the woodcarving craft to blend into the contemporary market, to promote craft to the current generation, and embrace the traditional value of craft (S5,S9,B1, B5).

In addition, the proposed framework was also approved by all the respondents to be suitable for application to other crafts in Malaysia. Three respondents (S5,S15,B1) said they think a prepared support plan would be a great aid for the artisans, and the artisans should offer feedback to further the improvement in the context of the production of new woodcarving products. Artisans should be given our outmost support in terms of production, promotion and aftersales until they can survive independently with the proposed design solution. Therefore, a comprehensive effort to conserve crafts should be executed in both short- term and long-term planning. Through this validation session, we can conclude that the proposed design framework will make it easy for the craft conservation process to be carried out in a more organised and systematic way. It will help designers to resume and sustain their creative activities.

Chapter 9 Conclusions, Limitations and Further Research

9.1 Introduction

This chapter provides conclusions to the body of research contained in this thesis. It discusses the revitalisation recommendations, potential beneficiaries of the recommendations, the contribution to knowledge and the limitations of the study, and offers an agenda for further research in this area.

9.2 Recap of Research Questions, Objectives and Summary of Main Findings

The purpose of this research was to investigate the potential of sustainable design to support traditional woodcarving craft in Malaysia.

The research began with three research questions (RQ):

RQ1: What is the current level of awareness of sustainability among craftspeople in Malaysia and what is the perceived relationship between sustainability and craft?

RQ2: Does Malay traditional craft hold the potential for revival and what is the perceived value of preserving it?

RQ3: How can woodcarving, as a culturally significant craft practice, be revitalised in Malaysia through effective design contributions in accordance with sustainable design principles?

To answer these questions, six research objectives (OB) were developed:

OB1: To determine how 'sustainability' is perceived among artisans and associated stakeholders in Malaysian craft. (RQ1)

OB2: To identify one particular craft which is especially endangered, highly valued, and has the potential for revival among Malaysian crafts. (RQ1 & RQ2)

OB3: To outline the benefits, challenges and potential for reviving woodcarving craft. (RQ2)

OB4: To identify those areas and appropriate methods for design to contribute to the sustainment of woodcarving in Malaysia. (RQ2 & RQ3)

OB5: To develop a framework to characterise the various elements of traditional woodcarving in Malaysia, which can inform a strategy for its sustainable revival. (RQ3)

OB6: To conduct an initial validation of the proposed framework (RQ3)

Five sets of findings (MF) have been presented, which can be summarised as:

1. Low Understandings of Sustainability - the level of sustainability awareness among craftspeople in Malaysia is generally low and can be improved (e.g., via promotion/branding, multidisciplinary collaboration, government policy, and research & education).

2. Compatible with Sustainability - Malay traditional craft production, including woodcarving, is compatible with the elements of Walker's *Quadruple Bottom Line of Design for Sustainability* (socio-cultural, personal, practical and economic) within two main dimensions (as discussed by Schwartz) - intrinsic and extrinsic values.

3. Challenges - these can be summarised as: (i) declining numbers of practitioners, (ii) declining sales, (iii) fading public interest, (iii) low-quality apprentices, (iv) negative artisan mindset, and (iv) lack of effective revival strategy.

4. Revitalisation - nine main factors can inform revitalisation, which fall into two categories:

   - Focus Areas (internal factors): product development, value of place, production process & technology, human capital and well-being, and knowledge transfer.

   - Broad Areas (external factors): promotion and marketing, collaboration, policy-making and research and documentation.

5. Design Intervention: there are four approaches outlined in this study: recreate; upgrade; integrate; innovate. Furthermore, any future developments or new initiatives need to be compatible with the artisans' way of life and need to take into account the *product*, the *people* and the *place*.

Taken together, these findings answer the research questions and fulfil the research objectives set out at the beginning of this study. A detailed explanation of the mapping of the main research findings and questions was presented in Chapter 7. Finally, five Revitalisation Recommendations can be formulated to conclude these research findings.

9.3 Revitalisation Recommendations

1. There is a need to increase awareness of the relationship between traditional craft and sustainability

Main Findings 1 and 2 confirmed that, among artisans, awareness levels of the relationship between sustainability and traditional crafts is low. To enable the value of sustainability in craft to be fully recognised and built upon, an improved level of understanding and awareness is needed. To increase sustainability awareness within the Malaysian craft sector, the following steps are recommended;

- Improve sustainability awareness among craftspeople through such means as promotion, branding, multidisciplinary collaboration, government policy, research & education

- Add sustainability value through design (e.g. product development, production process and technology)

- Prioritise sustainable craft supply chains (e.g. by ensuring the wood comes from sustainable sources)

- Embrace personal values within local heritage (e.g. storytelling, promotion)

Artisans should understand that the crafts they produce are sustainable products, and the sustainability values in craft products, especially the internal value found in most Malay crafts, should be made known to the public.

The relationship between sustainability and traditional craft production in Malaysia was explained by the respondents in terms of internal values: (i) understanding of craft philosophy; (ii) sense of belonging; (iii) responsibility to safeguard cultural legacy; as well as external values within the production process (e.g. raw material, localisation and material culture).

Evidently, the internal values linked to the concept of sustainable development should be better understood by craftspeople in Malaysia. Appreciation of the internal values associated with these craft products can nurture a meaningful material culture that aligns with the principles of sustainability. Awareness levels of the importance of sustainability values in crafts among artisans should also be further strengthened as a part of any future craft conservation strategy. It is apparent that sustainable strategies for crafts have the potential to be a fruitful marketing and/or promotional method.

2. A woodcarving Craft Revitalisation Framework suitable for application to other crafts in Malaysia

Woodcarving crafts are among those crafts that have been almost forgotten and are in dire need of conservation. In MF3 (7.4), the challenges faced by the Malay woodcarving craft industry were pointed out. These challenges and problems in the production of woodcarving crafts found in the literature review were validated in the primary data collection, revealing an opportunity for changes to be made in planning a conservation strategy. The findings of this study indicate that the design for sustainability approach can potentially be implemented in woodcarving craft conservation. This is because, up to now, there has been no known initiative that combines the elements of sustainability, design and artisans in Malaysia. Through the interviews (5.3.2) as well as the findings from CS2 (6.3.6) that are concluded in MF3 (7.4.1), it can be verified that the woodcarving craft conservation strategy can be a template for the conservation of other crafts in Malaysia. Generally, the traditional craft artisans are in full support of any effort towards craft development from any party.

The Craft Revitalisation Framework (Chapter 8) was developed to identify key factors and their relationships that can inform the development of a revitalisation strategy of Malay traditional woodcarving craft. From the positive result of validation of this framework (8.3), a design strategy that takes into account the various components of the 'Craft Revitalisation Framework for Identifying the Key Factors of Malay Traditional Woodcarving' gives a fresh and new direction for the development of woodcarving crafts. It was agreed by the respondents that all the design solutions succeeded. From the validation, it was determined that the revitalisation strategy can be implemented through collaboration between artisans and stakeholders, such as a designer, for effective and sustainable strategy. Furthermore, the proposed framework was viewed by respondents to be suitable for application among other crafts in Malaysia (8.3.2). Therefore, a woodcarving Craft Revitalisation Framework is suitable for application to other crafts in Malaysia.

3. Future directions for ensuring the sustainability of woodcarving craft should emphasise the intrinsic aspects of the craft

In moving towards the development of a future direction in traditional Malay crafts through design for sustainability, it is crucial to identify the crafts' intrinsic and extrinsic values. The research findings reveal that Malay crafts are rich in intrinsic values. Malay crafts are strongly linked to personal values such as faith, philosophy and culture that were deeply ingrained in the old days. However, these important values are very personal and tacit and difficult for the artisans to put into words. As a result, some artisans choose to market and sell their products without highlighting these values to their customers.

Nevertheless, all respondents acknowledge that intrinsic values are a major element in Malay crafts and that they should be better emphasised and promoted by the craftspeople. A better understanding and acceptance of intrinsic values will enable buyers to more fully appreciate the products. From the economic point of view, a price more proportionate to the artisans' efforts may be tolerated by the customers if the intrinsic values are seen as the main factor in determining the traditional crafts' monetary value. Unfortunately, prior initiatives in conserving crafts did not focus on intrinsic values as a sustainable conservation strategy. One of the elements absent from previous research prior to this study is the investigation of the role of the design field in helping to emphasise the intrinsic values of woodcarving crafts in Malaysia. Therefore, the next phase of the design strategy takes into account the potential of the intrinsic aspect of the woodcarving craft informed by the Craft Revitalisation Framework (Layer 4) proposed from this study (8.2). MF2 (Section 7.3) revealed the significant values and benefits of Malay traditional craft, including woodcarving, in accordance with the principles of sustainability.

These inner values are a part of the comprehensive sustainability principle that contributes to a meaningful material culture. This suggests that future development of craft revitalisation should place more emphasis on intrinsic values. Thus, it calls for more focus on people as the target factor. The future strategy embraces intrinsic values - which naturally target people's development – and will, thus, likely have significant impact on the development of traditional crafts.

The future development of traditional crafts will ultimately contribute to a better future in accordance with the principles of sustainability. This will hopefully convey the importance of strengthening the intrinsic or personal values in the development of crafts in the near future.

4. The Craft Revitalisation Framework developed from this research identifies key factors and their relationships that can inform the revitalisation strategy of Malay traditional woodcarving

The key factors are presented in four layers in the proposed Craft Revitalisation Framework (8.2) namely; (1) Main Area (Focus Area and Broad Area); (2) Approach; (3) Target (People, Product and Place); and (4) Values and Priorities. The Craft Revitalisation Framework in Figure 8.1 was developed to use these four key factors effectively. This design framework is the most vital outcome developed from the research findings of this study.

From the framework, it is apparent that the design elements and sustainability values are compatible with the study's findings. It can be a helpful guide for stakeholders in their efforts to conserve crafts, including:

- Artisans in handicraft communities and within enterprises;

- Buyers and merchandisers of handicrafts;

- Creative personnel such as designers, design researchers, design educators, design students;

- Producers, including project managers, business owners;

- Policymakers and strategic planners.

Designers can apply these findings as a standard in design or creative activities to establish a craft conservation strategy in the future. More thorough and effective revitalisation strategies can be developed by considering the various factors and interrelationships included in the Framework.

5. Initial validation of the proposed The Craft Revitalisation Framework can be conducted with design activities

Resulting from the main research findings, the Craft Revitalisation Framework in Figure 8.1 was developed and visualised for craft stakeholders. It helps identify key factors and their relationships in assisting initiatives for craft conservation. Initial validation was also made to further verify the effectiveness of this framework and to answer OB6. The validation process for the proposed framework was carried out with a group of selected designers who were the key respondents from the previously held interviews. They had used the proposed framework as a standard for the design process along with assistance from the artisans.

Afterwards, each of the designers used the inputs gained along with the framework to create a design strategy and a proposed design solution of woodcraft revival according to their expertise in the form of a finished product. It was concluded that the design strategy constructed through the implementation of the Craft Revitalisation Framework gives a fresh basis for the developing strategies to sustain woodcarving crafts. The framework was also considered by the respondents to be suitable for application to other crafts in Malaysia.

Relationship of research findings to RQs and OBs

Table 9.1 summarises the relationship between the main findings (MF) discussed in Chapter 8, and the research questions (RQs) and objectives (OBs) discussed in Chapter 3. It summarises how the main research findings satisfy the research questions and objectives.

Purpose	Research Question	Research Objective	Method	Goal	Findings
Interpretation To gain understanding of relationship between sustainability and crafts	**RQ 1** **RQ 2**	• **RO 1** • **RO2**	• Literature review • Pilot study	• Connecting link between sustainability and craft • Define constraints in crafts and direction for investigation • Justify potential area in Malaysian crafts	**MF1** **MF2**
Investigation To investigate and collect data based on understanding	**RQ 2** **RQ 3**	• **RO3** • **RO4**	• Secondary data • Field study (Semi-structured interview & case study)	• Gather and analyse data from secondary and primary data collection • outline the benefits, challenges and potential for reviving woodcarving	**MF3**
Intervention To explore and visualise the possibility of design intervention through creative design process	**RQ 3**	• **RO5** • **RO6**	• Data analysis	• Build up framework for Malay traditional woodcarving revitalisation	**MF4** **MF5**
		• **RO6**	• Design process • Key respondent discussion	• Visualisation of framework • Validation & feedback report	**Recommendation** **Validation**

Table 9.1 Relationship of research findings

Revitalisation recommendations and RQs

Table 9.2 maps the revitalisation recommendations with the main findings, research questions and objectives, and is interrelated with Table 9.1. It particularly demonstrates how the revitalisation recommendations answer the research questions. These research conclusions are also aligned with the main research findings.

	Revitalisation Recommendation	RQ1	RQ2	RQ3
1	There is a need to increase awareness of the relationship between traditional craft and sustainability	X		
2	A woodcarving craft revitalisation strategy can become an exemplary case for other craft revival in Malaysia	X	X	
3	Future directions for ensuring the sustainability of woodcarving craft should emphasise the intrinsic aspects of the craft		X	
4	The proposed Craft Revitalisation Framework identifies key factors and their relationships that can inform the revitalisation strategy of Malay traditional woodcarving		X	X
5	Initial validation of the proposed craft revitalisation framework can be conducted with design activities			X

Table 9.2 Mapping of revitalisation recommendations and research questions

9.4 Contributions to Knowledge

9.4.1 Original contributions to knowledge

This study makes a significant contribution to knowledge by, for the first time, acquiring and analysing primary data related to traditional woodcarving, and from this constructing an original Craft Revitalisation Framework that delineates the multitude of factors to be considered in relation to the current state and future potential of woodcarving crafts in Malaysian.

Furthermore, this framework is based in and informed by the Quadruple Bottom Line of Design for Sustainability (as developed by Walker, 2011, 2014) and an understanding of the importance of self-transcending and conservation values (as delineated by Schwartz, 2012) in the priorities of craftspeople and, necessarily, in any futures revitalisation strategies. In addition, validation of the framework amongst key stakeholders suggests that the framework developed here could also be relevant to and used in other crafts, in Malaysia and potentially elsewhere.

9.4.2 General contributions to knowledge

Over the course of this research, findings were validated through two research papers with peer reviewers that were published in conference proceedings and presented at international design conferences in Portugal (2018) and Malaysia (2019). The citation details are:

- Shahrul Anuwar, M.Y. and Walker, S. (2018) *Two birds with one stone: How woodcarvers are contributing to the survival of traditional Malay fabric gilding.* In: DESIGNA 2018 TERRITORY, International Conference on Design Research, 29-30 Nov 2018, Covilhã, Portugal.

- Shahrul Anuwar, M.Y. and Walker, S. (2019) *Sustainable development awareness among craftspeople in Malaysia.* In: Design Decoded - International Conference on Design Industries & Creative Culture, 19-20 June 2019, Sungai Petani, Kedah, Malaysia.

Then, as planned in OB6, the validation for the proposed framework was conducted. The use of experts in the process of validating the framework is essential in ensuring the reliability of the research and supports the claim of generalisability of the findings. These validations clearly demonstrate that this research has contributed to expanding the information about craft and design for sustainability available from international and local sources.

9.5 Potential Beneficiaries

Potential beneficiaries of this research were identified from the same validation design workshop (8.3) that was conducted with designers and artisans. The framework has the potential to be more widely applicable as part of further research in relation to craft and design for sustainability in other craft sectors in Malaysia besides woodcarving. Moreover, it can also be expanded towards different cultural groups at the national and international levels (e.g. Southeast Asia countries, across Asia or Africa, and others). Potential beneficiaries is not exclusively for designer or artisan but also include many other stakeholders such as :

- Artisans, handicraft communities and enterprises;
- Buyers and merchandisers of handicrafts;
- Designers, design researchers, design educators, design students;
- Project managers, business owners;
- Policymakers, strategic planners.

These stakeholders will all benefit, especially if they are involved in educational institutions, research institutions, government agencies or non-governmental organisations (NGOs) and companies. This research will address this issue to boost traditional craft development as a significant local commodity for a local economy. Hence, it was in line with global initiative 'SDG 8 - decent work and economy growth' in the Sustainable Development Goals (SDGs) (UNITED NATIONS (UN), 2020) and the economic meaning of traditional craft. Furthermore, in 2021, the Malaysian Handicraft Development Corporation (MHDC) is attempting to get input into the issues related to the craft industry in Malaysia from craft stakeholders in Malaysia. MHDC need any valuable craft-related information as a basis for the preparation of a National Handicraft Policy. This policy will be used for the development and sustainability of the local craft industry. Henceforth, the findings from this research may be useful for the provision of policies that meet industry requirements. The generalisability of the research findings further explained in Section 9.7.

9.6 Limitations of the Study

This section considers the overall limitations of the study. It is important to note the methodological constraints. The first limitation was the research design. This study used a qualitative method approach with semi-structured interviews and two case studies for data collection. Clearly, there are limits to what one researcher can achieve by working alone within the time constraints of a four-year PhD course and with a very small budget. The researcher considered adopting the mixed-method approach but had to abandon the idea due to time constraints and a focus on a qualitative research approach. Furthermore, focusing solely on one area of craft is relevant to ensure the validity of the data. Malay traditional craft was identified as a specific area for deeper investigation based on: the pilot study results (4.2.2); in line with findings from the literature (2.12); woodcarving craft is regarded as a highly valuable Malay craft and is among the most rapidly declining. Hence, it was selected as the focus area for this study (5.3.3). For future studies, multiple areas of craft could be included within the scope of research, to further improve the reliability of results and to improve the accuracy of data.

Second, a further limitation was the size and composition of the sample. The literature review was limited to material written in English and/or Malay. Semi-structured interviews were conducted with 37 respondents: producers (n=15), supporters (n=16) and buyers (n=6) (Chapter 5). The producers were the most difficult group to recruit for the interviews as they preferred not to be involved in the research activities claiming to be very busy. For the case studies, the locations of the respondents were scattered across different areas. Setting up multiple respondents at the same time was problematic. Hence, multiple visits needed to be done, and some respondents rescheduled or cancelled their meetings.

Third, access to research data being restricted was a further limitation because the study involved government agencies and some companies. The government agencies were reluctant to share or provide some sensitive data. In some cases, they didn't feel obligated to share the information because it wasn't worth their time. Meanwhile, some producers did not allow the researcher to take away any materials because they believed they might be used by, and benefit, their competitors. Therefore, the researcher needed to revisit and follow up with some respondents to convince them of the value of their participation.

Finally, there was the limitation caused by the pandemic outbreak. Due to the COVID-19 pandemic and the national lockdown in 2020 and 2021, further data collection and any validation progress were substantially hindered. The respondents can be contacted personally only when the situation becomes calmer, whereas during the pandemic they can only be reached online. Thus, the follow-up must be done repeatedly in an appropriate manner. Eventually, some of the respondents became unenthusiastic and withdrew from this research. This is completely understandable as they need to focus on their well-being in this challenging time.

However, the study had to be completed and the researcher was able to conduct interviews, case studies and validation within the limited timeframe to address the research questions. The researcher identified four limitations, but these limitations did not significantly affect the study findings. This research offers a base for other researchers to carry out additional research dedicated to the role of a sustainable design strategy in craft revival.

9.7 Generalisability of the Research Findings

In qualitative research, generalisability needs to consider the reliability and validity of the research findings agreed by neutral observers (Evans, 2010, p.286; Writing@CSU, 1993). Validity is concerned with "how much value we should attach to our (research) findings" (Hall and Hall, 1996, p.43); particularly, the extent to which a research finding is "(interpreted) accurately and represents the social phenomena to which it refers" (Hammersley, 1990, p.57 cited in Evans, 2010, p.286). Reliability is in regard to "the repeatability of a particular set of research findings" (Association for Qualitative Research, 2013), such as research procedures and tools (Writing@CSU, 1993). Also, to what extent these examples would produce similar outcomes if assigned to "the same category" by different researchers or by the same researcher on different cases (Hammersley, 1992, p.67 cited in Evans, 2010, p.286).

The research did not include the reliability and generalisability of particular set(s) of research findings because these go beyond the scope of this PhD thesis and the current level of experience of the researcher. However, validation of findings from the data collection was presented at two conferences (9.4.2). Furthermore, in the Validation section, feedback from key respondents on the main findings and proposed design strategy framework addressed aspects of the research outcome and its value in terms of the potential wider implications of further research.

9.8 Recommendations for Further Study

Potential for further research has been recognised in the process of conducting this research due to the time constraints, the nature of doctoral study, and lack of opportunity that prevented the inclusion of these topics in this study. During the development and conduct of this research, the overall aim of this thesis was to develop a sustainable design strategy for Malay traditional woodcarving craft revitalisation. This has been achieved. The aspects of the main research findings (Chapter 7) could be more widely applicable as part of further research in relation to craft and design for sustainability in other craft sectors in Malaysia besides woodcarving. Moreover, it can also be expanded towards different cultural groups at the national and international levels (e.g. Southeast Asia countries, across Asia or Africa, and others).

Further exploration and testing of the framework from the main research findings in a real-world design setting would provide further valuable insight into the role of the designer in craft revival. This approach, ideally conducted in contemporary design practice, would help to increase the applicability of this research to design practice. The proposed framework (8.2), as the main research findings, could be further tested as guidelines or tools for researchers or designers. The revitalisation recommendations (9.2) could lead to theory building in the future, if tested via several cases, and the data collection and analysis shown to be more generally valid and yield a similar set of results. Furthermore, the framework can also be tested to other potential beneficiaries listed in Section 9.5 besides the designer or artisan. Further validation of the framework could be conducted for example through survey research. This would potentially provide a broad sample that could increase input from a variety of specialisms or stakeholders and address the geographic bias of this study.

9.9   Concluding Remarks

From this investigation into the potential areas of a sustainable design strategy for woodcarving craft in Malaysia, it is clear that traditional craft production at the local level is compatible with all the elements in Walker's Quadruple Bottom Line of Sustainability (personal meaning, social responsibility, practical meaning and associated environmental impact, economic viability) (Walker, 2011) and with self-transcending and conservation values as discussed by Schwartz (2012).

Ironically, both the popularity of craft products and the number of artisans, which demonstrate all these elements of sustainability, have significantly declined in Malaysia (5.3). However, there is a significant relationship between craft and sustainability, and yet, it is apparent from the primary data that many people in the craft sector do not fully understand the meaning of the term "sustainability" in its contemporary usage (5.2). Thus, the awareness of sustainability among craftspeople needs to be improved. The relationship between sustainability and traditional craft production in Malaysia was explained by the respondents as internal values: (i) understanding of craft philosophy; (ii) sense of belonging; (iii) responsibility safeguarding cultural legacy; as well as external values within the production process (e.g. raw material, localisation and material culture). It is evident that the internal values linked to the concept of sustainable development should be better understood by craftspeople in Malaysia (5.3).

A decline in traditional crafts involves the loss of skills, significant values, knowledge and meaningful cultural heritage (Mohamed Yusof & Walker, 2018; Sharih Ahmad & Walker, 2019). In fact, information from both the literature review and the field research suggested this is happening in all sectors of traditional craft in Malaysia. The issues in woodcarving craft found from this investigation are: i) diminishing practice, ii) declining sales, iii) fading public interest, iv) craft apprentice problems, v) negative mindset of artisans, and vi) lack of efficient strategy (5.3). Malay traditional crafts such as woodcarving have significant value for personal, practical and social reasons in Malay culture. For Malay people, traditional craft is a sacred connection to the past. The philosophy in Malay traditional craft is a reflection of the beauty of the soul and culture, and contains inner meaning that can benefit and teach contemporary Malay society.

Malay traditional craft has also been considered as the valuable heritage of knowledge, a national identity to unite a pluralistic society and a sustainable local economic source. Contemporary design solutions as a new paradigm to Malaysian craft production is relevant and has the potential to be implemented in Malaysia (Maaruf et.al, 2020). From the findings, design can play a significant role in craft revitalisation (7.6). Designers can add weight to the 'missing link' between artisan and designer, and can more effectively position craft products to capture a broader segment of the market (5.4).

From the main research findings, the four key factors formulated to develop the Craft Revitalisation Framework (8.2). The key factors are presented in four layers in this framework which are ; (1) Nine Main Areas (Focus Areas and Broad Areas); (2) Three Approaches; (3) Target (People, Product and Place); and (4) Values and Priorities (intrinsic and extrinsic). These elements are interrelated and complement one another.

The initial testing of this framework has been presented in the Validation section (8.3). It shows positive feedback from the use of this framework as a tool to inform key factors needed for a design strategy. After conducting the research contained within this thesis, an important reflection is on the increasing importance to involve more designers in craft revival strategy. The design field may offer a link to enabling the future viability of the craft practice. The design-craft collaboration can be considered as a multidisciplinary collaboration, through which participants could gain other skills and information, thus enriching their own knowledge. The significance of the research is to offer a pragmatic tool to enable the future viability of craft practice using Craft Revitalisation Framework aligned with sustainability principles. The revitalisation strategy developed from Craft Revitalisation Framework may help to sustain the craft industry and improve artisans' well-being, ultimately supporting the development of local economy.

Bibliography

Abaza, W. (2017) "Comparing internal and external impacts of sustainable innovation: an exploratory study," *Journal of Global Entrepreneurship Research*, 7(1), p. 3. doi: 10.1186/s40497-017-0061-7.

Abdulrazak, S. R. and Ahmad, F. Sh. (2014) "Sustainable Development: A Malaysian Perspective," *Procedia - Social and Behavioral Sciences*, 164(August), pp. 237–241. doi: 10.1016/j.sbspro.2014.11.072.

Adamson, G. (2009) *The craft reader*. Berg Publishers.

Adamson, G. (2017) *Thinking Through Craft*. 5th editio. Bloomsbury Publishing Plc. doi: papers2://publication/uuid/1C62543C-1842-48D7-AB1F-C13C85C31B5F.

Adamson, G. (2018) *Fewer, Better Things : The Hidden Wisdom of Objects.* Bloomsbury Publishing USA.

Ahmad, S. *et al.* (2015) "Wall Carving Decoration and Motifs Influences Spatial Social Interaction: Is it Intentional or Accidental?," *Procedia - Social and Behavioral Sciences*, 202(December 2014), pp. 311–321. doi: 10.1016/j.sbspro.2015.08.235.

Ahmad, Y. (2006) "The Scope and Definitions of Heritage: From Tangible to Intangible," *International Journal of Heritage Studies*, 12(3), pp. 292–300. doi: 10.1080/13527250600604639.

Alina Ranee (1986) "Telepuk: A golden heritage," *New Straits Time*, 14 August.

Aly, S. S. A. (2011) "Modernization and regionalism: Approaches for sustainable revival of local urban identity," *Procedia Engineering*, 21, pp. 503–512. doi: 10.1016/j.proeng.2011.11.2044.

Amin, Mr. I. M. (2006) "Session 3-2 ' Manufacturing and Marketing of Traditional Arts and Crafts -Case Studies of APEC member Economies- ,'" (September), pp. 22–23.

Ashworth, C. J. (2012) "Marketing and organisational development in e-SMEs: Understanding survival and sustainability in growth-oriented and comfort-zone pure-play enterprises in the fashion retail industry," *International Entrepreneurship and Management Journal*, 8(2), pp. 165–201. doi: 10.1007/s11365-011-0171-6.

ASIANOW - Asiaweek 10/06/95 (1995). Available at: http://www-cgi.cnn.com/ASIANOW/asiaweek/95/1006/nat4.html (Accessed: March 3, 2017).

Assadourian, E. (2010) "The Rise and Fall of Consumer Cultures," in *State of the World 2010. Transforming cultures. From consumerism to sustainability*. W. W. NORTON NEW YORK • LONDON, pp. 1–20.

Aziz, D. (1979) *Kearah Reka Bentuk Baru Dalam Perusahaan Kraftangan*. kuala lumpur: Dewan Bahasa dan Pustaka.

Aziz Shuaib, A. *et al.* (2014) "Integrating the Malay Traditional Design Elements into Contemporary Design: An Approach towards Sustainable Innovation," *Procedia - Social and Behavioral Sciences*, 129(129), pp. 59–67. doi: 10.1016/j.sbspro.2014.03.648.

Baba, Z. (2010) "Malay Traditional Woodcarving Artefacts in Nik Rashiddin ' s Personal Collection at Kandis , Kelantan," *Sari-International Journal of the Malay World and Civilisation*, 28(2), pp. 109–129.

Badrul Isa (2006) "Multiculturalism in Art Education : A Malaysian Perspective," *UNESCO-NIE Centre for Arts Research in Education (CARE)*, pp. 1–22.

Baharom, S. N. A. S. and Nawawi, N. Md. (2015) "Transformation of Traditional Telepuk Motifs into Contemporary Artwork," in. Proceedings of the 2nd International Colloquium of Art and Design Education Research.

Bahauddin, A. (2002) "Contemporary Malaysian Art: An Exploration of the Songket Motifs," *Intercultural Communication Studies*, XI(2), pp. 21–41.

Bahauddin, A. and Abdullah, A. (2003) "The songket motifs: between reality and belief," *Tourism and Histories: Representations and Experiences*, pp. 1–21.

Bakri, A. F. *et al.* (2015) "Valuing Built Cultural Heritage in a Malaysian Urban Context," *Procedia - Social and Behavioral Sciences*, 170(November), pp. 381–389. doi: 10.1016/j.sbspro.2015.01.048.

Bathelt, H., Malmberg, A. and Maskell, P. (2004) "Clusters and knowledge: Local buzz, global pipelines and the process of knowledge creation," *Progress in Human Geography*. doi: 10.1191/0309132504ph469oa.

Bhamra, T. and Lofthouse, V. (2007) *Design for Sustainability A Practical Approach*, *Design*. Gower. doi: https://doi.org/10.1007/s10668-015-9644-z.

Blizzard, J. L. and Klotz, L. E. (2012) "A framework for sustainable whole systems design," *Design Studies*, 33(5), pp. 456–479. doi: 10.1016/j.destud.2012.03.001.

Bossel, H. (1999) *Indicators for Sustainable Development : Theory , Method , Applications*, *International Institute for Sustainable Development*.

Brien, O. (2005) "Sustainable development : mapping different approaches," 52, pp. 38–52.

Brundtland, G. H. (1987) "Our Common Future: Report of the World Commission on Environment and Development," *Medicine, Conflict and Survival*, 4(1), p. 300. doi: 10.1080/07488008808408783.

Bryman, A. and Teevan, J. J. (2005) *Social Research Methods*. Oxford University Press.

Burns, R. B. (2000) *Introduction to Research Methods*. SAGE Publications.

Centre for Bhutan Studies & GNH Research. (2015) *A compass towards a just and harmonious society : 2015 GNH survey report*.

Chapman, J. (2009) "Design for (Emotional) Durability," 25(4).

Chudasri, D. (2015) "An Investigation into the Potential of Design for Sustainability in the Handicrafts of Northern Thailand," Thesis (PhD.) in Lancaster University, Lancaster, UK.

Chudasri, D., Walker, S. and Evans, M. (2012) "An Overview of the Issues facing the Craft Industry and the Potential for Design , with a Case Study in Upper Northern Thailand," *DRS 2012 Bangkok*, (July 2011), pp. 1–4.

Chudasri, D., Walker, S. and Evans, M. (2013a) "Directions for Design Contributions to the Sustainable Development of the Handicrafts Sector in Northern Thailand," pp. 595–606.

Chudasri, D., Walker, S. and Evans, M. (2013b) "Directions for Design Contributions to the Sustainable Development of the Handicrafts Sector in Northern Thailand," pp. 595–606.

Chuenrudeemol, W., Boonlaor, N. and Kongkanan, A. (2012) "Design Process in Retrieving the Local Wisdom and Communal Identity : A Case Study of Bangchaocha ' s Bamboo Basketry Crafts," (July 2011), pp. 1–4.

Clark, H. and Brody, D. (2009) *Design Studies: A Reader*. Berg Publishers.

Collins, H. (2010) *Creative Research: The Theory and Practice of Research for the Creative*. AVA Publishing.

Cox, E. and Bebbington, J. (2015) "Craft and sustainable development: an investigation," *Unpublished*, pp. 1–24.

Craft Revival Trust (2005) "Designers Meet Artisans: a practical guide."

Creswell, J. (2009) "Research Design," *Journal of Chemical Information and Modeling*, 53(9), pp. 1689–1699. doi: 10.1017/CBO9781107415324.004.

Creswell, J. W. (2007) *Qualitative Inquiry and Research Design: Choosing Among Five Approaches: International Student Edition*. Thousand Oaks, CA: SAGE Publications.

Creswell, J. W. (2008) *Educational research: Planning, conducting, and evaluating quantitative and qualitative research*. 3rd edn. Upper Saddle River, NJ: Pearson Education.

Creswell, J. W. (2013) *Research Design_ Qualitative, Quantitative, and Mixed Methods Approaches-SAGE Publications, Inc (2013)*. doi: 10.1007/s13398-014-0173-7.2.

Crul, M. R. M. and Diehl, J. C. (2005) "Design for Sustainability: a practical approach for developing economies," *Worksheets*, p. 128.

David B. Berman (2008) *do good, HOW DESIGNERS CAN CHANGE THE WORLD*. 1 edition, *Reviews in American History*. 1 edition. New Riders.

Denan, Z., Majid, N. H. A. and Arifin, N. (2015) "Ingenious Malay Wood Carving as Daylight Filtering Devices," *Procedia - Social and Behavioral Sciences*, 201(February), pp. 182–190. doi: 10.1016/j.sbspro.2015.08.167.

department of statistic, M. (2016) *Malaysian Population 2014-2016*. Available at: https://www.dosm.gov.my/v1/index.php?r=column/cthemeByCat&cat=155&bul_id=OWlxdEVoYlJCS0hUZzJyRUcvZEYxZz09&menu_id=L0pheU43NWJwRWVSZklWdzQ4TlhUUT09 (Accessed: December 18, 2018).

"Design and Spirituality: Material Culture for a Wisdom Economy Stuart Walker" (2013), 29(3). doi: 10.1162/DESI_a_00223.

Dessein, J., Soini, K., F. and G. and Horlings, L. (2015) *Culture in, for and as Sustainable Development. Conclusions from the COST Action IS1007 Investigating Cultural Sustainability*, *Culture in, for and as Sustainable Development*. University of Jyväskylä,Finland.

Dogan, C. (2007) *product design for sustainability-ISDPS*. Thesis (PhD.) in University of Calgary, Canada.

Dogan, C. and Walker, S. (2008) "Localisation and the design and production of sustainable products," *International Journal of Product Development*, 6(3/4), pp. 276–290. doi: 10.1504/IJPD.2008.020396.

Douthwaite, R. (2004) "Why localisation is essential for sustainability," *Festa Review: Growth:The Celtic Cancer*, 2(2), pp. 114–123.

Dresner, S. (2002) "The Principles of Sustainability.pdf."

Dresner, S. (2008) *The principles of sustainability*. Routledge.

Duran, D. C. *et al.* (2015) "The Components of Sustainable Development - A Possible Approach," *Procedia Economics and Finance*, 26(15), pp. 806–811. doi: 10.1016/S2212-5671(15)00849-7.

Duvelle, C. (2009) *The Tangible Value of the Intangible Cultural Heritage*.

Edward Lucie-Smith (1981) *Story of Craft: History of the Craftsman's Role in Society*. Phaidon Press Ltd; 1st Edition edition.

Ehrenfeld, J. R. (2015a) *Sustainability by Design*. doi: 10.1017/CBO9781107415324.004.

Ehrenfeld, J. R. (2015b) *Sustainability by Design, A Subversive Strategy for Transforming Our Consumer Culture*, *Statewide Agricultural Land Use Baseline 2015*. doi: 10.1017/CBO9781107415324.004.

Ekwelem, V. O., Okafor, V. N. and Ukwoma, S. C. (2011) "Preservation of Cultural Heritage: The Strategic Role of the Library and Information Science Professionals in South East Nigeria," *Library Philosophy and Practice*, 6(2), pp. 1–14.

Elkington, John (1997a) "Cannibals with forks," *Cannibals with Forks: The triple bottom line of 21st centuryThe triple bottom line of 21st century*, (April), pp. 1–16. doi: http://doi.wiley.com/10.1002/tqem.3310080106.

Elkington, John (1997b) *CANNIBALS WITH FORKS,The Triple Bottom Line of 21st Century Business*. Capstone Publishing Limited.

Elkington, J. (1997) "Partnerships from Cannibals with Forks : The Triple Bottom line of 21 st Century Business," *Environmental Quality Management*, Autumn 199, pp. 37–51. doi: 10.1002/tqem.3310080106.

Elkington, J. (2001) "Enter the Triple Bottom Line," *The Triple Bottom Line: Does it all Add Up?*, 1(1986), pp. 1–16. doi: 10.1021/nl034968f.

Esther, L. (2021) "Malaysian Handicraft sustains craft industry," *New Straits Times*. Available at: https://www.nst.com.my/news/nation/2021/01/657859/malaysian-handicraft-sustains-craft-industry (Accessed: February 11, 2021).

Evans, M. (2010) *Design futures: an investigation into the role of futures thinking in design.*

Evans, M. *et al.* (2017) *Design Routes: Revitalising Culturally Significant Designs, Products and Practices by Design*. MMU Manchester School of Art (28 Mar. 2017).

Fabeil, N. F. *et al.* (2014) "The Orientation of Handicraft Entrepreneurs in Sabah : Their Personality Characteristics and Motivations (Orientasi Usahawan Kraftangan di Sabah : Ciri Personaliti dan Motivasi)," (May).

Fry, T. (1994) *Green hands against dead knowledge Remakings Ecology Design Philosophy*. Sydney: Envirobook.

Fry, T. (2004) "The Voice of Sustainment: Design Ethics as Futuring," *Design Philosophy Papers*, 2(2), pp. 145–156. doi: 10.2752/144871304X13966215068038.

Fry, T. (2008) *Design Futuring: Sustainability, Ethics and New Practice*. 1st edn. Berg Publishers.

Galeri Taming Sari (2010) *Kain Gerus Telepuk Selangor Cop Emas*. Available at: http://galeritamingsari.blogspot.com/2010/10/kain-gerus-telepuk-selangor-cop-emas.html (Accessed: June 23, 2018).

Glasbergen, P. (2000) "The Environmental Cooperative: Self-Governance in Sustainable Rural Development," *The Journal of Environment & Development*, 9(3), pp. 240–259. doi: 10.1177/107049650000900303.

Guan, L. H. (2000) "Ethnic Relations in Peninsular Malaysia : The Cultural and Economic Dimensions," *Social aGuan, Lee Hock. 2000. "Ethnic Relations in Peninsular Malaysia : The Cultural and Economic Dimensions Ethnic Relations in Peninsular Malaysia : The Cultural and Economic Dimensions." Social and Cultural Issues 1(1):1–39. Retrieved February 28, 201*.

Halim, M. A. S. bin A. and Mat, A. B. C. (2010) "The contribution of heritage product toward Malaysian Tourism Industry: A case of eastern coastal of Malaysia," *International Journal of Human Sciences*, 7(2), pp. 346–357.

Hall, D. and Hall, I. (1996) *Practical Social Research: Project Work in the Community*. july 1996. Palgrave.

Hanan, H. (2012) "Modernization and Cultural Transformation: The Expansion of Traditional Batak Toba House in Huta Siallagan," *Procedia - Social and Behavioral Sciences*, 50(July), pp. 800–811. doi: 10.1016/j.sbspro.2012.08.082.

Hani, U. *et al.* (2012) "Preserving Cultural Heritage through Creative Industry: A Lesson from Saung Angklung Udjo," *Procedia Economics and Finance*, 4(Icsmed), pp. 193–200. doi: 10.1016/S2212-5671(12)00334-6.

Harmuth, L. (1915) *Dictionary of Textiles*. Fairchild publishing company.

Haron, H. and Yusof, N. A. (2014) "Motifs of Nature in Malay Traditional Craft," 21(1), pp. 169–180. doi: 10.5829/idosi.mejsr.2014.21.01.21132.

Hassan, T. M. R. T., Yaacob, M. R. and Abdullatiff, N. K. (2014) "Sustaining SMEs Wood-based Product Manufacturing through Best Practices – The Case of Indigenous Entrepreneurs in Kelantan," *Procedia - Social and Behavioral Sciences*, pp. 221–234. doi: 10.1016/j.sbspro.2014.02.430.

Haziyah, H. (2010) *Nature Motifs in Malay Batik and Songket*. Institut Terjemahan Negara Malaysia.

Heidegger, M. (1962) *Being and time*. London: SCM Press.

Henderson, M. (2021) *UNCTAD Prosperity for all*. Available at: https://unctad.org/news/creativity-answer-weve-been-looking-now-time-embrace-and-invest-it (Accessed: February 18, 2021).

Heskett, J. (2002) *Design: A Very Short Introduction*. Oxford University Press.

Holden, E., Linnerud, K. and Banister, D. (2014) "Sustainable development: Our Common Future revisited," *Global Environmental Change*, 26(1), pp. 130–139. doi: 10.1016/j.gloenvcha.2014.04.006.

Holroyd, Twigger, A. and Al, E. (2015) "Design for ' Domestication ': the Decommercialisation of Traditional Crafts," in *11th european academy of design conference*.

Hox, joop j. and Boeiji, H. R. (2005) "Data collection, Primary vs Secondary," *Encyclopedia of social measurement*, 1, pp. 593–599. doi: 10.1016/B0-12-369398-5/00041-4.

Hughes, P. (2009) "Towards a post-consumer subjectivity," *Making Futures*, 1, pp. 217–223.

Hughes, P. (2011) "Towards a post-consumer subjectivity: a future for the crafts in the twenty first century?," in *craft + design enquiry Sustainability in Craft and Desig*. ANU E Press.

Hussin, H. *et al.* (2012) "The philosophy in the creation of traditional Malay carving motifs in Peninsula Malaysia," *GEOGRAFIA OnlineTM Malaysia Journal of Society and Space 8*, 7(7), pp. 88–95.

Indrė Gražulevičiūtė (2006) "Cultural Heritage in the Context of Sustainable Development," *Environmental research, engineering and management*, 3(3), pp. 74–79.

Ismail, N., Masron, T. and Ahmad, A. (2014) "Cultural Heritage Tourism in Malaysia: Issues and Challenges," *SHS Web of Conferences12*, 9, pp. 1–8. doi: 10.1051/shsconf/20141201059.

Ismail, S. Z. (2004) "Warisan Seni Budaya Melayu - Aceh : Kaitan Pemerian Teks Sastera dan Realiti Budaya," *jurnal melayu*, 1, pp. 77–89.

JKKN (1971) *National Culture Policy | JKKN*. Available at: http://www.jkkn.gov.my/en/national-culture-policy (Accessed: March 1, 2017).

John Harris (2020) *THE BATTLE AGAINST PLANNED OBSOLESCENCE*, *the guardian*.

Kamal, M. Z. M. and Samian, Y. (2015) "INVESTIGATION OF PRODUCT LIFE CYCLE OF SMALL CRAFT," *Journal of Transport System Engineering 2:2 (2015) 36–41*, 2(august), pp. 36–41.

Kamarudin, Z. *et al.* (2020) *The Roles And Responsibilities Of Adiguru Kraf In Sustaining The Heritage Of Malay Wood Carving With Resilient Practices*, *Journal Of Architecture, Planning & Construction Management*.

Kamarudin, Z. *et al.* (2012) "Manifestation of Nature in the Art of Wood Carving : With Reference To Works of Masters From," *First Conference on Islamic Built Environment "Toward an Understanding of The Islamic Built Environment."*

Kamarudin, Z. *et al.* (2013) "Sustainability of Malay traditional craft and craftmanship as cultural heritage in Kuala Kangsar, Perak, Malaysia," *Journal of Architecture, Planning & Construction Management*, 3(1), pp. 152–170.

Kamarudin, Z. B. and Said, I. (2008) "Composition of Malay Woodcarving : Case Studies on Two Traditional Timber Houses," *Jurnal Alam Bina*, 11(2), pp. 101–118.

Kamarudin, Z. B. and Said, I. (2009) "Principal orders in the composition of woodcarvings and its layouts in kelantan and terengganu traditional houses," *The 10th International Seminar on Environment and Architecture*, pp. 1–14.

kamus dewan (2017) *Pusat Rujukan Persuratan Melayu @ DBP, fourth edition*. Available at: http://prpm.dbp.gov.my/Search.aspx?k=kraf (Accessed: March 3, 2017).

Kasser and Kasser, T. (2002) "The High Price of Materialism.," *Academy of Management Review*. doi: 10.5465/amr.2004.11851766.

Bin Khairani, M. Z. (2018) "Contemporary art, craft and hybridity: Malaysian encounters and responses," *Dissertation Abstracts International Section C: Worldwide*, 75(4–C).

Kiem, M. (2011) "Theorising a transformative agenda for craft," in *craft + design enquiry Sustainability in Craft*. ANU E Press.

Koplos, J. and Metcalf, B. (2010) *A History of AmericAn studio crAft*. the university of north carolina press.

Korn, P. (2014) *Why We Make Things and Why it Matters: The Education of a Craftsman*. David R. Godine Publisher Inc; 1st Edition edition (28 April 2014).

Korn, P. (2015) *why we make things and why it matters , the education of a craftsman*. Square Peg 2015.

Law, S. (2016) *Districts of Malaysia*. Available at: http://www.statoids.com/ymy.html (Accessed: December 18, 2018).

Lenzerini, F. (2011) "Intangible cultural heritage: The living culture of peoples," *European Journal of International Law*, 22(1). doi: 10.1093/ejil/chr006.

Lietaer, B. and De Meulenaere, S. (2003) "Sustaining cultural vitality in a globalizing world: the Balinese example," *International Journal of Social Economics*, 30(9), pp. 967–984. doi: 10.1108/03068290310487531.

Malaysia (2018). Available at: https://en.wikipedia.org/wiki/Malaysia (Accessed: December 18, 2018).

Malaysian Handicraft Development Corporation (1982) *serian songket*.

Malaysian Handicraft Development Corporation (2011) *Malaysian Handicraft Annual Report 2011*.

Malaysian Handicraft Development Corporation (2016) *Malaysian Handicraft Annual Report 2013*. Available at: http://www.data.gov.my/data/ms_MY/dataset/kraftangan-malaysia-data-industri-kraf-negara-1117 (Accessed: March 1, 2017).

Manan, D. I. A. and Mamat, S. (2011) "Exploring Contribution of Innovative Behavior and Marketing Capability on Batik Firm Performance in Malaysia," *Internationnal Conference on Business Strategy and Organizational Behaviour*, (BizStrategy), pp. 92–96.

Manzini, E. (2002) "Making Things Happen: Social Innovation and Design," *Design Issues*, 29(4), pp. 17–30. doi: 10.1162/DESI.

Manzini, E. and Cullars, J. (1992) "Prometheus of the Everyday : The Ecology of the Artificial and the Designer ' s Responsibility," *Design Issues,* 9(1), pp. 5–20.

Marjo Elisa Siltaoja (2006) "Value Priorities as Combining Core Factors Between CSR and Reputation – A Qualitative Study," *Journal of Business Ethics*, 68, pp. 91–111.

Maxwell, D. and van der Vorst, R. (2003) "Developing sustainable products and services," *Journal of Cleaner Production*, 11(8), pp. 883–895. doi: 10.1016/S0959-6526(02)00164-6.

Maxwell, J. A. (2013) "Qualitative Research Design: An Interactive Approach," *Qualitative Research Design: An Interactive Approach*. doi: 10.4324/9780203431917.

Mazlan Che Soh and Siti Korota'aini Omar (2012) "Journey of Indigenous Knowledge for Sustainable Livelihood : Story From East Coast, Malaysia," *Journal of Asian Behavioural Studies*, 7(2), pp. 23–36.

MHDC (2014) *Malaysian Handicraft Annual Report 2014*.

MHDC (2016) *Malaysia Handicraft Development Data set*. Available at: http://www.data.gov.my/data/ms_MY/dataset/kraftangan-malaysia-data-industri-kraf-negara-1117 (Accessed: March 1, 2017).

MHDC (2019) *Annual Report 2018 Kraftangan Malaysia*. kuala Lumpur.

Ministry of Economic Affairs, M. (2019) *SHARED PROSPERITY VISION 2030,Restructuring the Priorities of Malaysia's Development*. Available at: https://www.pmo.gov.my/2019/10/shared-prosperity-vision-2030-2/ (Accessed: February 5, 2021).

Mohamad Nazri, A. (2000) *SiriKraf Tangan: Batik & Seni Ukiran Keris.* kuala lumpur: pustaka mawar.

Mohamad Salleh, H. (2009) "1Malaysia - Concept and Values," (April), pp. 1–14.

Mohamed Yusof, S. A. and stuart walker (2019) "Evaluating Sustainability Awareness Among Craftspeople In Malaysia," in Ismail, A. M. H. (Dr) W. N. F. W. O. H. A. A. (Dr) A. K. (ed.) *Design Decoded - International Conference On Design Industries And Creative Culture 2019*. UITM, pp. 59–67. Available at: https://designdecodeduitm.wixsite.com/designdecoded2018/e-proceeding.

Mohamed Yusof, S. A. and Walker, S. (2018) "Two Birds With One Stone: How Woodcarvers Are Contributing To The Survival Of Traditional Malay Fabric Gilding," in. Universidade da Beira Interior, pp. 175–188. Available at: file:///G:/Box Sync/phd folder/mendeley data/jurnal/201902041042-designa2018_proceedings.pdf.

Mohanty, G. F. (1990) "From Craft to Industry: Textile Production in the United States," *Material Culture Review / Revue de la culture matérielle*, 31(1).

Mohlman, K. (1999) "Craft-as-industry and craft-as-culture: analysing handicraft production in commercialized Asia and beyond," *Asian Journal of Social Science*, 27(1), p. 113. doi: 10.1163/030382499X00228.

MTIB (2009) *NATIP : national timber industry policy, 2009-2020.* Secretary General Ministry of Plantation Industries and Commodities.

Mullagh, L., Walker, S. and Evans, M. (2019) "Living Design. The future of sustainable maker enterprises," *Design Journal*, 22(sup1), pp. 849–862. doi: 10.1080/14606925.2019.1595404.

Murray, Kevin (2011) *craft + design enquiry Sustainability in Craft and Design Edited by Kevin Murray*. Edited by S. W. Kevin, Peter Hughes, Mary Loveday Edwards, Matthew Kiem, Roderick Bamford, Emilia Ferraro, Rehema White, Eoin Cox, Jan Bebbington, Sandra Wilson. ANU E Press. Available at: http://press-files.anu.edu.au/downloads/press/p211931/pdf/book.pdf?referer=1184.

Murray, K. *et al.* (2011) *craft + design enquiry Sustainability in Craft and Design Edited by Kevin Murray*, *The Triple Bottom Line: Does it all Add Up?* Edited by S. W. Kevin, Peter Hughes, Mary Loveday Edwards, Matthew Kiem, Roderick Bamford, Emilia Ferraro, Rehema White, Eoin Cox, Jan Bebbington, Sandra Wilson. ANU E Press. doi: 10.1021/nl034968f.

Museum, N. T. (2018) *Telepuk exhibition in National Museum*. Available at: http://www.jmm.gov.my/ms/muzium/muzium-tekstil-negara (Accessed: August 5, 2018).

N. Irda S. and Nawawi, N. (2015) "Investigation of Meaningful Ornaments on Terengganu Boats," in *Proceedings of the 2nd International Colloquium of Art and Design Education Research (i-CADER 2015*. springer, pp. 273–277.

Nasir, A. H. (1987) *Traditional Malay Wood Carving*. Dewan Bahasa dan Pustaka. Available at: https://books.google.co.uk/books/about/Traditional_Malay_Wood_Carving.html?id=eXgr AAAAMAAJ&redir_esc=y.

Noor, F. A. (2003) *Spirit of wood: The Malay art of woodcarving*. Periplus Editions; Hardcover with Jacket edition. Available at: http://www.amazon.com/Spirit-Wood-Art-Malay-Woodcarving/dp/0794601030.

Noor, F. A. (2004) "Modernity, Islam and Tradition: The Struggle for the Heart and Soul of Art and Culture in Malaysia," *Contemporary Art from the Islamic World*, pp. 1–3.

Norhaiza, N. (2009) *Ukiran Melayu*. Kuala Lumpur: Dewan Bahasa dan Pustaka.

Northrop, E. (2014) "Prosperity Without Growth: Economics for a Finite Planet," *Eastern Economic Journal*, 40(3), pp. 440–442. doi: 10.1057/eej.2013.22.

Orr, D. W. (2002) *The nature of design: Ecology, culture and human intention*. Oxford: Oxford University Press.

Orr, D. W. (2008) *The Nature of Design: Ecology, Culture, and Human Intention*, *Animal Genetics*. Oxford University Press.

Oxford English Dictionary (2018a) *craft*. doi: 10.1002/hed.

Oxford English Dictionary (2018b) *handicraft*. Available at: http://www.oed.com/view/Entry/83862?redirectedFrom=handicraft#eid 3/3 (Accessed: November 14, 2018).

Papanek, V. (1971) *Design for the Real World: Human Ecology and Social Change*. 1st edition, *Thames & Hudson*. 1st edition. Pantheon Books, New York, NY, U.S.A.

Papanek, V. (1985) *Design for the Real World: Human Ecology and Social Change*, *Design for the Real World*. doi: 10.1145/1278940.1278958.

PCT writing panel (2002) "Siri Ensiklopedia: Tumbuhan Renek Berbunga.," *malar hijau berbunga*. PCT publishing Sdn bhd.

Pierantoni, L. (2016) "The Heritage Value of the Craft Sector in Fast-Growing Cities," *Sustainable Urban Development and Globalization, Research for Development*, pp. 289–297. doi: https://doi.org/10.1007/978-3-319-61988-0_22.

Pöllänen, S. (2012) "The meaning of craft: Craft makers' descriptions of craft as an occupation," *Scandinavian Journal of Occupational Therapy*, 8128(January 2011), pp. 1–11. doi: 10.3109/11038128.2012.725182.

Pye, D. (1968) *The Nature and Art of Workmanship*. Cambridge University Press.

Pye, E. A. (1988) *Artisans in Economic Development: Evidence from Asia*. ITDG Publishing.

Qattan, A. (2009a) *Handicrafts Market Demand Analysis*.

Qattan, A. (2009b) *Handicrafts Market Demand Analysis*.

Rahman, N. A. A. and Ramli, A. (2014) "Entrepreneurship Management, Competitive Advantage and Firm Performances in the Craft Industry: Concepts and Framework," *Procedia - Social and Behavioral Sciences*, 145, pp. 129–137. doi: 10.1016/j.sbspro.2014.06.019.

Rashid, M. S. A. (2014) "Understanding the Past for a Sustainable Future Cultural Mapping of Malay Heritage," *Asian Conference on Environment-Behaviour Studies*.

Redzuan, M. and Aref, F. (2011) "Constraints and potentials of handicraft industry in underdeveloped region of Malaysia," *African Journal of Business Management*, 5(2), pp. 256–260. doi: 10.5897/AJBM09.166.

Ritchie, J. and Lewis, J. (2003) *Qualitative research practice*. London: SAGE.

Rogerson, C. (2010) "The enterprise of craft: constraints and policy challenges in South Africa," 42(January), pp. 115–144.

Rosli, M. M. (2012) "Competitive Strategy of Malaysian Small and Medium Enterprises : An Exploratory Investigation," *American International Journal of Contemporary Research*, 2(1), pp. 93–105.

Rosmahwati, A. Z. (2013) *Seni warisan tekstil berhias emas*, *utusan online*. Available at: http://ww1.utusan.com.my/utusan/Bicara_Agama/20130412/ba_03/Seni-warisan-tekstil-berhias-emas (Accessed: July 23, 2018).

Ruzaika, O. B., Legino, R. and Mohd Yusof, A. (2014) "The Philosophy and Geometric Patterns of Malay Woodcarving," in *Proceedings of the International Symposium on Research of Arts, Design and Humanities (ISRADH 2014)*. Springer, Singapore, pp. 79–87. doi: https://doi.org/10.1007/978-981-287-530-3_8.

Ryn, S. Van der and Cowan, S. (2007) *Ecological Design*. 1 0 t h A. Island Press.

Ryn, S. Van der and Cowan, S. (2013) *Ecological Design*. Tenth Anni. Island Press.

Rypkema, D. (1999) "Culture Historic Preservation and Economic Development in the 21st Century," in *the leadership conference on conservancy and development.* yunnan, china.

Said, I. (2001a) "Art of Woodcarving in Timber Mosques of Peninsular Malaysia and," *Jurnal Teknologi,* 34(34), pp. 1–14.

Said, I. (2001b) "Art of Woodcarving In Timber Mosques of Peninsular Malaysia Art of Woodcarving In Timber Mosques Of Peninsular Malaysia And Southern Thailand," *Jurnal Teknologi*, 34, pp. 45–56.

Said, I. (2002a) "Visual Composition of Malay Woodcarving in Vernacular Houses in Peninsular Malaysia," *Jurnal Teknologi, Universiti Teknologi Malaysia*, pp. 1–10.

Said, I. (2002b) "Visual Composition of Malay Woodcarvings Visual Composition of Malay Woodcarvings in Vernacular Houses of Peninsular Malaysia," *Jurnal Teknologi*, 37, pp. 43–52.

Said, I. (2002c) "Visual Composition of Malay Woodcarvings Visual Composition of Malay Woodcarvings in Vernacular Houses of Peninsular Malaysia," *Jurnal Teknologi*, 37, pp. 43–52.

Said, I. (2005) "Criteria for Selecting Timber Species in Malay Woodcarving," *Jaabe*, 4(1), pp. 17–23.

Sangasubana, N. (2009) "How to conduct ethnographic research," *The Qualitative Report*, 16(2), pp. 567–573. doi: 10.1017/CBO9781107415324.004.

Santagata, W. (2002) "Cultural Districts, Property Rights and Sustainable Economic

Growth," *International Journal of Urban and Regional Research*, 26(1), pp. 9–23. doi: 10.1111/1468-2427.00360.

Sanusi, N. A. (2014) "The Creation of Bangsa Malaysia : Towards Vision 2020 Challenges," 9, pp. 845–850.

Schwartz, S. H. (2012) "An Overview of the Schwartz Theory of Basic Values," *Online Readings in Psychology and Culture*, 2(1). doi: 10.9707/2307-0919.1116.

Sennett, R. (2008) *The Craftsman*, *Allen Lane*. doi: 10.4324/9780203818336.

Shaffee, N. and Said, I. (2013) "Types of Floral Motifs and Patterns of Malay Woodcarving in Kelantan and Terengganu," *Procedia - Social and Behavioral Sciences*, 105, pp. 466–475. doi: 10.1016/j.sbspro.2013.11.049.

Shalom H Schwartz and Anat Bardi (2001) "Value Hierarchies Across Cultures," *Journal of Cross-Cultural Psychology*, 32(3).

Shamsuddin (2015) "Malaysia : Ethnic Issues and National Security," *International Journal of Humanities and Social Science*, 5(9), pp. 1–12.

Sharon, K. (2019) "Ascend of the timber industry," *Borneo Post Online*.

Sheppard, M. (1962) "Malay palaces of the past," *Malaya in History*.

Shove, E. *et al.* (2007) *The design of everyday life*, *New York*. doi: 10.1080/00140139.2011.611629.

Silah, S. *et al.* (2013) "Tradition and Transformation: The Structure of Malay Woodcarving Motifs in Craft Education," *Procedia - Social and Behavioral Sciences*, 90(InCULT 2012), pp. 823–831. doi: 10.1016/j.sbspro.2013.07.157.

siti zainon, I. (1985) *Getaran jalur dan warna*. Fajar Bakti.

Slade, G. (2006) *Made to Break: Technology and Obsolescence in America*. Harvard University Press (Made to Break).

Srishti Institute of Art, D. and T. (2015) *Frugal design*. Available at: http://srishti.ac.in/centers-and-labs/frugal-design-lab (Accessed: November 12, 2018).

Stoekl, A. (2007) *Bataille's Peak: Energy, Religion, and Postsustainability*. Univ Of Minnesota Press.

Stouthuysen, P. and le Roy, D. (2016) "Cradle to Cradle: Theoretical Framework," *C2C Network*, pp. 1–28.

stuart walker (2014) *Designing Sustainability Making radical changes in a material world*. first edit. Routledge.

Surat, M. *et al.* (2010) "Re-evaluating the Idea of a Malaysian Architectural Identity Towards a Sustainable Environment," *EE'10 Proceedings of the 5th IASME/WSEAS international conference on Energy & environment*, pp. 25–30.

Szabó, K. and Négyesi, Á. (2005) "The Spread of Contingent Work in the Knowledge-Based Economy," *Human Resource Development Review*. doi: 10.1177/1534484304274073.

Teh, wan hashim wan (1996) *Malay Handicraft Industries: Origin and Development*. Dewan Bahasa dan Pustaka.

the Cambridge English Dictionary (2017) *sustainability Meaning in the Cambridge English Dictionary*. Available at: http://dictionary.cambridge.org/dictionary/english/sustainability (Accessed: August 6, 2016).

The Shorter Oxford English Dictionary (1964) *The Shorter Oxford English Dictionary. Oxford*. Clarendon Press.

Tonkinwise, C. (2015) "Beauty-in-Use Beauty-in-Use," 7136(February).

Torre, M. de la and Mason, R. (2002) *Assessing the Values of Cultural Heritage*.

Tuan, T. H. and Navrud, S. (2008) "Capturing the benefits of preserving cultural heritage," *Journal of Cultural Heritage*, 9(3), pp. 326–337. doi: 10.1016/j.culher.2008.05.001.

Tung, F.-W. (2012) "Weaving with Rush: Exploring Craft-Design Collaborations in Revitalizing a Local Craft," *International Journal of Design*, 6(3).

UNESCO (1997) *Crafts and Design : UNESCO-CULTURE*. Available at: http://portal.unesco.org/culture/en/ev.php-URL_ID=35418&URL_DO=DO_TOPIC&URL_SECTION=201.html (Accessed: February 4, 2017).

UNESCO (2003a) "Convention for the Safeguarding of the Intangible Cultural Heritage," *The Impact of Uniform Laws on the Protection of Cultural Heritage and the Preservation of Cultural Heritage in the 21st Century*, (October), pp. 9–110. doi: 10.1163/ej.9789004180444.I-786.6.

UNITED NATION (UN) (2020) *Transforming Our World: The 2030 Agenda For Sustainable Development*. Available at: sustainabledevelopment.un.org (Accessed: February 5, 2021).

Utaberta (2014) "Evaluating the Discontinued Traditions of Malay Wood Carvings in Malaysia: a Failure To Develop the Discourse on Modern and Post Modern Ornamentation in Architectural Works," *American Journal of Engineering and Applied Sciences*, 7(2), pp. 241–254. doi: 10.3844/ajeassp.2014.241.254.

Uttar Pradesh State Development Report (2008) "Handicrafts," *Uttar Pradesg State Development Report*, 2.

Verbeek, P Kockelkoren, P. (1998) "The things that matter," *Design Issues,* 3(14).

Walker, S. (2006a) "Sustainability - the evolution of a contemporary myth," *Sustainable by design: explorations in theory and practice*, (January 2007), pp. 1–11.

Walker, S. (2006d) *Sustainable by design: explorations in theory and practice*. Earthscan.

Walker, S. (2011) *The Spirit of Design: Objects, Environment and Meaning*. Routledge.

Walker, S. (2012) "The narrow door to sustainability – From practically useful to spiritually useful artefacts," *The International Journal of Sustainable Design*, 2(1), pp. 83–103. doi: 10.1504/IJSDES.2012.051497.

Walker, S. (2013) "IMAGINATION'S PROMISE practice-based design research for sustainability Imagination's Promise: practice-based design research for sustainability, Chapter 28 of Handbook of Design for Sustainability," pp. 446–465.

Walker, S. (2014) *Designing Sustainability Making radical changes in a material world*., Routledge; 1st edition (July 9, 2014)

Walker, S. *et al.* (2016) "Design Roots and Creative Ecology: Understanding culturally significant designs, products and practices," *Making Futures*.

WCED (1987) *Report of the World Commission on Environment and Development: Our Common Future Towards Sustainable Development*.

Wells, P. (2013) "Diversity, scale and sustainability in human systems: Towards a research agenda," *Journal of Cleaner Production*, 47, pp. 232–235. doi: 10.1016/j.jclepro.2012.06.011.

Williams, G. (2002) *Creating Lasting Values Persistence of Craft.* London: A&C Black.

Wolf, H. V. (2016) "Identity in malaysia – public reception and communal practice," 3, pp. 25–37.

Wood, R. (2011) "Technology and hand skill in craft and industry," *Journal of Modern Craft*, 4(2), pp. 193–202. doi: 10.2752/174967811X13050332209288.

Writing@CSU (1993) Writing guide. In: Educational website supported by Colorado State University. Available at: http://writing.colostate.edu/guides/page.cfm?pageid=1386, accessed 13 May 2021.

Yilmaz, K. (2013) "Comparison of quantitative and qualitativerResearch traditions: Epistemological, theoretical," *European Journal of Education*, 48(2), pp. 311–325. doi: 10.1111/jppi.12086.

Yin, K. R. (2014) *Case Study Research: Design and Methods*. Five. Sage, Thousand Oaks, California.

Yusof, H., Khair Ibrahim, F. and Nafida Raja Shahminan, R. (2020) *Heritage Identity Conservation Of The Woodcarving Placement And Design Composition Typologies On Johor Malay Houses*, *Journal of the Malaysian Institute of Planners*.

Zhan, X. and Walker, S. (2018) "Value direction: Moving crafts toward sustainability in the Yangtze River Delta, China," *Sustainability (Switzerland)*, 10(4). doi: 10.3390/su10041252.

Zhan, X. *et al.* (2017a) "Craft and Sustainability: Potential for Design Intervention in Crafts in the Yangtze River Delta, China," *The Design Journal*, 20(sup1), pp. S2919–S2934. doi: 10.1080/14606925.2017.1352802.

Zumahiran Kamarudin *et al.* (2020) "Traditional Wood Carving Legacy With Reference To Works Of Master Craftsman, Allahyarham Wan Mustafa Wan Su," in *2ⁿᵈ Kuala Lumpur International Conference On Education, Economics And Technology(KLICEET 2020)*. Kuala Lumpur: Asian Scholars Network, pp. 195–214.

Appendices

- Appendix A Documents Related to Ethical Approval and Interview Guides

- Appendix B Visualizations of the Research Findings

- Appendix C Fields Study and Validation Process

Appendix A Documents Related to Ethical Approval and Interview Guides

Participant Information Sheet

Lancaster Institute for the Contemporary Arts | Lancaster University

Participant information Sheet

Title of Project: Design Strategy for traditional woodcraft in Malaysia
Researcher: Shahrul Anuwar Mohamed Yusof (PhD Candidate)
Supervisors: Prof. Stuart Walker, Dr Ricardo J Hernandez
Sponsor: Ministry of Higher Education Malaysia

I am a PhD student from Lancaster Institute for Contemporary Arts (LICA), Lancaster University, United Kingdom. I would like to invite you to take part in a short (45 minutes) interview for my research, in which I am investigating woodcraft designs, products and practices in Malaysia. This document provides information about the project. Please read the following information carefully before deciding whether or not you wish to participate.

What is the study about?
The research project aims to investigate woodcraft in Malaysia to develop design strategies that could help revitalise the sector for the current society. It aims to understand the current situation in woodcraft industries in Malaysia by carrying out primary and secondary research. The first phase of primary research is needed in order to confirm or redirect the findings from the literature review with more specific information to Malay wood crafts and gain insight and information from experts/artisan to examine the issues in Malay traditional woodcraft.

Why have I been invited?
You have been invited because you have been identified as an expert in the field of Malay traditional woodcrafts in one of the following roles: producer/artisan, buyer, and/or expert (academic or industry). I believe that you can provide insight into this field and, as such, your views will be valuable to the development of this research project and understanding the issues and benefits of cultural significance Woodcraft product.

What will I be asked to do if I take part?
I would like to interview you and ask a series of questions that explore the nature of local crafts. This will be a semi-structured interview where I will ask a series of set questions and follow these up with additional questions in response to your answers. I am willing to visit you at your place of work or another convenient location, as you prefer. The interview will take ca.45 minutes. As part of this process i would ask your permission to audio-record the interview solely for the purpose of this research project (see Participant Consent Form). Where applicable, i would also like to photograph and/or make a short video-recording of your craft practice for my future reference and, with your permission, for use in academic publications, conference presentations. You can withdraw from the study at any time and without having to give a reason if you choose not to be audio/video recorded, you still can participate and I will make written notes during the interview.

What are the possible benefits from taking part?
Taking part in this study will allow you to share your experiences and expertise in woodcraft industries. Your insight will contribute to our understanding of cultural significance Woodcraft product in future. I am willing to share my research findings with you and keep you informed as the project develops. You will be invited to project exhibitions or follow up workshops.

Do I have to take part?
No, It's completely upto you to decide whether you want or not to participate in this research. Your participation is voluntary and you are free to withdraw at any time, without giving any reason. Feel free to discuss any concerns you may have with me.

What if I change my mind?
You are free to withdraw at any time. In line with research practices at Lancaster, if you withdraw within two weeks after your participation, your data will be destroyed and not used in this study. You may withdraw after this time but your data may still be used in this study as it may already have been anonymised and/or analysed and/or pooled together with other people's data.

What are the possible disadvantages and risks of taking part?
It is unlikely that there will be any major disadvantages to taking part. It is only 45 minutes of your time for an interview. As I will be asking about your experience and views on the woodcraft industry, you may disclose your experiences and knowledge. But your personal information will be treated as confidential and will be anonymised if you choose to remain anonymous.

Will my data be identifiable?
Access to the audio and visual data is restricted to me and my PhD supervisors. The only other person who will have access to the data is a professional transcriber who will listen to the recordings and produce a typed transcript of your interview. The transcriber will sign a confidentiality agreement. I would like to quote you in this study and address your name and profession. However, at your request i will keep all personal information about you (e.g. your name and other information about you that can identify you) confidential, it will not share with others. I will anonymise transcripts of audio recordings and hard copies of any data. This means that I will remove any personal information. Each participant's interview will be labelled with date and number, so if any of interviewees wants to withdraw, I will recognise it to remove.

How will my data be stored?
Your data will be stored in encrypted files and on password-protected computers. Access to this data is restricted to the researcher and his supervisors. Any identifiable data (including recordings of participants' voices) will be deleted from the recorder as quickly as possible, i.e. after the data has been transferred to a secure university server via a password protected PC. In the meantime the recorder will be stored securely in a locked cupboard at the university. If you prefer, i will anonymise the transcript of interview and label it with code. The data can be gathered by manual written notes. The written notes or any form of hard copies will be disposed after the data transferred into password protected computer. In accordance with University guidelines, I will keep the data securely for ten years after the end of study then will be deleted permanently.

How will I use the information you have shared with me and what will happen to the results of the research study?
I will use the data you have shared with the research team for academic purposes only. This will include a) my doctoral research thesis, b) publications e.g. books, journal articles and c) presentations e.g. at exhibition or academic conferences or to inform policy-makers about our study. When writing up the findings from this study, I would like to reproduce some of the views and ideas you shared with us. However, at your request, I will only use anonymised quotes (e.g. from our interview with you), so that although i use your exact words, you cannot be identified in my publications.

Who has reviewed the project?
This study has been reviewed and approved by members of the Faculty of Arts and Social Sciences and Lancaster Management School's Research Ethics Committee.

What if I have a question or concern?
If you have any queries or if you are unhappy with anything that happens concerning your participation in the study, please contact:

Ph.D Candidate	Supervisors	
Shahrul Anuwar Mohamed Yusof s.mohamedyusof@lancaster.ac.uk +447490178636 Malaysia : 018	Professor Stuart Walker s.walker@lancaster.ac.uk +44 1524 510873	Dr Ricardo J Hernandez r.hernandez-pardo@lancaster.ac.uk +44 1524 510175

If you have any concerns or complaints that you wish to discuss with a person who is not directly involved in the research, you can contact:
Frank Dawes, Head of Department, Lancaster Institute for the Contemporary Arts, Lancaster University, Lancaster, LA1 4YW, tel: +44 (0)1524 593246, email: f.dawes@lancaster.ac.uk.

Thank you for considering your participation in this project.

Consent Form

CONSENT FORM   Lancaster University

Project Title: Design Strategy in revitalising traditional woodcraft in Malaysia

Name of Researchers: Shahrul Anuwar Mohamed Yusof

Email: s.mohamedyusof@lancaster.ac.uk

Please tick each box

1. I confirm that I have read and understand the information sheet for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily ☐

2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason. If I withdraw within TWO weeks of commencement of the study my data will be removed. If I am involved in focus groups and then withdraw my data will remain part of the study. ☐

3. If I am participating in the focus group I understand that any information disclosed within the focus group remains confidential to the group, and I will not discuss the focus group with or in front of anyone who was not involved unless I have the relevant person's express permission. ☐

4. I understand that any information given by me may be used in future reports, academic articles, publications or presentations by the researcher/s, but my personal information will not be included and I will not be identifiable. ☐

5. I understand that my name/my organisation's name will not appear in any reports, articles or presentation without my consent. ☐

6. I understand that any interviews or focus groups will be audio-recorded and transcribed and that data will be protected on encrypted devices and kept secure. ☐

7. I understand that data will be kept according to University guidelines for a minimum of 10 years after the end of the study. ☐

8. I agree to take part in the above study. ☐

_____   _____   _____
Name of Participant   Date   Signature

I confirm that the participant was given an opportunity to ask questions about the study, and all the questions asked by the participant have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.

Signature of Researcher /person taking the consent_____ Date _____ Day/month/year

One copy of this form will be given to the participant and the original kept in the files of the researcher at Lancaster University

v27-6-16

Interview Guide

Semi Structure Interview and Case studies Questions Guidelines

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Samples of Participants

The field study consist of 37 people which is experts from different roles and cluster in traditional woodcraft industries. There is three Experts cluster have been identify which is Producer, Supporter and Buyer. The first phase of fields studies will focus on producer and supporter.

a) Producers: artisan/craft producers, designer makers, enterprise manager, SME owner, etc.

b) Supporter: academia, government's agents, design manager, gallery curators, NGOs

c) Buyers: retailers, traders, users (tourist, utilitarian, collectors)

Interview Guidelines

Introduction: I am from Lancaster University in the UK and I am doing some research on design and traditional woodcraft in Malaysia (refer to project information sheet for full details)

Introductions – Researcher (Shahrul Anuwar) and Interviewee(s)

Thank you for agreeing to see me – I would like to ask you some questions about your work related to traditional artefacts – it will probably take up to one hour– is this ok with you?

In order to comply with the standard University Ethics requirements, before we begin i must ask you to read and sign a letter that confirms you have agreed to be interviewed and provide us with your insights and perspectives.

Do you mind if i record the conversation, to allow me to refer to the points discussed. All information is kept confidential, and your name will not be disclosed in any way.

SIGN LETTER OF CONSENT AT THIS POINT AND PROVIDE PROJECT INFORMATION SHEET

I would like to start with some general information

QUESTIONS (primarily for Producers/craft makers – to be adapted for supporters and buyers). The same set of questions are used as a guideline in the semi structured interview and case studies

<u>General description about yourself and what you do</u>

1. Could you tell me about your background (prompts: your expertise, education or training, skills, experience, employment history, etc)
2. How would you describe, in general terms, the kind of work that you do (prompts: how would you sum it up or define it in simple terms)
3. What role(s) would you describe yourself as an expert in crafts?
   - Producer (e.g. local craft producers, craft enterprise managers, designer- makers)
   - Supporter (e.g. government agents, academia, business advisors, designers, design managers)
   - Buyer (e.g. retail brand manager, traders, users)
   - Other than the above
   - If chose more than one, your main role is …..?

4. Have you heard about "the concept of design for sustainable handicrafts"?
   - "Have you heard of the terms "sustainability",
   - What is your understanding to this concept?
   - How does the craft production affect society, economics and environment?
   - Do you agree that sustainability can be applied to traditional crafts in Malaysia? If yes, how can it be implemented?
   - Can woodcarving become a focus area and exemplary case for sustainable craft revival in Malaysia
   - Which woodcarving products are suitable for design intervention?"

<u>Detailed description about how you work</u>

1. Can you tell me about the process or processes you use in creating your work? Is it a fixed process or has it evolved over time?
2. What materials do you use and why? How and where they are sourced? Are there any distinctive characteristics of the materials?
3. Are there any particular skills, methods or techniques that you employ in your work? Are these traditional, or do they have traditional aspects or are they recent? How did you learn these (skills, methods or techniques)
4. Do you work in collaboration with others? If so, who are involved? Are they working in similar ways? Does your work different from the other people you work with? If so, how? What does working with others mean to you?
5. How do you communicate (promote) your work? Who is this promotion aimed at (customer, buyers, curators, etc)? How do you interact with these people and what are points of interaction?

Perception of your work

A. Personal level

1. How do you value your work? What do you value most in your work?
2. What do you think it the most important aspect of your work: for you?for others (ask the interviewee to define key stakeholders if appropriate)?
3. In terms of the kinds of information that informs your work, where does it come from? What do you draw on?
4. Do you think your work is traditional? If so, in what ways is it traditional and what traditions does it exemplify? (products, materials, techniques, skills, imagery etc.) Are there aspects that are less or not traditional?
5. Could you tell me more about your traditions and what did you learn from them? (i.e. the knowledge, values, and the things that are important to pass on from one generation to the next?) (prompt: are these related to family, community, religion, nationality, etc.)
6. How do you think such traditions will be continued? If not, why not, If so, why (and how)? Do you make artefacts to pass on traditions? And what combined efforts are there or you think may be needed at community/society level to ensure that these traditions continue?

B. Community/social level

1. In your view, how do you think your work is perceived by people in your community (leave for interviewee to define their 'community')? by people outside of your community?
2. Do you think the kind of work you do was perceived differently in the past? If so, what changes do you think have occurred to change people's perceptions?

C. Underlying assumptions

1. Why you are doing this work (making this product)?
2. What are your motivations? (making a living; appreciation of tradition, enjoyment, creativity etc.) Is this you sole occupation or do you do other things as well to make a living?
3. What relationship does what you do have to others in the region?
4. Do you see others as competitors? How does this affect what you do?
5. Do you feel there are any benefits for you from others doing similar work in the region?
6. What effects on you and your work do the following have (only discuss as appropriate): Other craft makers, Other artists,Other Businesses (Restaurants, Cafes, Galleries, Shops, Hotels etc.)Crafts Events : National craft Market, Goverments event, International Craft Market,etc

Issues and constrain

1. Could you explain about the current situation of woodcarving craft production in Malaysia? This can be about craft production in general or for the specific sector(s).
2. Current situation in local woodcraft industries : Demand? Markets and customers (domestic, tourist, export markets) Styles and customer preference (traditional, contemporary, modern) Reliability of the markets. Appreciation by local and foreigner? Logistic? Facilities and knowledge
3. Young generation apprentices and a retention of traditional woodcraft
4. What things can motivate younger generations to be with the handicraft industry and how?
5. What are the core elements in crafts that should be retain? Why?

Future direction

1. What are you working on at the moment? (current work focus and interests)
2. What do you hope to work on in the future? How do you see you work developing over time? Would you like to keep it more or less the same, or change, or grow, etc?
3. What kind of effort do you think needs to be taken to sustain your practice (on both personal and social levels)?What do you think are the most important aspects about your work that need to be sustained?
4. What parts of your work could be changed or done in other ways (without damaging or devaluing the important aspects of what you do?)
5. Are there aspects of your work that you particularly enjoy or value?
6. Are there aspects that you dislike or would prefer not to have to do?
7. What are the core elements in woodcarving crafts that should be retain? Why?
8. Could you suggest the potential area for woodcarving craft revitalisation/development?
9. How can design help to improve/develop a viable future of craft in this region?
10. AOB (further information, contacts and follow-up)

Appendix B Visualizations of the Research Findings

Visualizations of the research findings and initial analysis resulting from Data Collection

- Literature Review

- Semi-Structured Interview

- Case Studies

TERENGGANU WOOD CRAFT AND WOOD PRODUCT LOCATION MAPPING

- Terengganu are known as the Malay enclave, in which the community has continued to actively maintain and nurture a variety of traditional know-how (mazlan 2012)

- Considering the nature of Terengganu which is rich of heritage and culture, one of the main visions in Terengganu State Development Plan had emphasized on the development of tourism sector (Terengganu Tourism Centre, 2004)

- The traditional economic activities are fishing, agriculture, boat building, traditional food, textile, and craft which parts of the tourism industry. Tourism set to become a major contributor to Terengganu's gross domestic second to petroleum (M. A. H., Azman, C. M. (2010)

Legend:

- Fibrous Furniture & products (basketry, mat, bag, etc)
- Woodcarving (panel & Installation, woodcarving products)
- Wooden Boat making
- Wood Furniture & Woodworking buildings:
- Weaponary Keris, Golok (Malay Dagger)
- Others Wood Product: Souvenir craft, Musical Instrument, Traditional Tools and games and etc
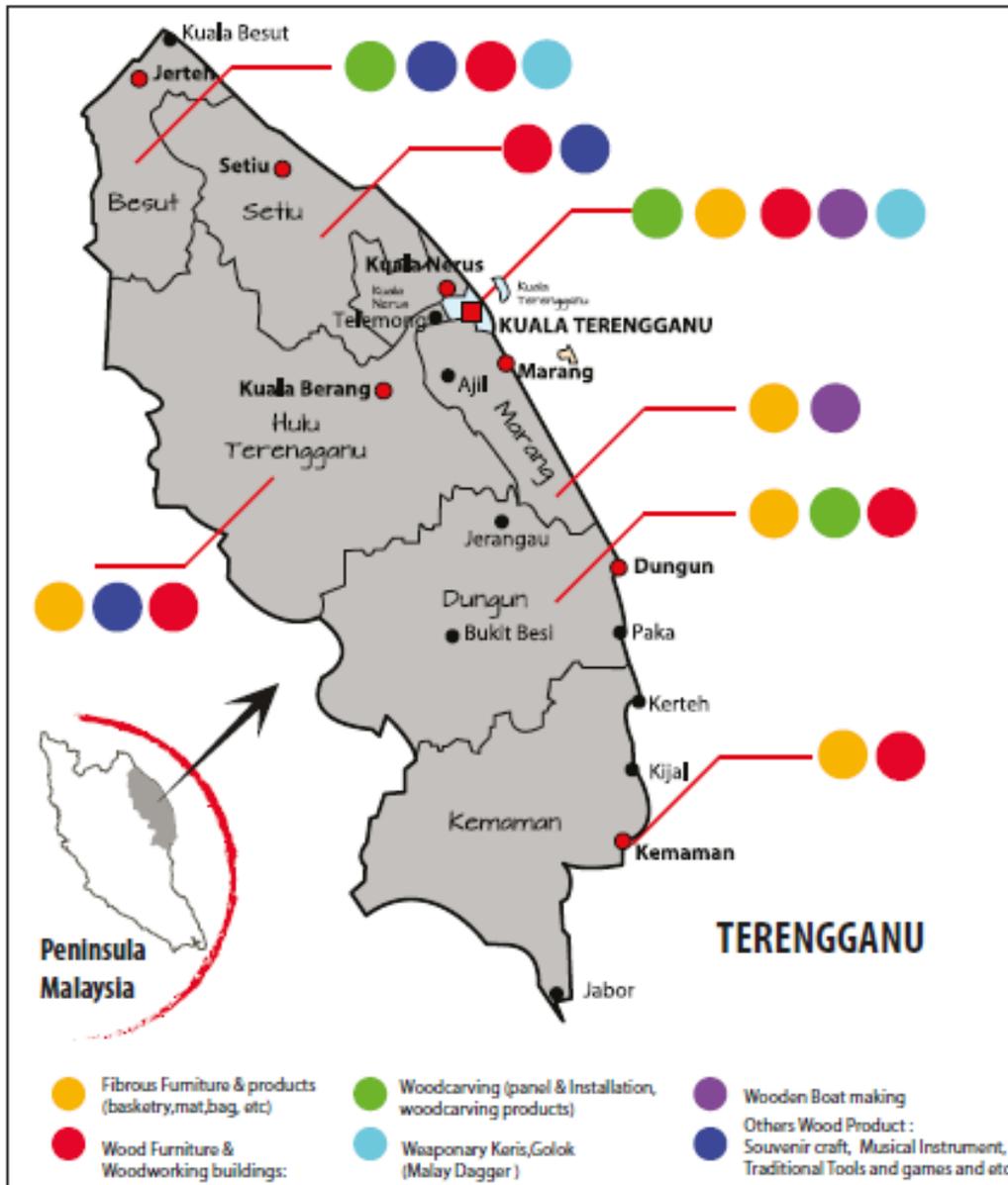
Visualisation Research Findings from Literature Review

CLUSTER OF TERENGGANU WOOD CRAFT AND WOOD PRODUCT

Fibrous Furniture & products
(basketry,mat,bag, etc)
: Marang, Kuala Terengganu

Wood Furniture & Woodworking buildings:
Besut, Kuala Terengganu, Paka,
Hulu Terengganu

Woodcarving (panel & Installation,
woodcarving products) :
Besut,kuala terengganu

Weaponary Keris,Golok (Malay Dagger) :
Kuala Terengganu, Hulu Terengganu

Wooden Boat making :
Pulau Duyong,Kuala Terengganu

Others Wood Product :
Souvenir craft,
Musical Instrument,
Traditional Tools
and games and etc :
Besut, Kuala Terangganu

source : kraftangan Malaysia (2014) , MTIB (2013)

Key Theory of Values
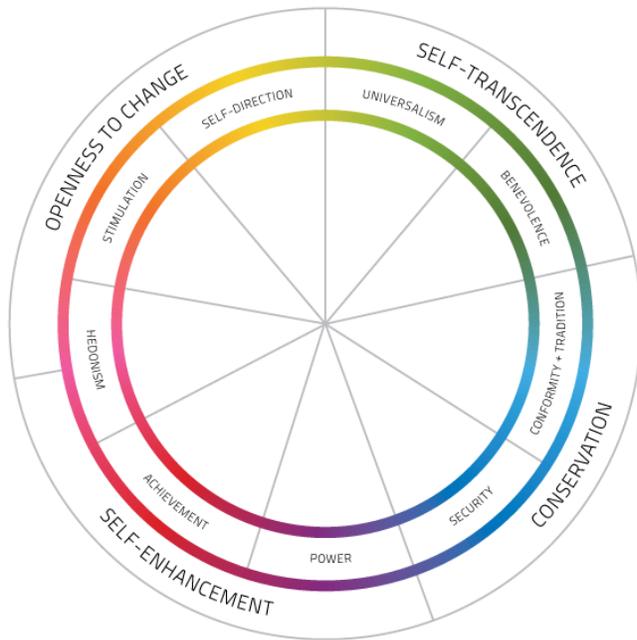
Schwartz Circumplex (Schwartz, 2012)

INNER LIFE
- contemplative, subjective, imaginative
- need not be developed
- basis of values

mystical strands of the great traditions

theistic religions

non-theistic religions

humanist emphasis within Buddhism & Zen Buddhism

atheistic interpretations of spirituality & meaning

beliefs, worldviews

PERSONAL MEANING

PRACTICAL MEANING

SOCIAL MEANING
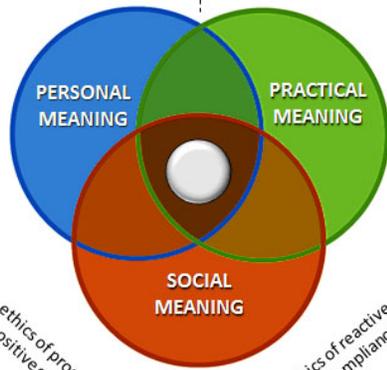
ethics of proactive 'positive contribution'

ethics of reactive 'minimal compliance'

values: what is good & right

the nature of practical actions

BASIC NEEDS
- active, objective, empirical
- have to be met
- values free ?

food

water

shelter

clothing

warmth

procreation

and the effects on environment of furnishing one's needs (and wants)

morality and social norms, relationships, empathy, compassion, charity

Quadruple Bottom Line (Walker, 2014)

Relationship study of Craft, Sustainability and Design

Craft — A
Sustainability — B
Internal Value — C
External Value — D
Design Intervention — E

A, AC, ABC, C, BC, BCE, BE, B, AD, BDE, BD, DE, D, E

Sustainability, Craft, Design

Malaysian Craft

Traditional Woodcarving

Design for sustainability
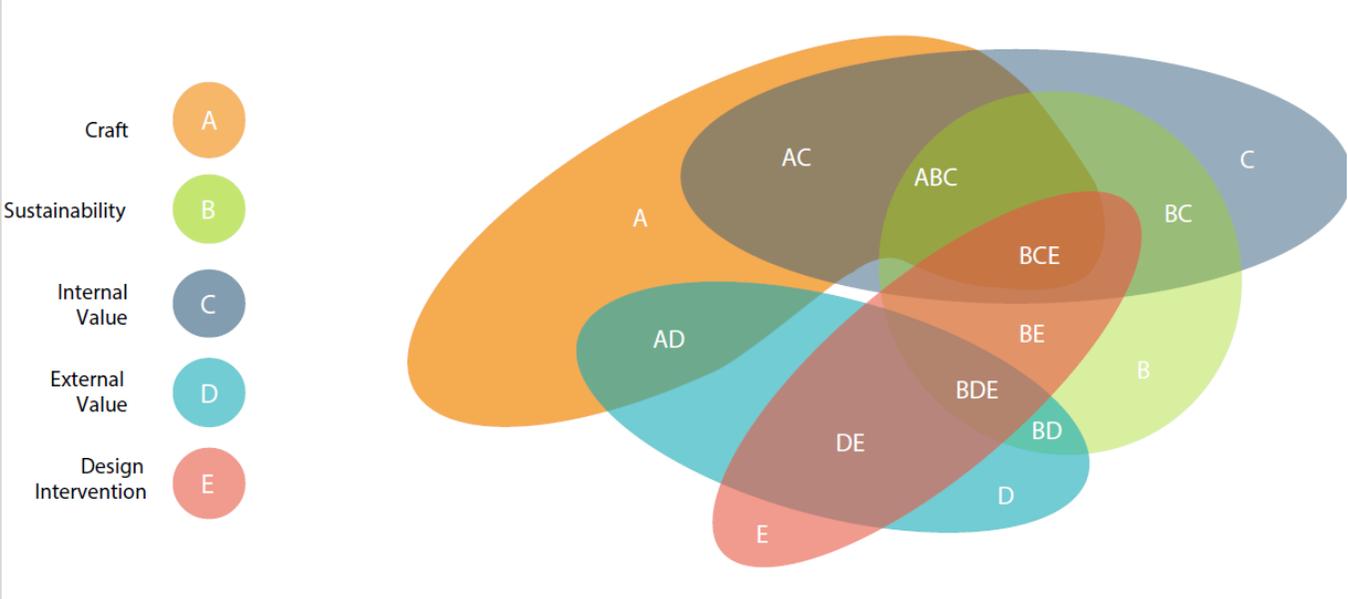
Relationship findings from Case Study 1

Relationship findings from Case Study 2

REVIVAL STRATEGY PROCESS

Telepuk Process & Wood Stamp Making Workshop organized by the Alam Shah Museum of Selangor, 2017 - 2018
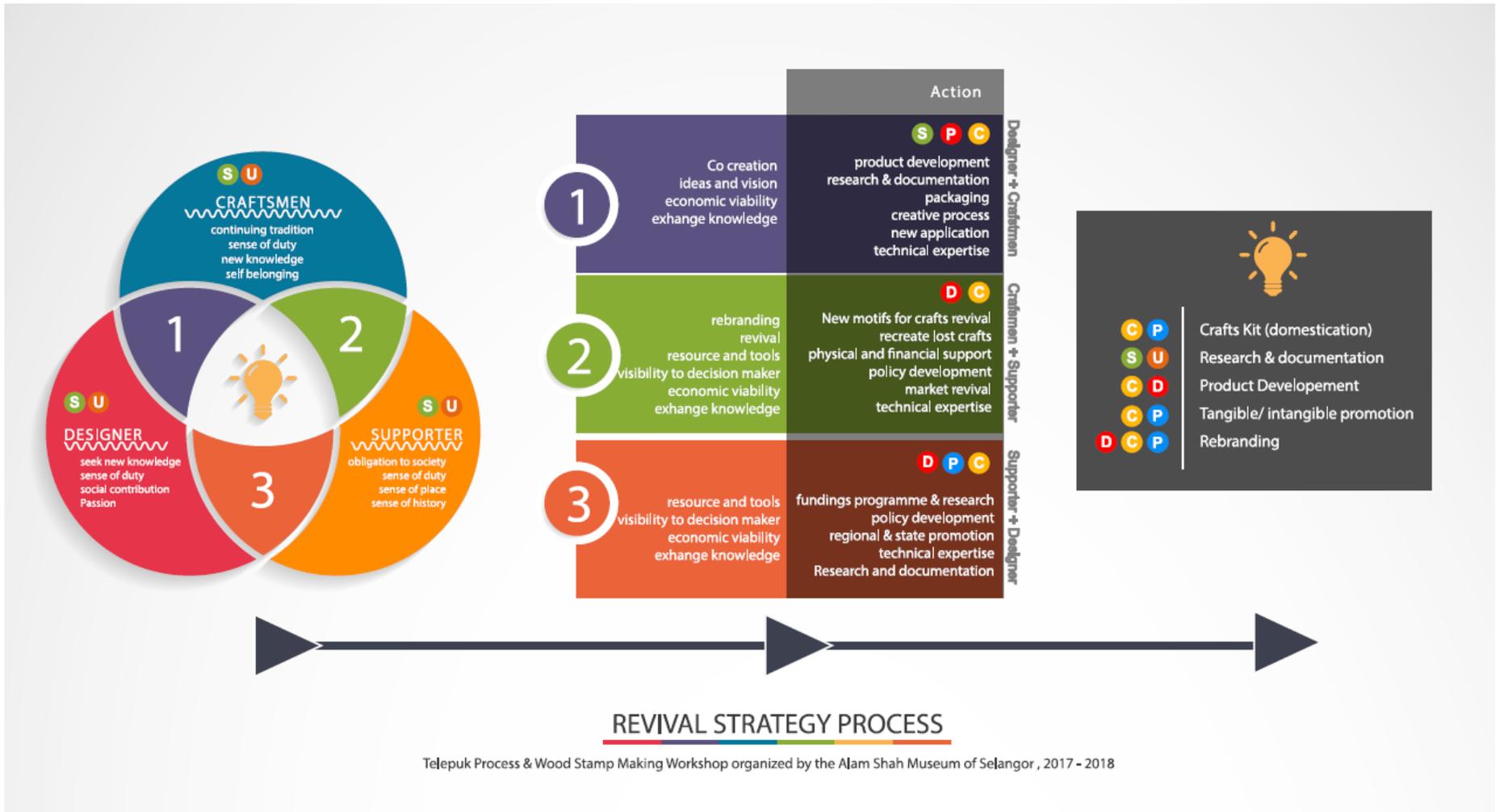
Relationship of Key Theory of Values

Intrinsic

Extrinsic

Sense of worth
Sense of place
learning
sharing
Belongings
Identity
Relevancy

SELF-TRANSCENDENCE

OPENNESS TO CHANGE

SELF-DIRECTION
UNIVERSALISM
STIMULATION
BENEVOLENCE
HEDONISM
CONFORMITY + TRADITION
ACHIEVEMENT
SECURITY
CONSERVATION
POWER
SELF-ENHANCEMENT

**Socio-Cultural
Meaning**

Practical Meaning

**Personal/Spiritual
Meaning**

**Economic
Meaning**

Passion
Tradition
philosophy
Belief
Religion
Responsibility
Self realization
awareness

The Value of Craft

Nine main areas for revitalising of Malay traditional craft and relationship to sustainability

Focus factor: ● People ● Place ● Product

	Product Development	Value of Place	Production Process & Technology	Human Capital & Well-being	Knowledge Transfer	Promotion & Marketing	Collaboration	Policy Making	Research & Documentation
	Design for craft / New application / New product / New market	Utilise value of place / Localisation	Increase output / Improve quality / Efficient production process	Artisan's interpersonal and personal skill / Reskill and retooling	Improve apprenticeship / Entrepreneurship mindset	Physical & virtual promotion / Marketing strategy / Personal branding	Expand networking / Co-creation	Government policy / Legislation	Research and development / Recording & documenting
sustainable element	High quality / Artisanal / Exclusive product / Handmade	Locally made / Local material / Localised logistic / Lower carbon footprint	Local empowerment / Social manufacturing / Efficient energy use	Local empowerment / Social community / Well-being	Local empowerment / Social community / Quality of life	Local empowerment / Quality of life / Feel good / Trendy	Local empowerment / Social community / Quality of life / Feel good	Local empowerment / Social community	Social community / Quality of life / Feel good

Intrinsic Value

Socio-Cultural

Product Development	Value of Place	Production Process & Technology	Human Capital & Well-being	Knowledge Transfer	Promotion & Marketing	Collaboration	Policy Making	Research & Documentation
● Continuing tradition	● Cultural identity / ● Local identity	● Social manufacturing	● Social skill	● Continuing tradition	● Cultural awareness	● ● Inclusive Networking	● Cultural identity / ● Local identity	● Cultural preservation

Personal /Spiritual

Product Development	Value of Place	Human Capital & Well-being	Knowledge Transfer	Promotion & Marketing	Collaboration	Research & Documentation
● Responsibility	● Sense of belonging	● Motivation	● Motivation responsibility	● Appreciation	● Responsibility	● Responsibility

Extrinsic Value

Practical

Product Development	Value of Place	Production Process & Technology	Promotion & Marketing
● ● Design for sustainability	● ● Local resources / Local production	● Zero waste / Reduce carbon footprint / Efficient technology	● Sustainable awareness

Economic

Product Development	Production Process & Technology	Knowledge Transfer	Promotion & Marketing	Policy Making
● Improve sells / Market expansion	● Increase profit / High quality &value	● Ensuring skilled workers	● Improve sells / Market expansion	● Resource support / Market stimulation

BETTER FUTURE

Appendix C Fields Study and Validation Process

Validation Session

Design based on Craft Revitalisation Framework
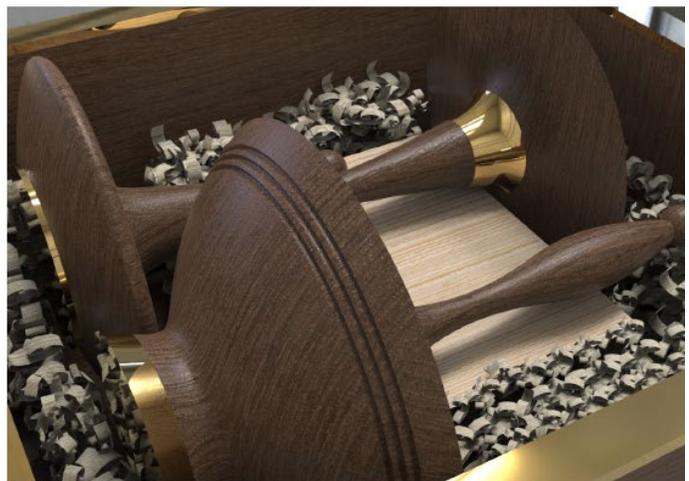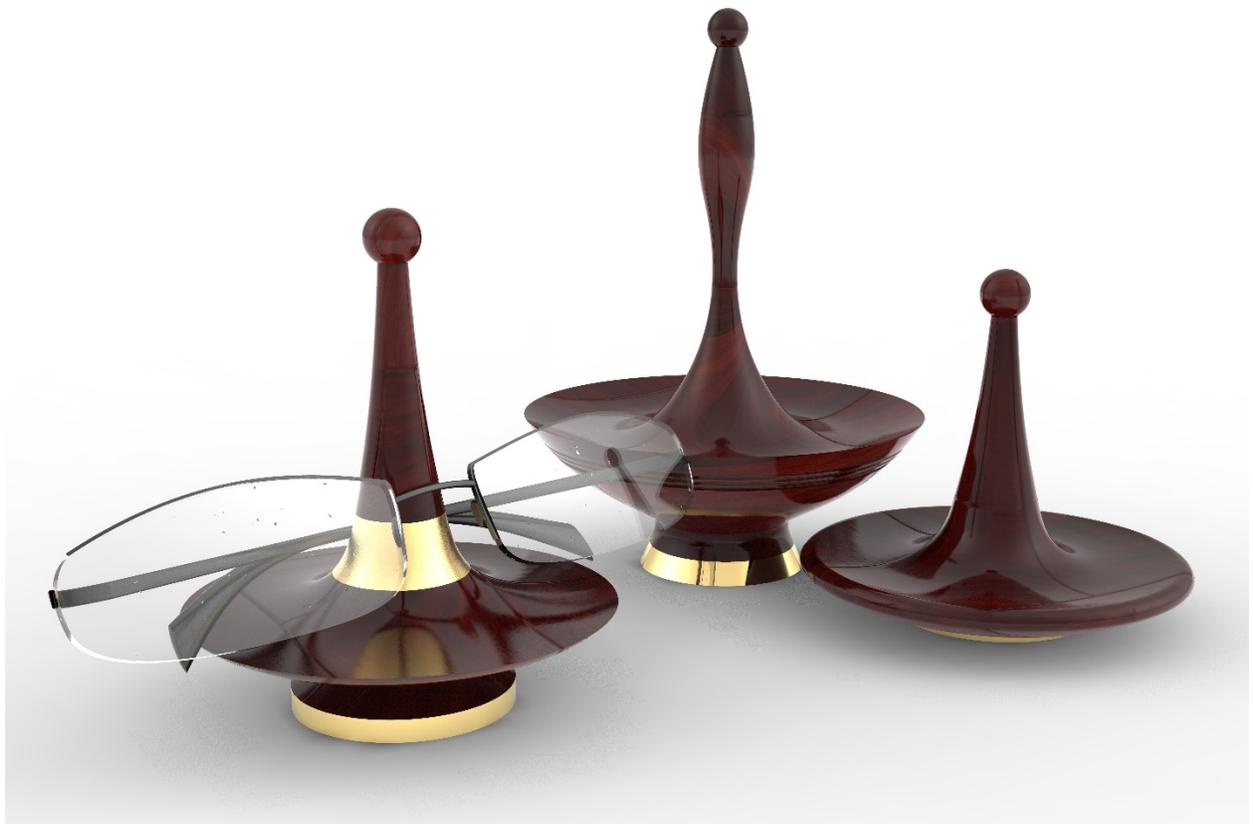
Shredded wood from woodcarving process used for
Sustainable and exclusive packaging

Corporate Gift, design by Shahrul My,2020.

Design based on Craft Revitalisation Framework
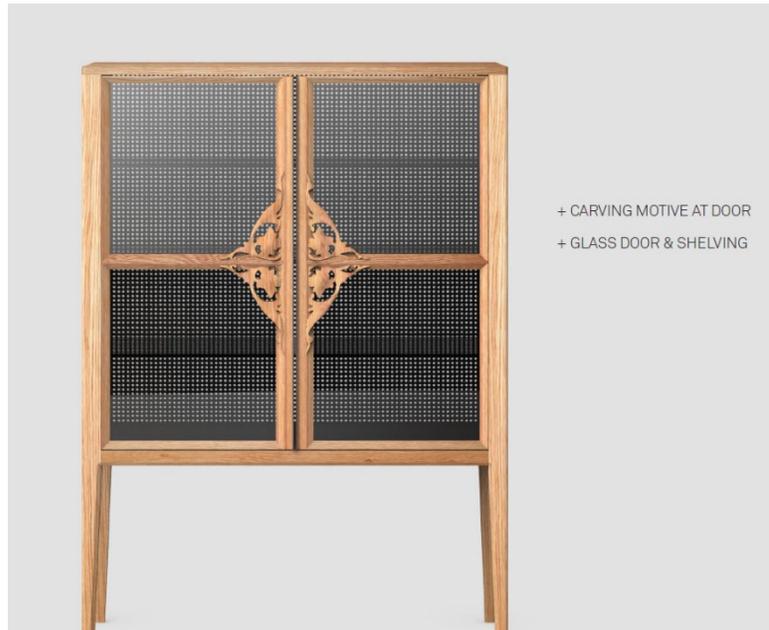
+ CARVING MOTIVE AT DOOR

+ GLASS DOOR & SHELVING

VASE & BOWL

+ TURNED & CARVED
LANGKAWI TEAK WOOD

Vase & Bowl and Cabinet design by Shahril Faisal, 2020

Woodcarving Workshop at Besut