

**SUSTAINABLE ENTREPRENEURIAL BUSINESS MODEL
TO UPHOLD
SRI LANKAN TEXTILE HANDLOOM COMMUNITIES**

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168025B

Degree of Doctor of Philosophy

Department of Textile & Apparel Engineering

University of Moratuwa

Sri Lanka

April 2023

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Thesis submitted in partial fulfilment of the requirements for the
Degree of Doctor of Philosophy in Textile & Apparel Engineering

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DECLARATION PAGE OF THE CANDIDATE & SUPERVISOR

“I declare that this is my own work and this thesis does not incorporate without acknowledgement any material previously submitted for a degree or diploma in any other university or institute of higher learning and to the best of my knowledge and belief it does not contain any material previously published or written by another person except where the acknowledgement is made in the text. Also, I hereby grant to the University of Moratuwa the non-exclusive right to reproduce and distribute my thesis, in whole or in part in print, electronic or other medium. I retain the right to use this content in whole or part in future works (such as articles or books).

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The above candidate has carried out research for the PhD thesis dissertation under my supervision.

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2. Wanniarachchi, T., Dissanayake, D. G. K., & Downs, C. (2022). **Community-based family enterprise and sustainable development in rural Sri Lanka.** *Community, Work & Family*, 1-19. <https://doi.org/10.1080/13668803.2022.2068406>
3. Wanniarachchi, T., Dissanayake, K. & Downs, C. (2020). **Improving sustainability and encouraging innovation in traditional craft sectors: the case of the Sri Lankan handloom industry.** *Research Journal of Textile and Apparel*, 24 (2), 111-130. <https://doi.org/10.1108/RJTA-09-2019-0041>

Conference

4. Wanniarachchi, T., Dissanayake, K. & Downs, C. (2018). **Developing creative industries in Sri Lanka: The case of handloom textiles.** The 91st Textile Institute World Conference: Integrating Design with sustainable design, Leeds UK, 23-26 July 2018. <https://www.textileinstitute.org/wp-content/uploads/2021/03/TIWC-2018-Programme-Final.pdf>
5. Wanniarachchi, T., Dissanayake, K. & Downs, C. (2018). **Exploring opportunities and barriers of community-based entrepreneurship within handloom communities in Sri Lanka**
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Abstract

This study develops a sustainable business model that can foster the growth of the textile handloom industry in Sri Lanka. The research identified opportunities for product innovations through design intervention and highlighted the potential for community-based entrepreneurship, allowing the development of a novel theoretical model that emphasizes diversified interventions to encourage benefits including and beyond economic growth.

This study relied on qualitative data from empirical work, including 9 case studies, 35 semi-structured interviews and field observations. Additionally, three participatory action research focus group workshops were conducted using the KETSO tool. The study reveals the textile handloom industry is inherently sustainable but structural barriers hinder innovation and growth. The environmentally conscious manufacturing process and social inclusion within weaving communities are the key driving forces of sustainability in the sector but the structure of the industry, lack of skills in product design and development, and limited access to markets act as barriers to innovation and growth. The study further discovered that entrepreneurial culture is not prevalent in community life.

As a result, the study proposes a theoretical notion of sustainable community-based entrepreneurship within the textile handloom industry is determined by the four factors of social capital (networks), family web, social status and innovation mix. The proposed business model consists of four layers; economic, social, environmental and entrepreneurial.

Keywords

Handloom communities; Design intervention; Sustainable community development; Community-based entrepreneurship; Social networks; Family web; Innovation mix; Social status

DEDICATION

To

My amazing husband

For his endless love, support, encouragement and blessing beyond words.

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LIST OF ABBREVIATIONS

BM	Business model
CBE	Community Based Entrepreneurship
CBPAR	Community Based Participatory Action Research
DI	Design Intervention
EDB	Export Development Board
GDP	Gross Domestic Product
GVA	Gross Value Added
PAR	Participatory Action Research
SME	Small and Medium Entrepreneurs
UN	United Nation
TBL	Triple Bottom Line
TLBMC	Triple Layered Business Model Canvas

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CHAPTER 1

INTRODUCTION

1.1 Introduction to the chapter

This chapter provides an introduction to the research. Section 1.2 of the chapter briefly discusses the background of the study and Section 1.3 the research problem. Section 1.4 highlights the aim and objectives of this research. Section 1.5 describes the significance of this study and Section 1.6 refers to the limitation of the study.

1.2 Background of the study

The economic development of a country differs in how efficiently it addresses country-specific challenges. Economic development must also be aligned with individual income generation, personal development, and the uplifting of poor and vulnerable people in society. There is a global acknowledgement of the potential of the creative economy as an economic development strategy due to its significant contribution to national Gross Domestic Product (GDP), Gross Value Added (GVA), and job opportunities both in emerging and developed economies (United Nations Educational, Scientific and Cultural Organization [UNESCO], 2020).

Creative industries are placed at the centre of the creative economy and have gained significant attention in the recent past due to their great potential for contributing to a country's economy and job creation (UNESCO, 2013; 2020). An increasing market share for creative goods in the global market indicates potential opportunities for the growth and expansion of creative industries (UNESCO, 2013; 2020). The world economy is receiving a boost from creative industries (UNESCO, 2018). Many countries have understood the value of creative industries, concerned creative economic expansion and upholding their cultural identities (Wu & Lin, 2021). Moreover, there is an

interconnection between the creative economy and culture. However, culture is mostly considered the driving force for the growth of a country. As Moalosi et al. (2010) and Wanniarachchi et al. (2020) emphasized, creative industries can transform cultural identity and foster cultural diversity whilst promoting competitiveness, creativity, design and innovation. Creativity can be defined as the expansion of innovative concepts linked with awareness over ‘imagination, inspiration, ingenuity and inventiveness’ and then the employment of these concepts to produce new products (UNCTAD, 2018). Florida (2002) and Howkins (2007) looked at creativity mostly from an economic viewpoint and emphasized that the economy is powered by human creativity. Handcrafted products occupy an important portion of the creative cultural industries (Luckman, 2015; Jakob & Thomas, 2017; Collins et al., 2018; Alexandria et al., 2019; Kolb, 2020; Lita et al., 2020; Towse, 2020).

Craft industries and their potential contribution to the development of creative economies together with sustainable development are globally recognized (UNESCO, 2018). It has been emphasized that emerging economies can be used their handcrafted creative industries as a resource to achieve economic progress introducing international collaborations for development, mechanisms for youth social inclusion, and accomplishing nation-specific sustainable development goals (UNCTAD, 2018, p. 34). Sri Lanka is a developing country and home to many creative industries with a rich history of craft tradition. There remains significant demand for this centuries-old craft business due to its close links to cultural heritage. The craft persons preserve their enormous skills and know-how as a heritage tradition, to foster this traditional culture (Coomaraswamy, 1956). The craft-based textile industries (handloom textiles, batik and beeralu) used to be one of the key contributors to generating household income. The textile handloom industry has nearly three thousand years of history and creates substantial revenue through local and international business (EDB, 2021; Department of Textile Industry, 2021). However, increasing global demand for sustainable, handcrafted fashion clothing holds an even greater opportunity for global market expansion with Sri Lankan handloom craft.

It has been acknowledged that further development of this industry would escalate the local economy, contribute towards the generation of rural employment, enhance opportunities for entrepreneurial development, and above all, impact positively on rural poverty reduction (Sri Lankan batik, handloom, and local apparel production policy, 2020).

The Sri Lankan textile handloom industry is mostly carried out at a cottage industry level with few large manufacturers leading the way. This industry governs largely by women with Sri Lankan and traditional weaving patterns. Handloom craft is highly labor-intensive, low energy, and primarily placed in rural areas (EDB, 2019) of the country. The Sri Lankan handloom weaving industry currently operates in three segments, community-based handloom businesses, government-involved handloom businesses, and private entrepreneurial and retailing businesses. Within these segments, the primary players consist of small and medium-scale manufacturers with a very limited number of large-scale manufacturers. The government sector runs the handloom manufacturing managing their production centres through provincial councils. This industry is clustered across the country and predominantly handloom communities in the western, eastern, central, and southern provinces benefited from this industry. The Western province leads the major handloom production share. There are around 962 private producers in operation inclusive of the small, medium, and limited large-scale units. Key major players are engaged in the export business. In addition, eight provincial councils owned 771 production centres. The industry provides employment opportunities to around 15,000 persons which include a substantial number of women (EDB, 2019). There are 14 textile industry training schools and 2 design schools set up in the country to produce trained personnel to sustain the human resources of the industry. The handloom products currently produced are largely cotton with comparatively small quantities of rayons and polyester cotton. Handloom products such as tableware and soft toys are exported around the world. The upper markets for Sri Lankan handloom textiles products are European Union (Austria, Italy, Belgium, Switzerland, Germany, UK, Sweden, France), South Korea,

Maldives, United States, United Arab Emirates, Australia, and Japan. The total value of exports in the handloom sector in the year 2018 was US \$ 0.96 Million and in the year 2019 was US \$ 0.935 (EDB, 2020). Traditional handloom products such as sarees, sarongs, readymade clothing, tapestries, upholstery fabrics and curtaining, bed linen, and household textiles such as table linen, cushion covers, and soft toys are available under local brands.

1.3 Research problem

The textile and fashion industry today is claimed to be the second-highest polluting industry on the earth because of its unsustainable manufacturing and consumption behaviours (UN News, 2019). As a result of continuous awareness activities on the environmental influences of fashion manufacturing and consumption, the demand for sustainable fashion products has gradually increased (Niinimäki, 2010; Schrottenboer, 2013). Therefore, the fashion business is looking for innovative behaviours of accepting environmentally and socially responsible products and manufacturing strategies (Taghikhah et al., 2019; Alzoubi et al., 2020). Thus, Ferraro et al. (2011) introduced one such possible method of integrating craft into contemporary fashions for more sustainable fashion products. Kashima (2020) further clarified how craft and social sustainability could share collective goals. According to Hur and Beverley (2013), the craft can significantly contribute to improving the sustainability of manufacturing and consumption behaviours of fashion products. Thus, craft has a vital responsibility in creating both environmentally and socially sustainable products (Luckman, 2013). Further, Cox and Bebbington (2015) showed the interaction between craft and contemporary fashion and how this relationship would intensify the sustainable development of the fashion business.

The handloom textiles are craft creations that could contribute towards the country's economic development and sustainable development promoting a sustainable fashion business. Handloom textile is attracting growing interest in fashion markets, due to increasing concern about exploitation in production, encouraging interest in the economic

benefits of fairly traded, high-quality materials, but also the potential contribution of handloom to sustainability in the fashion industry (Wanniarachchi et al.,2020). Even though the opportunity for global fashion business within the handloom textile industry is well understood, there are numerous barriers to avoiding the development of the textile handloom industry to an economically plausible level. This industry is fundamentally sustainable, yet its structural barriers hinder innovation and growth (Wanniarachchi et al.,2020). In fact, according to the Sri Lankan Policy Report (2018), the craftspeople who engage in the handloom textile business are facing immense challenges to sustain their business. The absence of design strategies and innovation, limited access to marketing channels, and lack of new entrepreneurial entrance are the key challenges (Sri Lankan batik, handloom and local apparel production policy, 2020). Correspondingly, the textile handloom industry is one of the oldest industries and it has been seen as an occupation intertwined with human life. Manpower is realized as most vital than capital to the textile handloom industry. Sri Lanka is a country where manpower is readily available. However, there is an immense challenge in youth employees' engagement in the industry (Sri Lankan batik, handloom, and local apparel production policy, 2020). Risna and Banu's (2022) study findings further emphasised these challenges and issues encountered by the textile handloom industry to operate at the economically sustainable level. Therefore, there is a real need in revitalizing this industry to bring benefit from the emerging global market opportunities and hence uplift textile handloom community livelihoods.

The traditions of weaving and handloom manufacturing still stand strong among the handloom weavers of Sri Lanka from the days of the kings, industrialization, brutal civil war, and the post-war period. It remains unwavering and craftspeople are faithful to the traditional designs of weaving that have been passed down through generations. According to the Sri Lankan Policy (2018) report and preliminary study data the existing products are primarily associated with traditional designs. Indeed, it has emphasized the indisposition of current businesses for sustainability-oriented design and innovations (Sri Lankan Policy, 2018). However, there is a need for a radical change of product design in

this industry to be successful in competitive fashion markets. Product design knowledge and practice are significant in developing the textile handloom industry. Consequently, there is an essential need for a design interference approach to the textile handloom sector. The expert design inputs and unforceful imposition of designers to unleash the potential skill of the craftspeople with the combination of “what is desirable in craft” and “what is possible through design” is a great need. Moreover, the integration of sustainable design strategies in the handloom craft product development process is a vital requirement to compete in global markets.

In parallel to appropriate design and innovation and, technology and contemporary product development knowledge transfer to handloom products, it has already been acknowledged the importance of further development of the textile handloom industry with new entrepreneurial entries (Sri Lankan Policy, 2018). To sustain and become competitive in the local and global markets, this industry demands considerable adjustments in community-based new entrepreneurship models, safeguarding intellectual property rights, and development of policy frameworks (Chen et al., 2002; Dey et al., 2019). This perceived opportunity to open paths to members of craft communities and other marginalized social groups to grow as handloom entrepreneurs offer a route to achieving several UN development goals targeting sustained, inclusive, and sustainable economic growth. Correspondingly, the development of this sector needs enhancing entrepreneurial contributions consequently developing and generating new CBE knowledge. It would intensify the expansion of the local economy towards the generation of rural employment; enhance the opportunities for sustainable community entrepreneurship, and impact positively poverty reduction (Helmsing, 2003). Thus, there should be an encouraging trend from the government for handloom textile entrants to begin as small and medium entrepreneurs align with fashion market demands. Therefore, there is a great need for empirical research that can serve as a basis to bring out the significant potential of the growth and expansion of this industry promoting new entrepreneurial entries in the emerging fashion market locally and globally. These

elements are essential to overcome existing barriers for the textile handloom industry, encourage an entrepreneurial culture, empower educated youth into setting up a fashion craft enterprise, reduce growing unemployment problems, and develop sustainable craft communities.

Based on this context, the following research question is formed.

Research question:

How can the Sri Lankan textile handloom industry be uplifted through design and entrepreneurial capabilities to achieve long-term sustainability?

1.4 Aim and objectives of the research

To answer the research question, the aim and objectives of the research are developed as follows.

Aim

To develop a sustainable business model that enhances the development of the Sri Lankan textile handloom industry.

Objectives

1. To investigate the current status of the textile handloom industry
2. To explore the possible integration of sustainability into the handloom business incorporating,
 - (a) Sustainable DI
 - (b) Sustainable CBE practices
3. To develop a new business model for the textile handloom industry that represents,
 - (a) sustainable DI strategies

- (b) sustainable CBE strategies by developing a new bottom-up innovation-based entrepreneurial model

1.5 Significance of the study

There is a huge need for this creative sector to grow within the local craft community that eventually associates with the local culture. Development of culture and the creative sector will not only gain economic benefits but also offers social gain such as the overall well-being of communities, individual self-esteem and quality of life, and social cohesion. As emphasized by UN Conference on Sustainable Development (Rio+20) entitled ‘The Future we want’ and acknowledged by ECOSOC Annual Ministerial Review 2013, it is important the culture and cultural diversity for sustainable development and argued that investments in identity, innovation, and creativity can help to build new development pathways for individuals, local communities and countries. These new pathways are constructed when they are nurtured within an enabling environment based on the fundamental values of respect for human rights, equality, and sustainability. The contribution of culture in this capacity results in inclusive social development, inclusive economic development, environmental sustainability, and peace and security (Almuhri & Al-Azri, 2019; UNESCO, 2020).

Sarri & Trihopoulou (2005) stated that female entrepreneurship has been growing at a higher rate than male entrepreneurship during the last few years. This is seen as a positive trend and potential for the textile handloom industry which represents a major contribution of female workers. This perceived opportunity to open paths not only for rural women but also youth, craft communities, and other marginalized social groups to grow as textile handloom entrepreneurs offer a route to achieving several UN development goals targeting sustained, inclusive, and sustainable economic growth by 2030 (UN Assembly, 2015). Moreover, there is a significant trend for handloom textile entrants to begin as SMEs in the Sri Lankan textile handloom industry and there will be substantial opportunity for sustainable development with sustainable entrepreneurship. Furthermore,

they emphasized the indisposition of current entrepreneurs for sustainability-oriented innovations. However current entrepreneurs' capability to adopt process innovations can be challenged to copy beginner's products and services in an economically viable way. Hence there would be ample openings for the few established handloom textile entrepreneurs too to come up with innovative products for the global market which they already deal with.

Currently, many people make their consumption decisions based on ethical values. They are very much concerned about using environmentally friendly products and are interested in ensuring ethical manufacturing methods, labour specifications such as remuneration rates and working environments, and human rights. Therefore, ethical users would pursue making use of goods and services that can reveal social and environmental accountability. Cho and Yoo (2021) emphasized that businesses increasingly adopt ethical practices to fulfil their consumer wants and consumers' passion for green purchasing. In the current business arena, ethical businesses are more dedicated to community development (encouraging local suppliers), fair trade (a better trade for emerging nation suppliers), and environmental sustainability. Therefore, handloom is one of the most suitable crafts to develop as a community-based industry offering an ethical product to emphasize ethical consumer purchasing passion. Therefore, the development of the textile handloom industry is very significant as an ethical craft business.

1.6 Limitations of the research

The study is not without some integral limitations. The practical scope of the study was restricted to the three major handloom weaving communities in Sri Lanka. However, there are minor weaving communities scattered across the country, which were not included in the study. In the current scenario, most of these minor community's work for the large-scale entrepreneurs as weavers and could be considered as sub-units but excluded from the study due to the time constraints. Moreover, the textile handloom industry supply chain comprises key stakeholders of raw material suppliers, manufacturers, retailers, and

customers. However, suppliers and customers were excluded from the study, which is a key limitation.

The investigation described in the research is mainly in exploratory in nature due to the study acceptance of inductive type of methodology. The study aims to answer the research question postured here without testing any hypothesis. Therefore, further researching with deeply elaborated research design is dynamic to discover complex relationships for aimed BM.

The proposed BM of the study may fit with the other traditional craft industries in the country. However, the manufacturing process of craft development varies depending on the type of handcrafted items. Therefore, the applicability of this proposed business model may limit it to other handcrafted industries.

1.7 Chapter Summary

Chapter 1

This chapter introduces the research and describes the background of the research study and the research problem. Then it discusses the research question, study aim, and the objectives of the research. Then the chapter presents the study aim, its key objectives, and the research question posed. Also, it further describes the significance of the research study and highlights the research limitations of the study. Finally, Chapter 1 provides a brief outline of the rest of chapters.

Chapter 2

Chapter 2 presents the literature reviews related to study concepts. It includes the status of creative industries and their impact on the creative economy. Also, the concept of sustainable development and its goals, the relationship of craft and sustainability, sustainability designs, DI, and craft practice in DI. Also, it will review the concepts of entrepreneurship, CBE, and sustainable entrepreneurship. Further, it gives an overview of

business modelling, sustainable BMs, and the relationship between BMs and entrepreneurship.

Chapter 3

Chapter 3 presents the research methodology elaborating research philosophy, research approach, research strategy, research methods, and data collection procedures adopted during the study. Mainly case studies, Participatory Action Research (PAR) workshops, interviews data accumulation for the grounded theory approach explain under the research design. This chapter further clarifies how the study plan multi-method research to deem the most useful outcomes to achieve the research objectives and validate the outcomes using one study to another.

Chapter 4

This chapter provides the empirical data gathered by the research strategies proposed by case studies and field observations, PAR, and design workshops.

Chapter 5

This chapter offers the empirical analysis of the information collected and explained in Chapter 3. It is planning to present a cross-case analysis of case studies, BM analysis, and PAR workshop analysis for the CBE theoretical notion. The chapter further focuses on CBE theoretical modelling and innovating a new business model for the textile handloom industry.

Chapter 6

This chapter plans to re-evaluate the outcomes from the research study and considers the outcomes within the perspectives of literature, study aim and objectives. The discussion concludes by recognizing the making recommendations for the development of the handloom sector.

LITERATURE REVIEW

2.1 Introduction to the chapter

Chapter 2 reviews the literature on the economic standing of the creative industries and its impact on the creative economy (Section 2.2), concept of the sustainable development, its goals, and the relationship of craft and sustainability (Section 2.3), sustainable designs, DI and craft practice in DI (Section 2.4). Also, the literature review describes the concept of entrepreneurship, the importance of community-based entrepreneurship and sustainable entrepreneurship (Section 2.5). Further, this chapter explains business modelling, sustainable BMs and the relationship between the BM and entrepreneurship (Section 2.6).

2.2 Creative economy and creative industries

The creative economy is one of the world's most rapidly growing sectors, contributing 3% of the global GDP. Mbaye and Pratt (2020) reported that the creative economy endorsed the growing impact of the creative segment in the world economy. Hence most organizations across the world encouraged and promoted growth across creativity (UNCTAD, 2020). UNESCO formally recognized the concept of the creative economy in 2009 in the framework of cultural statistics (Mbaye & Pratt, 2020). UNCTAD defined the creative economy, and it is well-used across the world (De Beukelaer, 2014; Manyala, 2016). Similarly, the creative economy reveals its roots in cultural and culture economy (De Beukelaer & Spence, 2018). UNCTAD has survived to bring about in the creative economy to an international level and it continuously attempts to make the creative economy a universal economy and incorporate it into the world development plan providing the creative economy options and encouraging development.

At present creative economy has recognized as a powerful emerging economy in the world by contributing 3% of the share to global gross domestic products and doubled the size of the

worldwide marketplace for such creative products are \$208 billion in 2002 and increased to \$509 billion in 2015 (UNCTAD, 2019). The cultural and creative industries have generated 29.5 million jobs worldwide (UNESCO, 2021). The creative economy is essentially knowledge-based economic pursuits established in creative industries. Hawkins (2013) stated that a creative economy is the socioeconomic capability of operating interests with creativity, innovation, understanding and information. The creative economy has monetary, cultural and social values (Chollisni et al., 2022; Kituyi, 2018). The creative economy and creative industries are strategic segments in today's economy. These economic divergence strategies and their development stimulate both economic growth and sustainable growth. It boosts productivity, employment opportunity and exports potential of a country as prosperity and well-being of the people, harnessing creativity to transform and diversify the country's economies (Mourtzis, Angelopoulos & Panopoulos, 2022; Coke-Hamilton, 2021) and supporting the achievement of sustainable development goals. It incorporates the areas of advertising, architecture, arts broadcasting, crafts, design, drama, fashion, music, publishing, technology and cuisine. Further Mudjijah et al. (2022) emphasized this has been a key strength in entrepreneurial orientation on business performance of the creative industries.

The term 'creative industries' was recognized and well established in 1997 (Kong, 2014), and since then many scholars attempted to specify this term (Purnomo & Kristiansen, 2018; Schulte-Holthaus, 2018; Wijngaarden et al., 2019; Towse, 2020). Creative industries play a dynamic role in the world economy, offering substantial growth opportunities for developing countries over the past era supporting high-income generation, job creation and export earnings potential (UNCTAD, 2020). Scholars have recognized the culture industries together as cultural industries and the creative industries (Innerhofer et al., 2018; Schulte-Holthaus, 2018). Creative industries makes annual income of 250 billion USD and provide employment opportunity for aged 18-25 population than any other sectors (UNESCO, 2021). Therefore, the fast-growing market

share for creative goods in the world market implies the promise of creative industries to boost socio-economic growth.

The annual growth of Asian region creative sector has grown up to 20.04% from year 2013 to 2021. Also, creative sector exports have progressively boosted from 18.83% to 23.83%, from year 2013 to 2021. (Che Arshad_& Irijanto, 2022). Literature provides plenty of examples to demonstrate the impact of creative industries in enhancing the economy and employment opportunities in developing countries around the world. For example, creative industries in Indonesia have been identified as a key source of new entrepreneurship among the youth, and the total financial contribution of creative industries to the country's GDP in the year 2010 was 33.2% (Mudjijah et al. 2022; Chollisni et al., 2022). Thailand government declared that creative sector as a promising element of its economy and national economic policy and expect to grow the sector by 3.5 % and deserve over \$100 billion income annually (Thailand creative industries, 2021). According to source of Exim Bank India (2021), total creative products and services arose around \$121 billion in year 2019. For instance, Creative industries in the UK also provided 1.71m jobs, which accounted for 5.6 % of total UK jobs in the year 2013 (DCMS, 2015). Most countries realized that creative industries signify the distinctive image of the country blending their culture and commerce giving employment to a large number of people (British Council, 2020).

Cultural and creative industries are increasingly becoming important in the global marketplace due to their positive impact on the economy as well as on society. As Moalosi et al. (2016) emphasized, creative industries can transform cultural identity and foster cultural diversity whilst promoting competitiveness, creativity, design and innovation. Craft is one of the leading industries of the creative sector which contributes continuously to export earnings for emerging economies. Crafts remain to be amongst one of the vital creative industries for export revenues for emerging countries. The creative economy is growing worldwide, particularly in fashion, design and crafts adding to the country's

GDP, exports and growth. Considering the current economic trend in creative industry growth in developing countries especially in the Asian region, it is time to look into the development of creative industries within the craft sector that can impact the economic development of Sri Lanka, introducing new reforms within the economic structure.

2.3 Sustainable development and goals

Throughout the last few decades, it has been observed a remarkable enthusiasm for sustainable development. In broad terms, sustainable development is the increasing perception of rising environmental problems, socio-economic concerns poverty and inequality throughout the world towards the future of humanity (Hopwood et al., 2005). There is no commonly accepted concept of sustainable development. However, there are various definitions from diverse disciplines with different assumptions of the basic relationship among, environment, society and economy. There were about 70 different definitions spread out in extant literature for sustainable development by the 1990s (Holmberg & Sandbrook, 2019).

A frequently used definition for sustainable development was defined by the Brundtland Commission report, as the development that meets the needs of the present without compromising the need of future generations to meet their own needs. Even though many definitions abound, this definition continues to be used most widely (Dernbach, 2003; Emas, 2015; Mensha, 2019). However, Wang et al. (2020) appraised the reaction of both economists and ecologists to this definition. According to Kheswa et al. (2020), this definition further incorporates social, economic, and environmental factors to ensure the development focus for planning, implementation and decision-making which serve present and future generations. But the term 'sustainable development' has been redefined consequently many times and used in various aspects of social and environmental relationships (Boar et al., 2020; McNeill, 2020). Also, it was evident through the decade of the 1990s, that there was substantial debate and contestation concerning the meaning and practice of sustainable development (Allen, 2021). By that time, the term sustainable

development had also gained a currency well beyond the confines of global environmental organizations (Norstrom, 2020). However, sustainable development has been redefined consequently several times and applied to diversification aspects of environment and society relations (Rout, 2020). Also, as Hawkins and Elliott (2020) pointed out that there were a lot of different arguments regarding the significance of sustainable development and its practice during the decay of the 1990s. According to Ema's (2015) explanation, sustainable development goals need to be with the long-term stability of the environment and economy. Also, these goals could be achieved by incorporating and accepting the concerns of economic, environmental, and social factors in the decision-making stage itself.

There have been several significant global conferences such as the Global Forum on Human Environment (1972), World Commission on Environment and Development (1987), UNs Conference on Environment and Development; Earth Summit, and UNs General Assembly for Millennium Development Goal 2000 on sustainable development throughout last few decades. Recently, the UNs General Assembly again met in 2015 and accepted the upgraded version of a sustainable development goal called the '2030 Agenda'. This sets out a better ambitious and universal set of global development priorities for the next 15 years (UN Assembly, 2015) consisting of 17 sustainable development goals and 169 associated targets. The new agenda emphasizes a holistic approach to achieving sustainable development for all. In most of these forums, sustainable development is extensively accepted as an attractive strategy among lots of organizations concerned with the potential growth of the resources of the world (Hawkins & Elliott, 2020). Although the ideas concerning the better way of accomplishing growth have changed during this time, it continues the similar objectives without replacing the entire concept.

Textile, apparel and fashion are one of the main unsustainable businesses on the earth. This challenges all three pillars of sustainability: social, environmental and economic

hence appealing for improvement of intervention by designing sustainable development (Rout, 2020). According to Gardetti and Muthu (2020), sustainable development in the textile, apparel and fashion industry has already identified some initiative approaches to reduce the harmful environmental impacts and exploit the positive influences intended for society along with the value chain, hence generating sustainable value (Gardetti & Muthu, 2020). Therefore, this study intends to address this issue concerning the textile handloom industry by developing a new sustainable BM that is aligned with meeting some of the sustainable development goals of 'Agenda 2030'. Further, the study plans to integrate sustainable and inclusive economic growth incorporating sustainable handloom craft products and a sustainable society with the top priority of ending poverty and establishing the CBE across the handloom community.

The proposed sustainable community entrepreneurship development process of this study would be accomplished align with the three defined sustainable development goals. Those are Goal 5, achieving gender equality and empowering women. Goal 8, Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all. This goal encourages the reinstatement of the textile handloom industry harnessing the cultural and economic life of Sri Lanka which strengthens the local economy and lessens unemployment problems in the country. Moreover, Goal 12, ensuring sustainable consumption and production patterns This goal may be integrated with the sustainable concepts proposed in the study for the accomplishment of sustainable craft products. Therefore, there is a growing interest in the development of the Sri Lankan textile handloom industry in a socially, economically and environmentally responsible way associated with goals 5, 8 and 12 in 'Agenda 2030'.

2.3.1 Sustainability and craft

Crafts represent a major component of creative industries (Pagan et al., 2020; OECD report, 2001). The craft industry is viewed as part of the greater cultural industry comprising designer trades. As Adamson (2009) described, the craft is an application of

skills and material-based knowledge to relatively small-scale production. Subsequently, craft production is cultural, traditional, and predominantly a cottage industry engaged by rural women, youth and sometimes disabled people. The craftsmanship and skills have been transferred from generation to generation. As UNIDO Report (2014) described, craft creation has seen an upturn as the industry with new technologies and design input. It is recognized as a prospective business opportunity for sustainable revenue creation, thus inviting more and more craft people, designers, buyers and exporters. Luckman (2013) emphasized the current popularity of handmade products and the credibility of craft practices. This credibility has occurred through young consumers' desire as well as the potential of online-based small-scale BM that generates a homemade creative business for amateur producers without formal training. Thus, the consumption of such goods becomes a part of ethical and self-aware purchasing behaviours.

Waterhouse (2010) evidenced and Oriakhogba (2020) confirmed, 'Today's craft is also about empowerment: feeling a sense of achievement when making something with your own hands. It's about taking a stand or making a statement against this modern, digital, disposable age of mass production and consumption that is leading the world into environmental and economic ruin' (p10). However, according to Zhan and Walker's (2018) view, craft and craftsmanship represent a sustainable approach. From a different point of view, Ferraro et al. (2011) supported the vision of craft influences in both the relationship between economic, and educational models and the pathway to sustainable development. This is increasingly the case as fashion craft products are gaining ever more attention due to their environmentally and socially responsible nature of production. As Kim, Jung and Lee (2021) emphasized, today's consumers in the fashion world often target products with organic, eco-fashion, re-cycle, and up-cycle concepts. Over the past decade, sustainability and ethical conduct have begun to matter in the fashion business (Nguyen et al., 2020; Thorisdottir & Johannsdottir, 2019). As Gazzola et al. (2020) described sustainability of the fashion industry is the combination of environmental, social, economic, and cultural aspects related to eco-friendly material and recycling for

environmental sustainability, consumer social participation for social sustainability, and fair trade for economic sustainability. Papadopoulou et al. (2021) further explored these developments and emphasized the necessity of setting the future direction of the fashion industry in terms of sustainability due to connection to the environment in the production stage, apparel waste issues in fast fashion and consumer preference for eco-friendly products. Furthermore, Mukendi et al. (2020) highlighted the positive impact of a designer, a consumer choice, a method of production as experienced by workers, consumers, animals, society, and the environment of ethical fashion. As Dell'Era (2020) references design may be a way of thinking and sharing the creative process of artists from different sources of inspiration. The use of craft in clothing design is vital and it can bring significant added value to the end product. With this increasing demand for sustainable fashion, and with the possible interlink between fashion and sustainability, there is great potential that the craft industry could positively contribute to fulfilling the demand of emerging sustainable markets.

2.4 Design intervention

Many designs originate in response to a need, and it aims to enhance the quality of function and aesthetic appearance with social and economic considerations. Also, design is counted as cross-operational and multidisciplinary invention activity, accomplishing the creation sense of social challenges while developing strategic and holistic solutions to hold up attractiveness (Mortati, 2015). Design creates a vital role in sustainable culture. Also, and Charter and Tischner (2001) has highlighted the importance of considering not only the economic values in the sustainable design process but also the cultural, societal, ethical and environmental standards. However, design can be a practical process that intends for sustainable utilization (Laitala & Boks, 2012; Ceschin & Gaziulusoy, 2016). In addition, Ceschin and Gaziulusoy (2016) stressed the ability of a broad approach to sustainable design in changing and becoming a practical and participatory process targeting esthetic sustainability.

Eco-materials and ethical production have become well-admired concepts in the textile industry in present with this blooming concept of sustainable designing. Many designers focus to make use of these concepts with their recent designs (Black, 2008; Armstrong & LeHew, 2011; Fletcher, 2013; Niinimäki, 2013). Tischner and Charter (2001) recognized four methods for the improvement of sustainable design: repair, refine, redesign and rethink. In addition, Fletcher (2013) emphasized five traditions, to begin with, a sustainable revolution development in apparel and fashion: 'local manufacture, not ever washed apparel, products which response to deep human wants, a multiple life-cycle approaches, and design rational which involves the user to participate in the design or realization procedure (p. 121). Moreover, Zhan and Walker (2019) highlighted the importance of paying attention to factors associated with product attachment and compassion attempts, an esthetic maturing method of the product in the sustainable design process. Also, Zhan and Walker (2019) further argued the importance of paying attention to design for a sustainability approach to the product's contribution to the environment and society rather than the appearance and style. However, according to Niinimäki (2013), a sustainable attitude is still waiting to emerge enormously with the traditional ways of designing and manufacturing textiles and clothing. As Fletcher (2013) described the present setting, 'It employs yesterday's opinion to survive with tomorrow's circumstances' (p. 121).

DI is a process which contributes to designing novel products or redesigning existing products. According to Kapur and Mittar (2014), DI process practice changes in shape, colour, surface manipulation, size, function and functionality of products investigating new marketplaces and stimulating existing marketplaces. Also, it is an interface between traditional and contemporary utilization with traditional skills to meet up new prospects and challenges with a blend of new materials, innovative processes, tools and technologies.

Sustainable DI is involved with designing and re-designing processes considering the key concepts of sustainable designing and sustainable manufacturing adhering to the sustainable design principles and strategies shown in Figure 2.1.

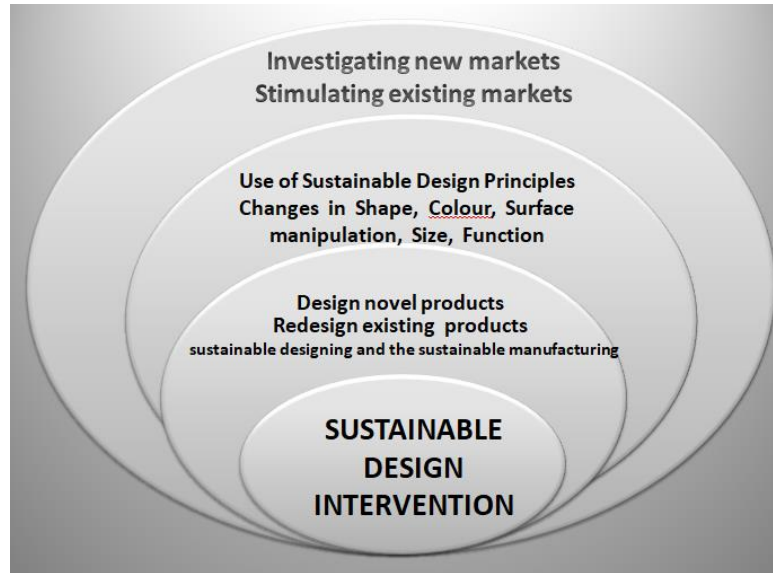


Figure 2.1 Sustainable DI Concept (based on Kapur and Mittar, 2014 definition)

A primary concern of the sustainable design process is the use of sustainable materials (Ljungberg, 2007; Niinimäki & Hassi, 2011; Fletcher & Grose, 2012). Sustainable materials are materials which are from eco-friendly resources such as sustainably grown fibre crops; organic cotton, banana fibres, etc or materials which can be recycled (Black, 2008; Laitala & Boks, 2012; Fletcher, 2013). Also, in the process of sustainable designing, it attempts to bring up changes in shape, colour, surface manipulation, size, function and utility. In addition, sustainable production involves the manufacture of goods in economically-sound methods with the appropriate use of tools and technologies which reduce destructive environmental effects while preserving energy and natural resources (Fletcher, 2013; Muthu & Gardetti, 2016). Sustainable manufacturing challenges employee and product safety ensuring ethical manufacturing and fair-trade perceptions

employing traditional skills to meet up new opportunities and challenges aiming for sustainable markets (Black, 2008).

Literature explored various sustainable design strategies that could be employed in creating sustainable designing and sustainable practices (Black 2008, 2012; Gwilt, 2012, 2020; Burke et al., 2014.; Niinimaki 2010, 2013; Hethorn & Ulasewicz, 2015). According to Black (2008), 12 design strategies could be considered by the designer when developing sustainable fashion; re-thinking design for the complete fashion life cycle, reclaiming and reusing leftover materials, recycling, upcycling, repairing and remodeling, reducing, utilizing ecological materials, utilize mono materials harness new technology, long-lasting fashion, multifunctional clothing, design for pleasure (Black, 2008 p. 46-47). Gwilt (2012) and Niinimäki (2013) also have emphasized the significance of utilization of the above key design principles that need to be considered when designing sustainable fashions. Moreover, as Gwilt (2014) explained, ‘the sustainable design approach is a structured approach which can be hired by a designer to assist and lower particular environmental and societal influences related with the manufacturing application and discarding of a product’ (p. 27). Furthermore, Gwilt’s (2014) model illustrates in Figure 2.1 has emphasized the significance of integrating sustainable strategies in design practice and the necessity of considering these strategies about life cycle thinking for the current engagement in sustainability.

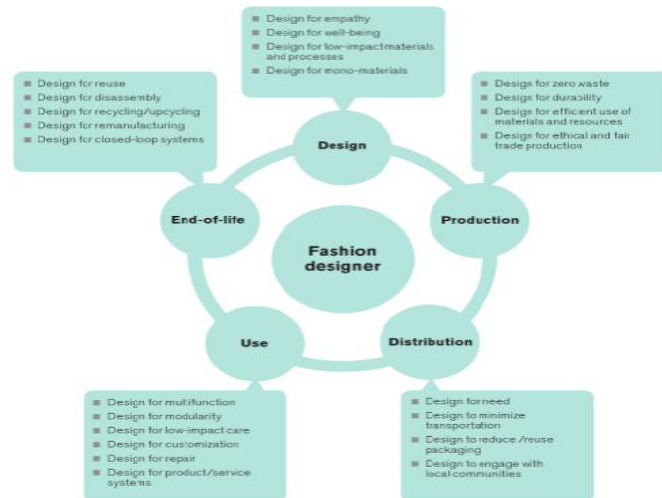


Figure 2.2 - Sustainable Design Strategies (Gwilt, 2014; p. 44)

2.4.1 Design intervention in craft practice

The design and the craft narrate a symbiotic relationship. The accessibility of adaptable production methods and the variations in the current utilization patterns revealed a close relationship between craft and design (Shiner, 2012). Craft connects the designer with the natural world and the collective past (Kapur & Mittar, 2014) by adapting traditional craft skills to contemporary design. The findings of Cox and Bebbington (2015), it was further revealed the sustainable aspiration of craft practice. Also, it was evident that the how design could focus on the environment along with further broader aspects of sustainability concerning craft practices by promoting the well-being of the local manufacturers and craftspeople concerning a sustainable way of life (Dissanayake et al., 2017). Furthermore, Panda's (2010) findings highlighted the main focuses of DI in the creation of the craft. It focuses on recognizing craft, social and cultural significance to its region, and the incorporation of the DI with the right situation appropriate to processes and materials used. Moreover, DIs in craft merge the taste of traditional and modernity creating products which match modern usages. In addition, this process makes buyers aware of the methods, materials, tools, processes and customer base

among the related craftsperson. Thus, DIs show close partnerships between skilled designers and rural artisans while protecting traditional skills. In addition, Hur and Beverley (2013) investigated the role of craft in encouraging sustainable mode, in terms of manufacturing and utilization. Furthermore, according to Kettleby (2005), it's beginning to blur the lines between craft and design among artisans' ability to produce work with the designer's input to produce unique pieces using economic justification. Therefore, this creates an inexperienced task aimed at designers to reinterpret crafts centered on modern esthetic and performing demands and values to join the emerging challenges of customers (Song, 2021). Thus, crafts not only provide tools for the design for designers of new varieties of products but also offer innovative models which are useful hence opening innovative avenues for society to connect with the attraction of crafts. Moreover, the blend of design and craft evident in a design model and praxis offer a capable approach to craft product development (Tung, 2012). Hence, designers and craftspeople collaborate in design intervening to help to regenerate traditional crafts allowing designers too to expose to new experiences, which could broaden their design horizons.

As pointed out by Tung (2012), skilled artisanship includes developing talents and knowledge, concerning method, material, and traditional facets. Thus, designers could understand the capability of traditional crafts; understand their value of them as a process of DI and as a means of cultural tradition which has craft's specific relevant role in society. Also, as highlighted by Pannozzo (2007) design invention depends on reclaiming existing expertise or reconnecting existing knowledge in modern and innovative ways. The existing experience of a craft is observed as implicit, and these expert skills are rooted in someone or within a local community (Tung, 2012). Moreover, Polanyi (1966) explained tacit knowledge as 'experience we can have more than we can tell' (p.136). Thus, the local craftspeople possess this knowledge through extensive experience of living with the traditional processes, specific techniques and the materials used and are passed generationally within the community. However, Chuenrudeemol et al., (2012) proposed

the model illustrated in Figure 2.2 employing DI, integrating with existing knowledge and skills of the craft communities and designers' contribution to retrieve local crafts.

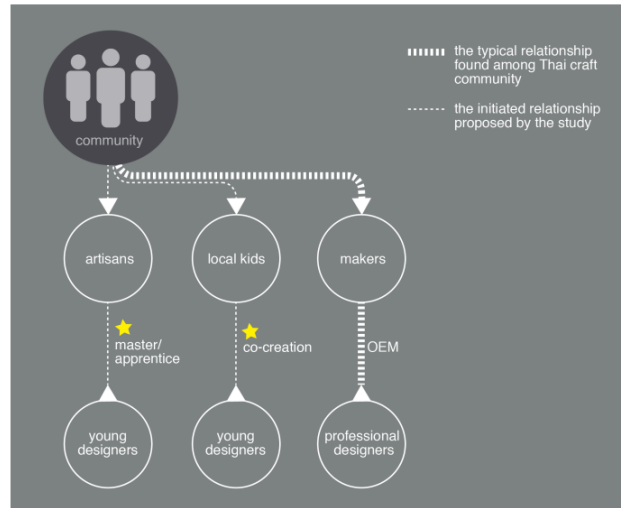


Figure 2.3 - Retrieving Bangchaocha's indigenous knowledge model (Chuenrudeemol et al, 2012)

The design-craft partnership would be deemed as a multi-disciplinary partnership, through which contributors could obtain additional talents and knowledge, consequently enhancing their skills to offer competitive craft products to the market (Dykes et al., 2009). However, Sanders and Stappers's (2008) brought up a model with the co-creation of craftspeople and designers. It is a collective effort of craft-design collaboration for the development of local craft. Under such circumstances, all parties need to make sure of collective work from the initial phases to setting a strong design approach and specify concepts for additional growth. The fuzzy front end of this model presents the design enhancement procedure. Here, it shows how possible development suggestions for products and how they can develop into concepts, samples and hence progress upto subsequent products.

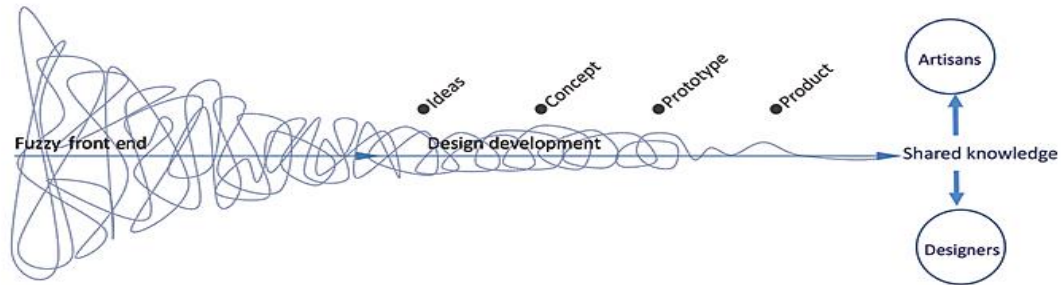


Figure 2.4 - Craft design collaboration process
 (From co-creation process by Sanders & Stappers, 2008)

Currently, craftspeople are searching for different approaches to improving their job to sustain themselves at the front of their expertise. The DI lineup with craft sensibilities could offer opportunities to craftspeople to proper and cost-effective approaches to create products, whilst maintaining aesthetic and tactile qualities (Tung, 2012). Thus, designer intervening encourages the commercial economy and artisan, operating as the bridge between maker and market. There is much evidence of trials, and the accomplishments of such collective attempts have generated proof in progress of the proposed lead (Lees-Maffei & Sandino, 2004). The findings of Sharma and Kumar (2012) on the Chikankari craft study in India have shown the influence of strategic design innovation and DI in bridging the gap between traditional artisans and conventional markets, and influence of the business growth. Also, this concept of DI applications could be witnessed in IKEA stores pleasing with home fashion accessory collection from a collaboration effort of Indian designers and craftspeople (Judah, 2009). Also, de Rijk's (2010) finding has shown how the design teams of 'Droog' from Holland and 'Mile' from Japan grow with inventive and experimental ways for interaction with craft and design collaboration. Jongerius, a Dutch designer, focuses on employing industrial practices to make handmade items promoting the inventions to a wider consumer segment (Jadhav et al., 2019). In addition, the Taiwan Craft Research Institute and Taiwan Design Center revealed the possibility of conversion and global promotion of Taiwanese traditional crafts into contemporarily designed and technologically produced with the collaboration of designers and

craftspeople through the craft project 'Yii'. Thus, designers are an interface between the past and the present, the traditional and the modern, attempting to match craft production to the current requirements and demands (Sethi et al., 2005) linking artisans, consumers and the global market. Thus, DI will be able to bridge this gap allowing craftspeople to understand their clients and match the aesthetic and socio-cultural needs of the craft products.

2.4.2 Co-creation design process

Scholars define co-creation in the design discipline as an act of collaborative imagination performed by two or more individuals (Sander & Stapper, 2008; Bissett-Johnson & Moorhead, 2018). The designer brings innovations while the craft person offers a knowledge of tradition in the craft person-designer co-creation collaboration process. Scholars (Tung, 2012; Lapolla & Sanders, 2015) identify how designers and craft producers can generate co-creation, highlighting creativity as an approach to craft development and new markets through innovative product development (Murray, 2010; Barker & Hall, 2009). Sanders and Stappers's (2008) model of co-creation is a practical model useful for fostering collaboration for the development of local craft. This co-creation process functions as a learning mechanism with 3 stages; fuzzy front end, design development and stage of shared knowledge.

Co-creation begins with detailed planning to inform and inspire shared exploration. Planning should be driven by open-ended questions. Because of its complexity and unpredictable nature, the front end is referred to as fuzzy. This critical phase of the process enables consideration of the basic information needed to understand the users, and user context and to effectively investigate opportunities for design intervention sample aims to achieve collective creativity. The participant designers and craft persons are encouraged to inspire and learn from each other, collaborating to create a consistent design plan and define product development concepts by identifying design issues, opportunities and approaches.

The design development stage focuses on turning designs into prototypes, which are then refined into finished products. Following the development stage, the conventional design process begins, with the resulting product ideas being transformed first into concepts, and then into prototypes that are refined based on input from potential customers. According to Sanders and Stappers (2008), craft workers gained a better understanding of revolutionary concepts and new production methods through the co-creating prototyping process, while designers gained a better understanding of the craft and how to integrate modernity into it. The third stage, shared knowledge, allows collaborative team members to gain knowledge and skills from each other, based on shared experience. This model proposed a collaborative team to share knowledge through a mutual learning mechanism. Craft workers and designers share their skills, enhancing their professional capabilities.

2.5 Entrepreneurship

Entrepreneurs are recognized as being the driving force behind innovative change in society and have long been viewed as an engine that drives innovation and promotes economic development. There are many different definitions of entrepreneurship in literature. Schumpeter (1934) defined entrepreneur as an innovator, who practices a process of status quo explosion of existing products to establish innovative products. Similarly, Chiasson and Saunders (2005) recognized entrepreneur's attempts to create more effective and efficient procedures for delivering innovative products and services and developing new markets. Therefore, an entrepreneur is not just a person who causes change but Chiasson and Saunders (2005) challenge themselves to make use of the opportunity brought by the change.

Audretsch et al. (2006) revealed more evidence on entrepreneurial activities which matter on employment, productivity and eventually in economic growth. According to Iyigun (2015), entrepreneurship and small businesses are the fundamentals of the economy, and they influence the expansion of the open market economy concept and its performance. According to Shane and Ventakaraman (2000), entrepreneurship attempts to uncover and

manipulate opportunities. However, for Rocha (2004) and Rice and Habbershon (2010) entrepreneurship is the invention of new inventive events leading to economic and societal accomplishment in the business.

Jeffcutt (2000) reveals that the creative industry could summarize all ranges of enterprise, from the micro-enterprise to the small and medium-sized entrepreneurs through to the global enterprise. Many craft and craft-related manufacturers operate as micro and small-scale enterprises. Also, many small-scale craft manufacturers perform business through informal, unstructured processes while very few are developed entrepreneurs using proactive and skilled approaches. According to Poutsma's (1993) exploration, it is believed that small firms are the representatives of change and the suppliers of significant innovative activity and contribute to industry evolution and the generation of new jobs. They are responsible for job creation and contribution to innovation and economic growth (Deakins & Freel, 2009). Moreover, creative entrepreneurship can be seen as setting up a business or being self-employed. As Howkins (2018) revealed that the relative entrepreneurs always get used to unlock the wealth and talents they possess for expansion of the businesses. Furthermore, they invest their talents in recognizing openings in the market and manage their business talents to change concepts into products into profits.

2.5.1 Community-based entrepreneurship

CBE is a social enterprise model moving to accomplish community economic and social objectives (Peredo & Chrisman, 2006). Also, CBE attempts to do economic growth using own community assets and resources and attempts to benefit from the entrepreneurship. This adds economic value to a community, by employment and preserving limited resources within the community (Tshikovhi, 2014). Although CBE contributes to various characteristics of conventional entrepreneurship, the practices change in conditions of those who receive benefits of the related actions and the selection of its locations (Korsgaard et al., 2015; Baker & Welter, 2018).

Community-based enterprises are frequently described as pro-poor community economic expansion interferences related to the entrepreneurship process in developing nations. As highlighted by Hall and Matos (2010), the institutions and individuals who encourage impoverished community development process are considered entrepreneurial because the strategic development intervention process which helps to accelerate this development. However, entrepreneurship is again described with the framework of impoverished communities' expansion. It is termed as a power which accumulates additional resources to meet unmet marketplace demand, the capability to generate and shape anything from almost nothing and the method of generating worth by pulling collectively a sole bundle of resources to gain opportunities (Timmons, 1989; Tshikovhi, 2014). In this setting, the entrepreneur owns and operates a business or generates innovative blends of manufacturing aspects such as innovative production processes, innovative products, new marketplaces, discoveries new supply chains and innovative organizational setup. (Fiseha et al., 2019). In addition, Forouharfar et al. (2018) study understood the great potential of entrepreneurship as a self-development approach for pro-poor communities' development of declining economies. However, emerging entrepreneurs from rural communities lack an understanding of new start-ups and experience scarcity of social and physical infrastructure.

According to Tshikovhi (2014) and Wanniarachchi et al. (2018) findings, community entrepreneurs' skills development is vital, and these skills support their entrepreneurial behaviour, opportunity investigation to accomplish customer needs and to solve problems. Also, entrepreneurial skills support creating inspiration to meet expectations, evaluating the expectations and inspirations hence managing all existing resources and sources to assess expectations and inspirations, and developing and preparing strategy systematically to build a business enterprise (Chang & Rieple, 2013). In addition, as described by Peredo and Chrisman (2004), it is necessary to create more self-assured entrepreneurs who can take risks and get involved with the uncertainties of new startups. He further points out the ability of a person who can create products/services from virtually less investment and

generate values dragging an existing unique bundle of resources to develop an opportunity using accelerating economic development in communities through entrepreneurship. Scholars discovered how communities perform as entrepreneurs while its memberships, work as owners, supervisors, and the workforce collectively to recognize market demands and react to them (Peredo & Chrisman, 2004; Akhmetshin et al., 2019). Community members here behave as an enterprise when membership performs collectively to manufacture and trade goods and services employing the prevailing community structure (Pyrko et al., 2017).

Generally, CBE functions as small and medium businesses which generate most of the new employment opportunities and inventions in the urban and rural marketplaces within the community. However, Peredo and Chrisman (2006) considered the probable challenges that can be faced in development of CBE in rural regions. Also, it has been taken into consideration the importance of continuous support and assistance in CEB development. Yet, pro-poor communities frequently have constrained for continuous backing for network linking, funding opportunities, support infrastructure mentoring activities. However, self-employment associated with conventional entrepreneurship activities blends benefit to the rural economy of the developing country and is vital in terms of its livelihood impacts. (Ashley & Maxwell, 2001). But Tshikovhi, (2014) further acknowledged that informal community businesses in emerging nations dominate the base step of the entrepreneurship hierarchy. Scholars have explained the importance of enhancing the new access of local informal entrepreneurial activities to the local market and add up value to supporting poverty alleviation (Ashley & Maxwell, 2001; Igwe et al., 2020).

A CBE needs to implement a holistic approach to community development while enriching rural livelihoods. Entrepreneurial enterprises are carried out to anticipate benefits and revenues while accomplishing more community goals, such as health status expansion, empowerment and enrichment of capacity building of local communities (Raimi et al., 2022). However, De Beukelaer (2014) has shown, that group effort

developed through cultural energy which makes people join a group as a driving force. Furthermore, cultural energy can inspire their thoughts and power their targets to change their life expectancy, boost their self-confidence, make them flexible in facing adversity and assist them to understand the intensity and solve CBE development efforts. Mondalizadeh (2018) argued the potential of local entrepreneurial initiatives for rural communities while Miles and Morrison (2020) questioned the usefulness of community development and revival models. On the other hand, CBE should indicate the diversity of county needs, thus establishing the potential for positive local development (Solow, 2000). Scholars emphasized the key to CBE development such as the continuous commitment of craftspeople, supportive infrastructure and physical resources to enable the business process of communities are vital in developing CBE (Korsching & Allen, 2004; Zapata et al.,2011; Mondalizadeh, 2018).

As Parwez (2017) revealed, community entrepreneurs have broader community goals for the growth of their communities. Community is one of the appropriate settings for entrepreneurial business development while used as a tool for societal networks and the aim to enhance the quality of life (Parwez, 2017). Furthermore, Wanniarachchi et al. (2018) emphasized how community-based entrepreneurs utilize community assets to conquer the difficulties of impoverishment such as financial, expertise and craftsmanship. CBE always appraises capital in terms of the gains accumulating to the wider community instead of as individual revenue.

2.5.2 Sustainable entrepreneurship

The sustainable approach to entrepreneurship embarked as a revolutionary idea in the late 20th century with the potential of entrepreneurship for sustainable development (Benavides-Sánchez, 2022). Sustainable development has been identified as an opening of entrepreneurial and business prospects which has a promising influence on environmental, social and economic growth (Cohen & Winn, 2007; Dean & McMullen, 2007; Anh, 2022). Sustainable entrepreneurship is a valuation of beginnings for future products and services to be discovered, shaped and employed to deal with economic,

psychological, social, and environmental problems and provide development gain for others (Cohen & Winn, 2007; Patzelt & Shepherd, 2011; Lüdeke-Freund, 2020; Sugianto & Selamat, 2022). Sustainable entrepreneurship is mainly targeted to nature, livelihood assistance and community that are ready in recognizing prospects for financial and non-financial benefits to community members, the country's economy and society (Sarango-Lalangui et al, 2018).

According to existing literature, entrepreneurship and sustainable development can be discussed in the various forms of entrepreneurship. The work of Belz and Binder (2015) shows that sustainable entrepreneurship is built on conventional entrepreneurship, environmental entrepreneurship, and social entrepreneurship. Conventional types of entrepreneurships mainly pursue economic goals, ecological entrepreneurship is the practice of determining, assessing, and utilizing financial prospects which are represented in ecologically related market failures (Dean & McMullen, 2007; Hoogendoorn et al., 2019). Moreover, environmental entrepreneurship is described as green entrepreneurship (Makhloufi, 2022) as well as ecopreneurship (Anisimov & Matytsin, 2022). However, ecopreneurship would deal with entrepreneurial action that could contribute to preserving natural environmental related problems along with entrepreneurship for economic achievements (Rodríguez-García et al., 2019). Social entrepreneurship is aimed to accomplish societal targets and it is a social enterprise when it transforms social capital to affect society positively (Petrella & Richez-Battesti, 2014; Santos et al., 2015; Aquino et al., 2018; Bull & Ridley-Duff, 2019; Oh & Storage, 2022; Chui & Gali, 2022). The scholars described social entrepreneurship as activities and procedures that commence determining, defining and activating prospects to improve social prosperity by generating innovative projects or handling prevailing businesses (Phillips et al., 2015; Yitshaki & Kropp, 2016; Griffin & Häyrén, 2022). Social entrepreneurship generally practices achieving community and business goals. Relationships between these 3 notions of sustainable entrepreneurship are shown in Figure 2.5 below.

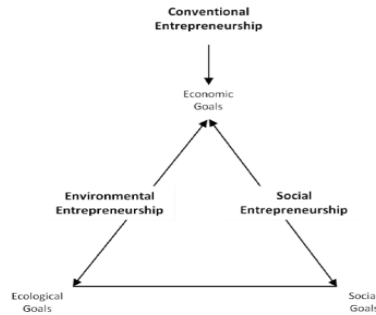


Figure 2.5 Associated notions of sustainable entrepreneurship (Belz & Binder, 2015)

Moreover, Schaltegger and Wagner (2011) have considered the various types of sustainability-oriented entrepreneurship such as ecopreneurship, social entrepreneurship, institutional entrepreneurship, and sustainable entrepreneurship. Hence these findings revealed that the positive ambitious approach of sustainable entrepreneurship is not only towards the growth of the business itself but also for the market and society as well. However, until today attention has been devoted to sustainable or sustainability entrepreneurship is not noticeably significant as a concept integrating environmental and social aspects (Strothotte & Wüstenhagen, 2005; Cohen & Winn, 2007; Tyl & Gomez, 2022). However, Hockerts and Wüstenhagen (2005) emphasized, less established small-scale beginners, who kick off sustainability transformation can be seen to be practicing sustainable-oriented opportunities without hesitation in their business. Also, they pressurize the current entrepreneurs who resist adopting radical and transformative sustainable entrepreneurship practices.

According to Schumpeter (1934), entrepreneurial behaviours are inventive demolition. Sustainable entrepreneurs demolish conventional manufacturing processes, products, market structures and utilization patterns. They generate market dynamics by substituting better environmental and social products and services. Schaltegger and Wagner (2011) recognized sustainability innovation and entrepreneurs who can achieve environmental or social goals with superior products or processes are the keys to sustainable development

for the marketplace of mainstream customers. They further defined sustainable entrepreneurs as entrepreneurs who make environmental progress in their core business. In a market system, it requires market innovations driving sustainable development which do not necessarily occur by accident but can be created by leaders who put them into the core of their business activities. They need to generate new products, services, techniques, and organizational modes which substantially reduce environmental impacts and increase the quality of life. However, Tshikovhi's (2014) findings revealed that sustainable entrepreneurship development in impoverished communities requires creativity which is not a given resource which is deeply embedded in the community's social and historical context.

Several recent research studies indicated that entrepreneurial activity can directly impact sustaining local communities. Peredo and Chrisman (2006) presented the perception of community-based business where each community member establishes the community's role as an entrepreneur. Also, he showed how community-based business is characteristically embedded within community culture, natural and social capital deprived from economic consequences. Therefore, this notion recommends that communities acting as entrepreneurs will be able to diminish poverty while preserving the environment in developing countries. Therefore, potential sustainable entrepreneurship investigation could support to well realize the entrepreneurial processes for sustaining local communities.

As revealed by the literature above, disadvantaged, rural and local groups use sustainable CBE as a way for uplifting their livelihoods by generating different sources of revenue. Therefore, CBE can accept an essential role in uplifting the livelihoods of impoverished people and relieving impoverishment. As disclosed by above stated studies, there is an emerging want to develop sustainable CBE that could impact the local economic development of Sri Lankan handloom communities. However, the cultivation and effective harnessing of sustainable development entrepreneurship is challenging. But it

offers new prospects for developing countries to create new areas of revenue and employment generation stability with broader trends in the world economy. Therefore, this study seeks the possibility of employing community-based sustainable entrepreneurship growth in textile handloom communities in Sri Lanka and hence unlocking the opportunity to capture the local and global markets.

2.6 Business model development

Scholars have interpreted the term BM in different ways, as widely discussed in the literature (Stål et al., 2022). Generally, the BM is an outline which shows the way of carrying out a business. However it has been well-defined as; a statement of how an organization will generate income and sustain its revenue stream over time (Landoni & Trabucchi, 2020); a description (Madsen, 2020); a representation (Sarasini & Linder, 2018); an architecture (Osterwalder & Pigneur, 2004); a conceptual tool or model (Osterwalder et al., 2005; Bocken et al., 2019); a structural template (Snihur et al., 2021); a method (Tucci, 2022); a framework (Nikiel, 2019), a pattern (Beinke et al., 2018) and a set (Battilana et al., 2019) in different circumstances. BM is the framework of interdependent and interrelated actions of shareholders and employment of human, physical and capital assets to fulfilment of set objectives of a business (Zott & Amit, 2010). The BM makes clear how the activities of a business perform together to accomplish its approach (Richardson, 2008; Casadesus-Masanell & Ricart, 2010). Moreover, BM is a market device (Doganova & Eyquem-Renault, 2009; Kavadias et al., 2016). Furthermore, entrepreneurs are employed BMs as an interaction tool to illustrate their enterprises and create markets and give details of various actors in their network (Lüdeke-Freund et al., 2019).

Some authors have made attempts to signify BMs through a blend of informal written, oral and informal graphical design (Snihur et al., 2021; Musulin & Strahonja, 2016; Mansour & Barandas, 2017). According to Itami and Nishino (2010), a BM comprises 2 components, a business structure and a revenue model as shown in Figure 2.6. The

business structure is the working structure which employs the manufacturing and distribution system which assists distribute its goods and services to its consumers. However, it is not only a delivery system alone but much more with the learning system. The business approach is aimed to understand the strategic objectives. A revenue structure is a model of the business's objectives to make a profit in its given business or policies to boost sales and/or lower costs. The profit model has its strategic objective to accomplish many forms of separation through its competitors by product or price.

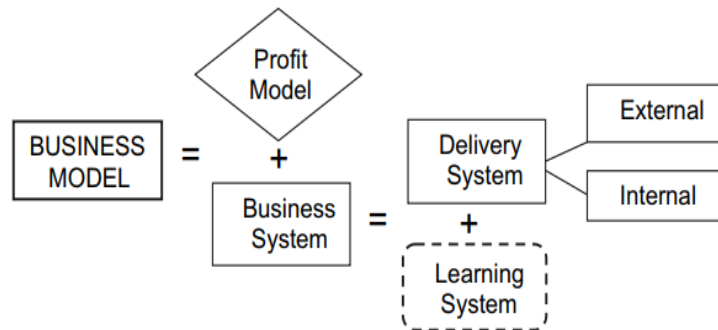


Figure 2.6 - Basic Business Model (Itami & Nishino, 2010)

The revenue formulation is a plan which describes how the business generates profit intended for the business delivering benefit to the client. The important assets are defined as assets of the company such as human resources, products, technical resources, equipment, marketing channels and brand name. Key processes comprise the operational and managerial practices which permit them to deliver value.

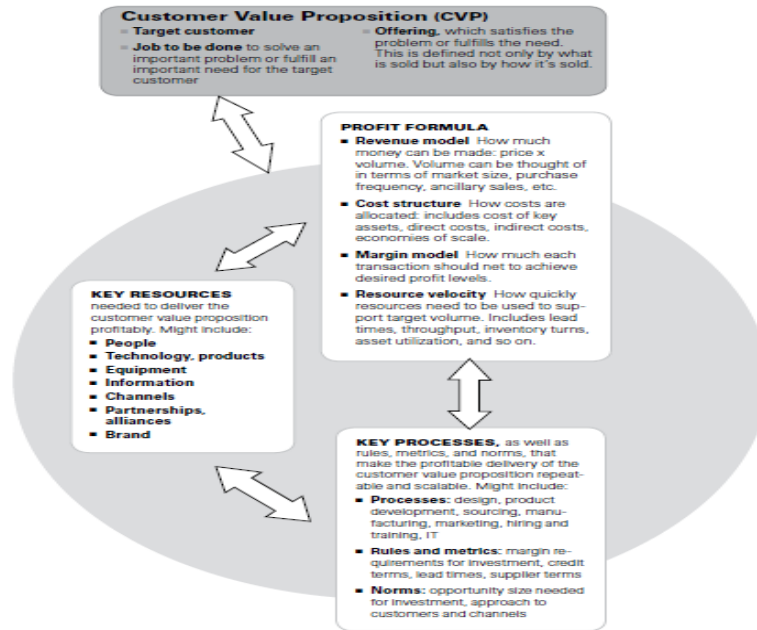


Figure 2.7 - Element of successful BM (Johnson & Kagermann, 2008)

Osterwalder (2004) presented his BM as a theoretical tool which includes a collection of nine aspects and their relations and permits stating a business's rationale for making a profit. It is a picture of the business plan to offer for one or various customer sectors and the structure of the business. It further shows its partner network for generating, promoting and delivering values and relationship capital, to create profitable and sustainable revenue streams. Further Osterwalder and Pigneur (2010) offered a more practical definition describing BM validation of exactly how a business creates, delivers and captures value. Today lots of scholars (Bouwman et. al, 2018; Boons & Laasch, 2019; Bocken & Snihur, 2020) and practitioners (Lundh et al., 2012; OECD, 2012; Kaplan, 2012) across the world have commonly accepted Osterwalder (2004) approach and its further development Osterwalder and Pigneur (2010).

However, various conceptualizations of the BM highlighted diverse aspects of wealth creation and value proposition for all stakeholders aiming fulfilment of customer needs (Zott & Amit, 2007, 2008; McGrath, 2010; Zott et al., 2011) as well as value appropriation

towards revenue generation. However, the BMs revolve very frequently around customer-focused value creation (Teece, 2010; Zott et al., 2011) and sometimes value appropriation as well (Chesbrough & Rosenbloom, 2002).

Frankenberger et al. (2013) explained BM by four pillars; **what** value does a business generate with its product or service (Value proposition), **how** is the value proposition shaped, incorporating the organizing, and managing upriver interactions with (Infrastructure administration or supply chain), **who** are the clients, comprising the organizing and managing downstream relations with the clients (Customer interface), **why** is the value proposition shaped (Financial model). The description of each element would be found in Osterwalder and Pigneur (2010). These nine elements of the business canvas makes up the whole business process as shown in Figure 2.6.

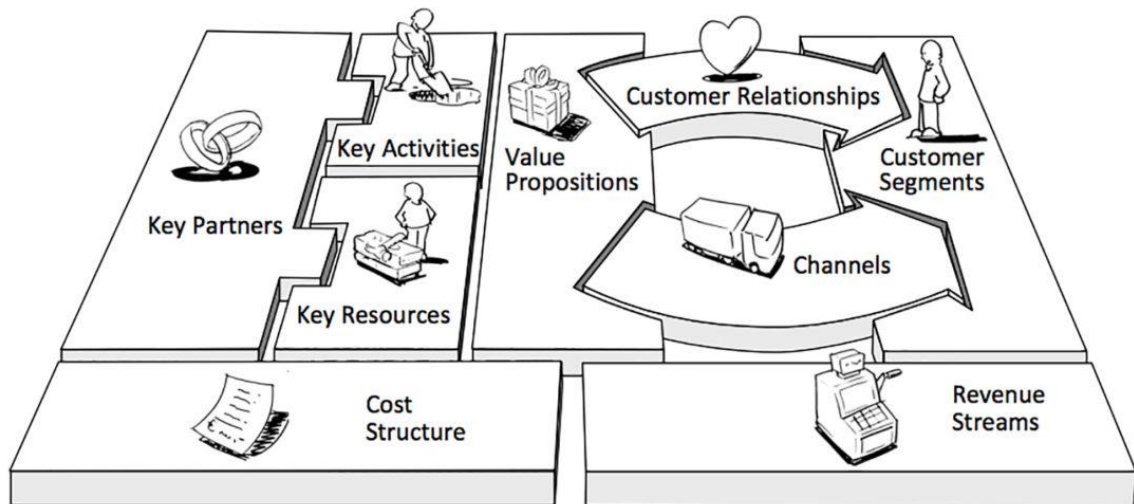


Figure 2.8 Economic BM Canvas
Content adapted from: Osterwalder and Pigneur (2010)

Thus, several opinions exist on what is a specific BM, what are the elements of BM, what should be applied to it and in which way (Teece, 2010; Zott & Amit, 2010; Sawy & Pereira, 2013; Bouwman et al., 2020)

2.6.1 Sustainable business model (SBM)

SBM is used as a tool to manage technical and societal inventions along with structure-level sustainability. According to Freudenreich et al. (2020), sustainable BMs make competitive benefits over superior consumer value and add to the sustainable growth of business and society. Developing on Ibrahim et al. (2019) viewpoints on sustainable manufacturing, BMs conserve the environment, whilst progressing to enhance the quality of human life. The SBMs use equal structures and business-level views to develop the TBL attempt to describe the business's objective and evaluate its implementation, involve a broad scale of shareholders respect to the society and environment as stakeholders of the BM (Stubbs & Cocklin, 2008). Also, a sustainable BM brings the concerns of shareholder parties into line and believes in the environment and society as vital investors. Designing BM that allows a business to secure financial benefits for itself through bringing social and environmental gains is a challenging process (Schaltegger et.al, 2019; Freudenreich & Schaltegger, 2020). Yet, the rising interest the BM in the literature and their practice indicates that the BMs are a valuable framework for collective invention and consequently may be applied to lead sustainability invention ahead (Lozano, 2018; Lüdeke-Freund, 2020).

Bocken et al. (2014) defined the sustainable BM as the BM that creates considerable positive and/or substantially diminished negative influences for the environment and/or society, through changes in the way the organization and its value network create, deliver, and capture value (i.e., create economic value) or change their value propositions. Bocken et al. (2014) have identified eight different components of sustainable BM. They are maximizing material and energy efficiency, generating value from leftover material, substituting with renewable and natural processes, bringing functionality rather than ownership, accepting a stewardship role, inspiring sufficiency, re-purpose the business for society/environment and progress scale-up solutions. Thus, it has considered going beyond bringing just monetary value to incorporate solutions which create environmental and social values additionally (shaped on a TBL approach) for a wider array of

shareholders' exploitation of both systems and firm-level perceptions (Stubbs & Cocklin, 2008; Lüdeke-Freund, 2020). Furthermore, Aneja and Pal (2015) have highlighted and evaluated eight key sustainable development structures such as viz. ecological footprint, natural step, natural capitalism, industrial ecology, cradle-to-cradle, bio-mimetic, ZERI, and planetary boundaries and their strategic paths in perspective to the textile business.

The literature on SBMs (Bocken, Short, Rana, & Evans, 2014; Stubbs & Cocklin, 2008) and BMs for sustainability (Schaltegger, Hansen, & Lüdeke-Freund, 2016a), (Schaltegger, Hansen, & Lüdeke-Freund, 2016b) originated from the general BM research. Despite its recency, the SBM literature presents some differentiating elements, even though most contributions have been devoted to providing theoretical definitions of SBM and BM for sustainability concepts, analyzing the components of SBM or presenting empirical research from the perspective of case studies. SBMs have been defined as BMs that incorporate the proactive management of monetary and non-monetary value creation for a wide range of stakeholders from a long-term perspective (Geissdoerfer, Vladimirova, & Evans, 2018). They are also defined as models in which the principles of sustainability guide companies in decision-making processes (Stubbs & Cocklin, 2008). A BM for sustainability is a model that describes, analyses, manages and communicates a firm's value proposition to its stakeholders and how that value is created, delivered and retained, while maintaining or increasing natural, social and economic capital (Schaltegger et al., 2016a, 2016b). In contrast, some authors have proposed other classifications of SBMs, such as those presented by Dohrmann, Raith and Siebold (2015) and Tukker (2004), the ideal types proposed by Stubbs and Cocklin (2008), the archetypes of Bocken et al. (2014) and the patterns of Lüdeke-Freund, Carroux, Joyce, Massa and Breuer (2018).

Joyce and Paquin (2016) created a sustainable TLBMC shown in Figure 2.9 presenting how an enterprise generates value incorporating an economic, environment and social approach to sustainability built on 9 elements of business canvas anticipated by Osterwalder and Pigneur (2010). TLBMC includes sustainability aspects into the BM and strived to confirm that BMs create, deliver, and capture many forms of value for a diver

of stakeholders by collecting environmental and social issues in the economic canvas tools by Osterwalder and Pigneur (2010). The environmental layer consists of nine elements: functional value, materials, production, supplies and outsourcing, distribution, user phase, end of life, environmental impacts, and environmental benefits. Joyce and Paquin (2016) attempt to address social approaches which guide the sustainability journey in an organization within TLBMC. The social layer consists of nine elements: social value, employees, governance, local communities and suppliers, societal culture, scale of outreach, end users, social impacts, and social benefits.

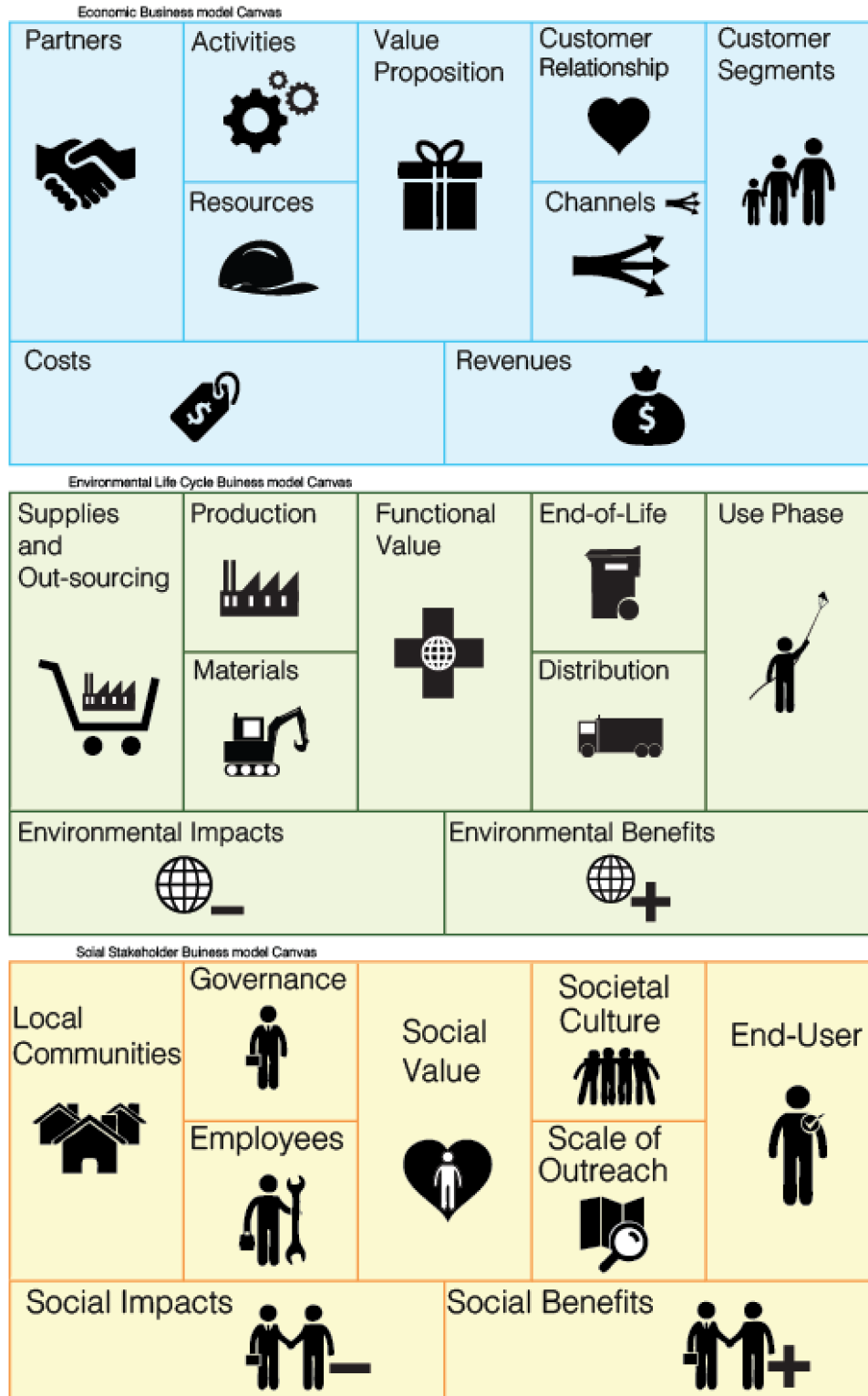


Figure 2.9 - Sustainable Triple-Layered BM (Joyce & Paquin, 2016)

BM innovation is a practice that renews growth and profits by escaping the old BM through trial and error which informs new approaches and understanding (Chesbrough, 2010). The big global business players such as Patagonia (metal forging shop to a global brand in outdoors apparel), IBM and Xerox photocopier manufacturer have redesigned their BM to be improve as SBM (Joyce & Paquin, 2016). This research is planning to adopt TBLBC in developing sustainable BM for the textile handloom sector in Sri Lanka.

2.6.2 Business models and entrepreneurship

The BM concept is fundamental to entrepreneurship. The entrepreneur could be an engineer of the action system of a brand-new enterprise, an inspired designer, or a potential inventor of economic exchanges (Zott et al., 2010). According to Amit and Zott (2001), entrepreneurs' BMs can generate profit by way of efficiency, novelty, and inbuilt strategic networks. Furthermore, Zott and Amit (2008)'s empirical analysis pointed out that the layout of the BM is truly central to profit-making all through entrepreneurship. However, Zott and Amit (2007) have evaluated the performance consequences of BM of entrepreneurial firms by hypothesizing the relationship between the total value-created potential of BM and the entrepreneurial firm's bargaining power. According to Zott and Amit's (2015) findings, new BMs affect entrepreneurial business performance, yet when the environment shifts from resource-rich to resource-poor. Further, the crucial role of the design of the business system of the entrepreneurial invention is related to some interpretations and interactions between its various shareholders (Tabares, 2021). As Romme (2003) noted, many entrepreneurs, both new and established have been re-designing their BMs to strengthen their potential gain with recent technological developments for the competitive benefit from the business enterprise and its internal as well as external stakeholders.

There is a trend in entrepreneurial BMs of numerous enterprises that are transforming from absolute profit orientation to the well-being of stakeholders related to its development. John Lewis is one of the well-known British companies that operate as John

Lewis department stores, Waitrosesuper markets, financial services, and other retailing pursuits and the biggest global collaboration. Each employee of them is a collaborator of the business and profits are shared in equal portions, by the MD as well as grass root employees. Fabindia is a franchise retailing apparel business, fabrics, and handmade ethnic products by craftspeople across rural India. Currently, it is running its business with unique BM with the purpose of offer employment to rural India's skillful crafts workers and hence protecting traditional weaving and printing talents. It has headed to its immense development and expansion of over 250 stores across India and abroad while developing social entrepreneurship. Fabindia sources its manufactured goods across the country out of 17 community-owned businesses and over 40,000 artisans and crafts people supporting to offer and sustain rural employment (www.fabindia.com). Also, this BM benefits Fabindia with an unwieldy supply chain with a larger artisan base, variety in products and a happier supplier base. In addition, the ownership structure of Fabindia is equally beneficial for the crafts worker in addition to the business sharing a specific proportion of the shares that are carried by these artisans and craft persons (Konwar, 2011). In addition, Konwar (2011) has revealed the fact that on growing importance on share employees an equivalent partner in the business stake holdings. However, businesses must become more equitable, and employee impartiality-run businesses are the most applicable in the current world (Konwar, 2011).

However, CSR is becoming a very important aspect of business. There is a trend among entrepreneurial businesses in devoting CSR work as a policy of the business strategy. There is a trend among entrepreneurial businesses in devoting CSR work as a policy of the business strategy. As European Commission (2019) revealed that retailers constantly recognized the sustainability approach as a substantial opportunity for them to grow, compete and modernize their businesses. As stressed by Iyigun (2015), social sustainability suggests that enterprises must cope with their business processes permitting the stakeholders' demands, as to be identical with the value system of the enterprise. Any BM that is built with value creation at its core, as the primary motivator always permits

the CSR concepts and sustainability in its businesses (Salvioni & Gennari, 2017; Tundys, 2021). Value-based traditions reveal integrity, sincerity, respect and acceptance while encouraging transparency and stakeholder commitment (Advantage, 2020). With this perception, a business could not be profitable by aiming on only its short-term economic accomplishments, disregarding environmental and societal performance. The great complexity of sustainable development has raised the objectives for enterprises and entrepreneurs to get responsibility for social and environmental challenges in a more constructive approach and beyond mere legitimate compliance (Bedi & Yadav, 2019; Seelos & Mair, 2020).

2.7 Knowledge gap

According to the Silvia and Truzzi (2020) study the most common sector of BM development found from the manufacturing sector followed by the energy and gas sector, then the service sector, food and beverages and the fashion industry. Yet craft sector BM development has not conferred. The same study highlighted the geographical location used for the data gathered for BM development is the European region and not even a single study from the Asian region. Therefore, there is a huge knowledge gap in the craft sector BMs and the Asian region.

Also, Silvia and Truzzi (2020) revealed that the widely use data gathering technique found to be used for BM development were secondary type of statistics and interviews. Secondary data were collected from existing databases, company websites and internal documents, and various archives and reports. Primary data collected directly by researchers were most frequently generated by interviews and, to a lesser extent, surveys, workshops, and focus groups. Participants involved in data collection were mostly managers, professionals, experts, or, in some cases, employees and consumers, depending on the focus of the recent article. Case studies were the most frequent method used allowing an in-depth analysis. Considering all these facts after reviewing the literature this study focuses on developing SBM for the textile handloom sector using a case study

and the PAR research strategy in a qualitative approach followed by thematic analysis using codes.

2.8 Chapter Summary

This chapter discussed the literature on the creative industries and their impact on the creative economy, the concept of sustainable development, its relationship to craft and sustainability, sustainability designs, DI, and craft practice in DI. Further, it reviewed the concept of entrepreneurship and the importance of CBE and sustainable entrepreneurship. It further explored business modeling, sustainable BMs, and the relationship between the BMs and entrepreneurship.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction to the chapter

This chapter provides the methodology description of this research study based on the research onion developed by Saunders et al. (2007). The conceptual framework and unit of analysis of the study are presented (Section 3.2) following the research philosophy and offering an appropriate rationale to provide solutions to achieve the study aim and objectives specified in Chapter 1. The philosophical research approach is described in Section 3.3. This section provides the rationale for choosing philosophy. Section 3.4 describes the methodological assumption adopted for the study giving a rationale for selecting an inductive and qualitative approach and methodology. Section 3.5 provides the data collection methods proposed in the study. Further, the strategy for the study sample and given the detailed rationale for the sample strategy are provided in detail in Section 3.6. This was adopted to assemble key findings of all the research methods and presents the research design while resending the sampling strategy, research study population, and the sample. Section 3.7 briefs the data analysis plan. This chapter further explains how to validate the outcomes utilizing succeeding research activities and reliability in Section 3.8. Triangulation adaptation and multi-method research strategy are also described here. The importance of ethics and ethical considerations in conducting the research study is highlighted in Section 3.9. Based on the outcomes from the study the chapter is finally presented the implementation execution done by the researcher in Section 3.10.

3.2 Conceptual framework and unit of analysis

A conceptual framework serves as the foundation of the study and clarifies proposed concepts, expectations, beliefs, and theories that support the research and the relationships among them. Also, it provides a concept for interpreting the study findings, explains

observations and encourages theory development. However, conceptual frameworks don't give an understanding of hard facts however it provides a subtle explanation of objectives (Saunila & Ukko, 2012). The conceptual framework of this study is presented in Figure 3.1, which provides an abstract representation connected to this study's aims that directed selecting the research approach. This framework is used to make conceptual distinctions and to organize ideas related to the proposed BM development in the textile handloom industry linked to the main two concepts identified by the researcher, sustainable DI and the CBE. The framework is mainly based on the literature findings (Chapter 2) and the preliminary investigations of the textile handloom industry presented in Section 4.2, I of the handloom textiles sector in Sri Lanka.

The unit of analysis is vital in defining what is the case to be studied (Yin, 2018). This study defines the unit of analysis as the Sri Lankan textile handloom industry considering three main manufacturing facilities: handloom communities, Government supported provincial council-based handloom businesses and private handloom businesses.

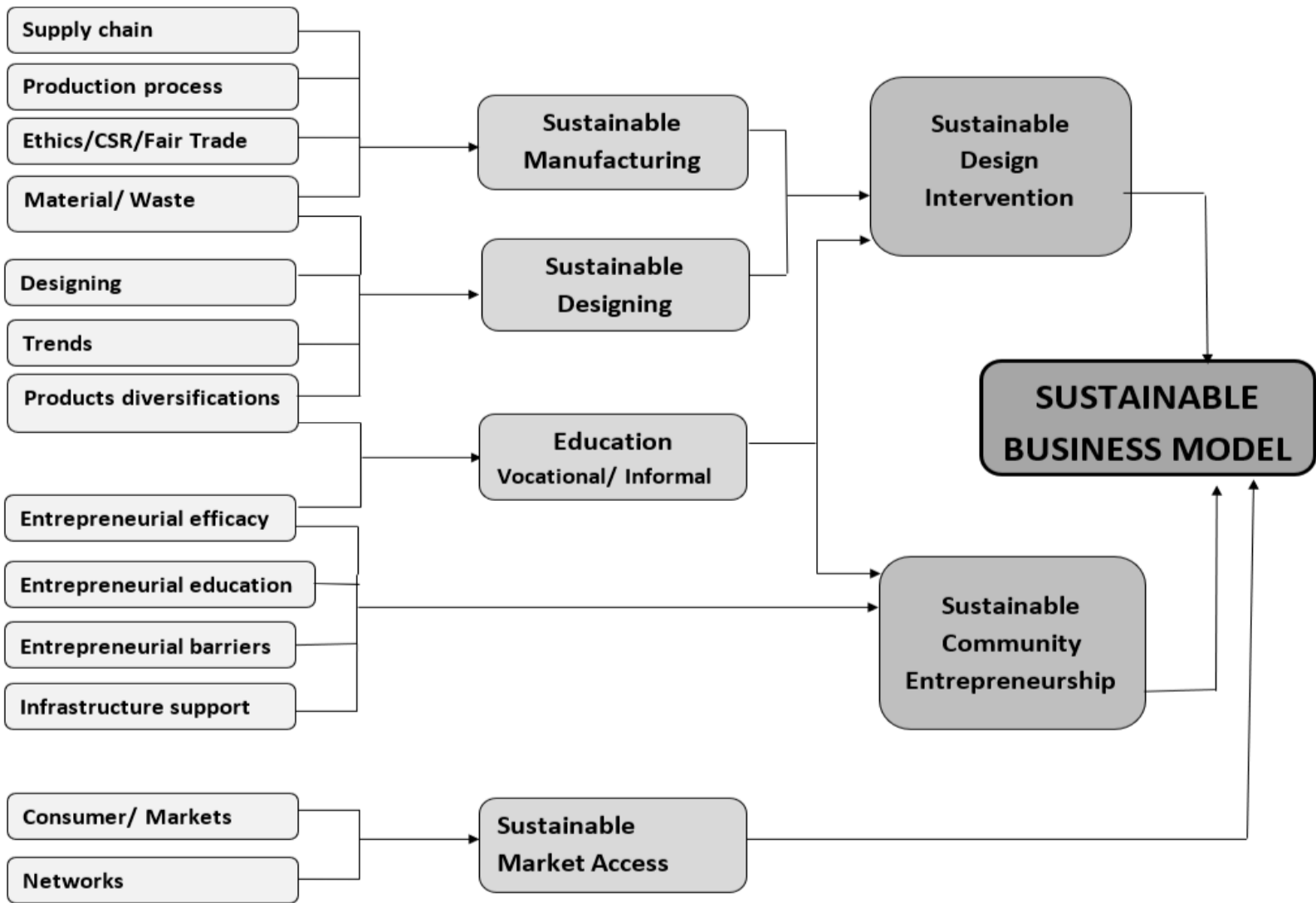


Figure 3.1 - Conceptual Framework

3.2.1 Textile handloom industry stakeholders

Stakeholder theory says that enterprises stress the interconnected relationships between a business and its customers, suppliers, employees, investors, communities, and others who have a stake in the business. The theory argues that a firm should create value for all stakeholders, not just shareholders (Parmar et al., 2010). According to Freudenreich's (2020) study findings, the concept and analysis of value creation through business models need to be expanded on different types of value created with and for different stakeholders and the resulting value portfolio.

The Sri Lankan textile handloom industry comprises key stakeholders such as suppliers, manufacturers, retailers, customers, and the national government as shown in Fig 3.2. Investigating the handloom customer is one of the major studies of consumer research and does not fall within the scope of the research. Thus, this research is restricted to key stakeholders of the textile handloom sector except for customers (final consumers). However, customer networking in the handloom business is planned to be considered under three elements of the business such as customer segment, customer relationship, and customer channels.

Suppliers - The suppliers for the textile handloom industry are the raw material suppliers which include yarn and dye supply from outside the country.

Manufacturers - Two kinds of manufacturers are involved here, handloom fabric manufacturers and handloom products (clothing, toys, wall hangers, lamp shades, tableware, etc.)

Retailers - Retailers involved in selling the products done by the manufacturer. Sometimes manufacturers do the retailing functions too.

Customers - These are the final consumers of the handloom products.

Government - Relevant government institutions such as design schools, training institutes, and textile department facilitate human resource development for the whole industry.

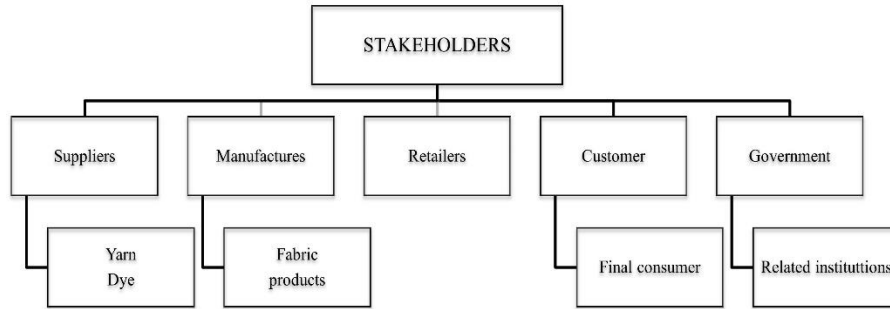


Figure 3.2 – Stakeholders of the textile handloom industry

3.3 Philosophical Approach

Research Design: A research design is a strategy for connecting a conceptual research topic to a practical solution finding (Ghuri & Grønhaug, 2002; Yin, 2008; Babbie, 2020) through a framework of data collection and analysis (Bryman, 2016). As Zikmund et al. (2010) emphasized this study design ensures to harmonize with the research question, aim, and objectives to identify the methodology and process as well as the sample, data collection techniques data analysis. The main purpose of the research design is to help out prevent the situation where the evidence does not focus on the research question (Yin, 2013). Moreover, researchers ensured to plan the research design as a practical strategy in which research methodology is connected to gather reliable and appropriate data for empirically grounded analyses, assumptions, and theory building. As Yin (2008) stressed researcher ensured to choose the most appropriate research strategy for this study followed by the suitable research philosophy and research approach which would clarify below.

Research philosophy: Research must be based on some underlying philosophical assumption to guide the investigators on constituting an appropriate research method (Myer, 2019). Research philosophy is a collection of opinions regarding the nature of the world under examination. (Saunders et al., 2009; Bryman, 2016). Research philosophy

involves the choice of an exploration strategy, interpretation of the issue, data collection, management, and evaluation process (Zikmund, 2000; Žukauskas et al., 2018). The paradigm of research philosophy consists of ontology, epistemology, methodology, and methods. Therefore, research philosophy describes the standing of ontology (declares existence), epistemology (in what way to know the existence) and methodology (exploring method), and method (techniques and procedures of doing it) and how these issues relate to the author's personal opinions and the rationale for the study's methodology.

Ontology is the initial point of any research. This is the viewpoint of existence and nature and the type of existence to represent valid researchable inquiries (Guba & Lincoln, 1994). **Epistemology** is the viewpoint of understanding or in what way it happens to understand and how important knowledge is (Guba & Lincoln, 1994). Hence, the focus of epistemology is on the process of knowledge construction and is anxious about developing novel models or theories which are better than contending models and theories. There are three key dominant contrasting theoretical perspectives ends of epistemological paradigms identified to understand the way a researcher could explore the world positivism, interpretivism, and critical (Myers & Avison, 2002).

Positivism investigations hold that society's exterior existence and attributes need to evaluate empirically instead than inferred intuitively out of feeling, contemplation, or perception. This nature of inquiries involves observing the real world using precise rules and processes and testing hypotheses in a value-free manner. (Saunders et al., 2009; Zikmund, 2000). **Interpretivism investigates** appreciates the various interpretations and meanings that people assign to their experiences to understand the particular meaning of social activity. Therefore, it is vital to realize the characteristics of humans as social actors and the differences between people and objects when conducting research. Interpretivism investigation adds value to the significance of the research and attempts to realize what is taking place hence personal interviews and observations offer perceived reality. Therefore, this approach is considered a context-rich, subjective, qualitative phenomenon.

The critical investigation is focused on enacting social change through scientific investigation. Critical theorists question knowledge and procedures and acknowledge how power is used in the phenomena or systems they investigate.

3.3.1 Philosophical approach of the research

As discussed above, the positivist philosophy assumes that life's experience is individual from the observer and that authenticity is independent of the researcher. The critical research perspective is committed to issues of power and justice and deconstruction and transformation of political activity which is not the focus of this research. With these essential principles, positivism relies on experimentation and logic to determine what is true (Esterby-Smith, 2002). Interpretive and critical personal interviews and observations are used in research to back up claims of fact. Interpretive research emphasizes meaning and attempts to comprehend what is occurring, and it is probable to suggest that this composite has a rich understanding. After reviewing all these alternative philosophical perspectives and the nature of the study, the research adopted an interpretivism philosophical assumption-based study which allowed the researcher to explore underlying intent, and then, interpret the meanings of others regarding the research problem (Creswell & Poth, 2017), when the researcher was required to give personal information about the research project.

3.4 Methodological approach

The methodology is the strategy that remains with the selection and usage of suitable procedures (Cuervo-Cazurra, 2017). The processes that researchers employ to study what they believe may be understood, as well as the reasons behind the procedures, are referred to as methodological assumptions (Guba & Lincoln, 1994). There are two approaches of methodology that line up with empirical data called inductive approach and deductive approach.

3.4.1 Qualitative approach

Qualitative research is a holistic investigator who can keep the holistic and significant qualities of real-life occurrences by using this method (Creswell, 2003; Yin, 2003). Many social and behavioral scientists considered the qualitative forms of inquiry to investigate deeply a research problem (Denzin & Lincoln, 2008). The qualitative study collects and analyzes words, speeches, and texts (Gephart, 2004) and is exploratory in nature and not readily quantifiable (Sekaran & Bougie, 2016). Qualitative methods emphasize depth by capturing detail, minuscule nuance, and multiple perspectives with attentive devotion to small sample sizes (Myers, 2019). Therefore, the qualitative approach is a combination of philosophy, concepts, data-collecting processes, and data-analyzing techniques thoroughly elaborated by the systematic examination with a less structured description.

This study aims to develop a new perspective beyond what already exists, rather than evaluating the surface features, this investigates deeper insight from grounding. Following Myers and Avison's (2002) viewpoint on enabling the qualitative approach in exploring social and cultural phenomenal contexts in natural settings, by becoming involved in the actual experiences, the researcher can develop a level of detail, allowing exploration of both cultural and social settings and their integration in the handloom business. This study emphasizes subjectivity over objectivity, flexibility in the conducting procedure, a focus on process over outcome, and allows explicit acknowledgment of the impact of the research process on the research circumstance.

As Lincoln and Guba (1985) rely on four general criteria in their approach to the trustworthiness of qualitative research such as credibility, transferability, dependability, and confirmability. This study counted each of these factors for trustworthiness in this qualitative study. Thus, the researcher plans to find detailed information, specific and insights into the contributor's understanding of the field of DI and CBE concepts through a qualitative approach to answering the research questions. Therefore, this study adopts a qualitative exploratory approach to gain a comprehensive insight into the research

problem to the best of the investigator's knowledge. With this qualitative inductive approach, the study was carried out based on the views made by research participants in three phases elaborating the study outcomes. The second study phase was designed based on the consequences of the first study phase.

According to the nature of research, there are three basic types of research approaches, namely, exploratory (to familiarize or refine a phenomenon when the type of issue is not clear), descriptive (to describe a precise phenomenon in detail), or explanatory (to clarify relations among variables) (Saunders et al., 2009; Robson 2011).

The research aimed at developing a sustainable BM for the handloom textile sector planning proposes a theoretical framework on CBE towards the end of the research process. The researcher plans to begin with detailed observations through appropriate research methods based on the conceptual framework and existing CBE theory and to develop empirical generalizations and identify preliminary relationships. Thus, the research adopted the bottom-up approach to the development of explanations and the development of theoretical concepts. Therefore, this study builds its premises mainly on an exploratory strategy that is the most appropriate for this study to achieve its objectives.

3.4.2 Deductive and inductive approach

Accepting the interpretive approach, the researchers conduct so-called objective search for generalities through either inductive or deductive theory building. Inductive reasoning is concerned with the process of interference from the known to unknown generalizing on observable phenomena using logical reasoning (Patton, 1990). When the goal is to test or confirm a theory, deductive reasoning is narrower and more confined (Bryman, 2016; Myers, 2019). The inductive approach is described as a shift from the specific to the general (Bryman & Bell, 2011). The investigator's observations comprise the starting position of this method, and results are sought by the data (Beiske, 2007).

According to Lodico et al., (2010), inductive reasoning is more open-ended and exploratory. The inductive approach does not specify a solid framework that guides data collecting, so the study topic be able to determine once data has been collected (Flick, 2011). This process is more typically utilized in qualitative research, where the lack of a theory to guide the research process may lessen the risk of investigator preference in the data-collecting phase (Bryman & Bell, 2011).

This study approach employed both approaches in achieving its objectives. A deductive approach is planned to be used in achieving objective 1- To investigate the current status of the textile handloom industry of the study. The researcher planned to investigate the current status against the existing TLBM (Joyce & Paquin, 2016).

The major portion of the study (objective 2 and objective 3) which develops emerging and underdeveloped topics is de facto theory building rather than theory testing. Therefore, the researcher plans to collect data on a topic, analyze and recognize the patterns, and develops this into a theory. Thus, the research adopted the bottom-up approach to the development of explanations and development of theoretical concepts. Therefore, this study builds its premises mainly on the inductive approach with an exploratory strategy (to familiarize or refine a phenomenon when the type of issue is not clear) which is the most appropriate for this study to achieve its objectives. Thus, the research aimed at developing a sustainable BM for the handloom textile sector proposing a theoretical framework on CBE with an inductive approach. Further, the researcher plans to begin with detailed observations through appropriate research methods based on the conceptual framework and existing CBE theory and to develop empirical generalizations and identify preliminary relationships.

3.5 Research strategy

Both case study and PAR research strategies are available under the broad heading of qualitative methodology. These strategies allow researchers to use a wide range of

methods for data collection. Both case study and PAR methodologies can be seen as a framework within which a study is designed and research methods for data collection are selected. In this research were used these two strategies.

3.5.1 Case study

Many authors agree that the case study approach aims to facilitate an in-depth investigation of the problem in its natural setting (Yin, 2018). As Myers (2019) highlighted, case studies can build a new theory to develop explanations. Case studies allow contextual realities analysis and recognize what was proposed and what took place. Therefore, the case study method was motivated by the possibility to dig deeper into research setting exploration. Moreover, according to Noor's (2008) experiences, multiple case studies allow the generalization of findings that lead to some form of replication. This research adopted the case study approach to collect data to compare existing BM with the current handloom business situation and develop an appropriate BM for the handloom sector through interviews and observations.

The limitations of the case study are specified according to the theory applied to the case (Campbell, 2015). Hence, the investigator specified the limitations of the study depending on two interconnected domains: concerns and management. Use of sustainable design and manufacturing principles, usage issues, marketing, and entrepreneurial concerns in the handloom sector and the managing processes domain derived from previous literature and/or from the conclusions of the investigative analysis.

Phenomena are observed in a natural situation (Hancock et al., 2021). The researcher does not demand any control over the actual setting or behavior. The use of sustainable design and manufacturing strategies that could be incorporated into the textile handloom process and managing processes were examined in the natural situation of selected case scenarios in the Sri Lankan textile handloom industry.

Each case study is made up of a complete analysis of which data are collected from a variety of sources and conclusions are derived based on those data. According to Benbasat et al. (1987) clarification, when the goal of the study needs to describe, create, or test a theory, multiple case studies are the recommended type of case studies. Hence, this study used multiple case studies because the objectives of the study are to investigate the status of the textile handloom industry and to develop a sustainable BM that facilitates the growth of the industry. To achieve this purpose, it is vital to obtain a rich description of the current status and explore barriers and opportunities through a detailed investigation, which could be best achieved through a case study approach.

Multiple case study designs are possible with cross-case analysis and comparisons, as well as the exploration of a given phenomenon in many settings, (Houghton et al., 2013). Furthermore, multiple case studies could be chosen to envisage comparable outcomes (literal replication) or to generate distinct outcomes for predictable goals (theoretical replication) (Yin, 2018). Further multiple methods recommend improving the methodological consistency of the research and improving the accuracy, legitimacy, and stability of the outcomes, and producing more reliable and solid outcomes compare with single-case generalizability (Miles & Huberman, 1994; Eisenhardt & Graebner, 2007; Yin, 2018). Therefore, in this study, the researcher expects to perform and compare cases among selected cases, which supports identifying common themes and facilitates generalizability.

3.5.2 Participatory action research (PAR)

PAR is a thorough social analysis of connected problems, a planned methodology for knowledge creation is taken, incorporating a wide range of methodological attempts in particular practices to develop different insights for the researcher and participant (Greenwood & Levin, 2006). The PAR outcome of this study is mainly aimed to use the development of handloom communities by enhancing their entrepreneurial capabilities focusing on sustainable livelihood exchanging knowledge gathered by the researcher from

the participant. Therefore, PAR became one of the main methodology strategies to achieve the research objectives of this study; to explore opportunities and barriers to community-based sustainable entrepreneurship and develop a new bottom-up innovation-based entrepreneurial theory to use as a tool for sustainable community entrepreneurship.

The CBPAR research approach used here enabled the development of research capacity as well as the introduction to critical analysis empowering effect on communities. PAR link research to action and the development of theory through a process that reports the lived experience of participants which leads to access to the community knowledge or knowledge of the action of participants (Lillis, 2001). Thus, this study seeks to adopt the researcher driven PAR design aim to focus the research; exploring the present handloom business process and investigating the issues related to barriers and opportunities for CBE within the handloom communities in Sri Lanka. In this situation, the researcher articulates research design, data collection, and analysis and facilitates community members' participation in the process to investigate their issues related to the research questions. The researcher is involved in developing the BM, building CBE theory, and making recommendations and interventions that are derived from the livelihood experiences of the communities from the current handloom industry operation. PAR workshop is scheduled to follow the procedure of planning the workshop conducting the workshop (action), perceiving the workshop (observing), reflecting on the outcomes, and rearranging the workshop if necessary. This model allows researchers to conduct independent, sustained research that will support the community-based handloom industry in taking up emerging entrepreneurial opportunities. Furthermore, a combined model would enable the development of research capacity as well as the introduction of critical analysis with an empowering effect on communities.

In the design of a PAR process, there is no blueprint for integrating methodologies and work forms chosen to match the problem on the emphasis of a specific setting. (Greenwood & Levin, 2006). This research is committed to participatory approaches on

practical and philosophical grounds. This study seeks the participation of handloom communities for the identification of their problems related to entrepreneurship potential opportunities and barriers. This research would follow PAR by recognizing the expertise of participants in their lived experiences. Action research proceeds as a cycle of planning, action, observation, and reflection (Zuber-Skerritt, 2015; Coughlan & Coughlan, 2016; McNiff, 2016; Banks et al., 2017; Bell et al., 2018). The research seeks to include a focus group approach in data collection and instrumentation. Therefore, the study plans one focus group from each of the selected weaving communities including community leaders and weavers as their willingness to gain insights into handloom business processes and opportunities and barriers to CBE in the textile handloom sector through the community sharing their livelihood experience.

3.5.3 Grounded Theory

Grounded theory is an inductive theory discovery method that seeks to develop a theory that is grounded, providing systematic procedures for shaping and handling rich qualitative materials (Glaser & Strauss, 1967; Martin & Turner, 1986). The distinguishing characteristics of the grounded theory method are the simultaneous and continuous interplay between the data collection and analysis, the creation of analytic codes and categories from the data, and the development of theories (Glaser & Strauss, 1967; Glaser, 1978, 1992; Charmaz, 1990, 2006; Strauss, 1987; Strauss & Corbin, 1998; Fernandez, 2003). Grounded theory sets out to discover or construct theory from data, systematically obtained and analyzed using comparative analysis. However, researchers should not predetermine a priori about what he or she will find, and what and how social phenomena should be viewed. Therefore, the value of Grounded Theory is that it avoids making assumptions and instead adopts a more neutral view of human action in a social context.

This study plans to use grounded theory because it provides rigorous procedures for checking, refining, and developing ideas and intuitions about the data. Also, as an exploratory method, grounded theory is particularly well suited here for investigating this

nature of inquiries that have attracted little prior research attention, where the previous research is lacking in breadth and depth, or where a new point of view on familiar topics appears promising. Therefore, this study plans to use grounded theory in developing a new sustainable CBE theoretical framework and sustainable BM for the handloom industry. First, the data gathered from the interview questionnaire guide for the case study is planned to use for thematic analysis. This analysis is planning to use to identify any missing data related to the proposed concept of entrepreneurial aspects of the community and handloom business process. Then it is planned to gather more data from PAR workshops exactly relevant to achieve these two requirements.

3.6 Data collection methods

Data collection methods and data analysis of research is determined by the methodological approach of the study (Becker, 2018). These are the tools for gathering information and knowledge about phenomena, as well as measuring the characteristics of reality that are being studied. The data sources used for the study and their appropriateness are discussed below.

3.6.1 Observations

This study used observation as significant and scientific technique of gathering data. The researcher planned the data from the observation technique systematically and recorded it according to the objective of the research. As the nature of this investigation, there are some data, which was hunted by the means of the researcher's direct observations, but not inquiring from the respondents. These observations are independent of respondents, it is the less demanding approach of data compared to the interview or the questionnaire method. Since this study was exploratory nature of study unstructured direct field observations were carried out with field notes. However, the researcher had a pre-plan of observation; what to observe, how to observe, and record. The researcher here planned to conduct an overt observation through field visits to communities, provincial council-based handloom businesses, and private businesses which allows the researcher to be immersed

in the real business environment of the handloom industry. Therefore, the researcher plans to visit the stakeholders to observe the manufacturing process, product categories, product designs, materials, finishing techniques, woven structures, machinery, and equipment utilized in the handloom industry as well as retailing environment. These observations are planned to be visually recorded, and descriptions are noted down. Therefore, it facilitated supplementing and clarifying data derived through other techniques. In this study, researchers used observations to draw further information while conducting interviews for a better understanding of the situation. This study planned to use observational data to strengthen the information explored in a real physical setting and synchronize with other data collection techniques of case study interviews and PAR workshops.

3.6.2 Interviews

Interviews are a vital technique for discovering the creation and negotiation of significance in a natural setup and gathering precious information from participants in numerous positions and circumstances (Cohen et al., 2007). interviews are interactive, and the interviewer could push for comprehensive, clear responses and further can probe into related emerging themes.

This study planned semi-structured type of interviews. This type of interview permits complexity to be accomplished by offering the chance for the role of the interviewer to investigate and develop the interviewee's reactions. The preliminary investigations started with a fundamental checklist that permits for in-depth investigation permitting the interviewer to an interview within the limitations drawn out by the objective of the research. Gradually the semi-structured questionnaires were developed to conduct the in-depth type of interviews. The interview questionnaire in 3 different versions to conversations with community leaders, weavers, and other management-level personnel engaged in the industry (Appendix CI, and CII).

3.6.3 PAR workshops by Ketso Tool

Innovative focus group workshops facilitated by the Ketso toolkit were used to support PAR focus group workshops. Ketso was employed to build study inquiries with stakeholders (Wengel et al., 2019), to participate in activities with focus group participants (Furlong & Tippett, 2013), and for collecting data (McIntosh & Cockburn-Wootten, 2021). Ketso facilitates and engages groups and encourages creativity. This is a convenient tool kit that contains a multicoloured reusable leaf set as shown in Figure 3.3 which can make records by participants, then positioned on a tabletop felt desk. Leaf pieces can be wiped clean and reused. It can enable individual opinion and group analysis (Ketso, 2010). This tool allows the researcher to make records of the process and the outcomes. Therefore, it does not need to take down notes as well as no distractions for interaction. To collect outcomes in a summative manner, photographs and a toolkit proforma might be typed up. A workshop guide was used to conduct the workshop (Appendix C)



Figure 3.3 - Ketso tool

Figure 3.4 illustrates the research design of the study.

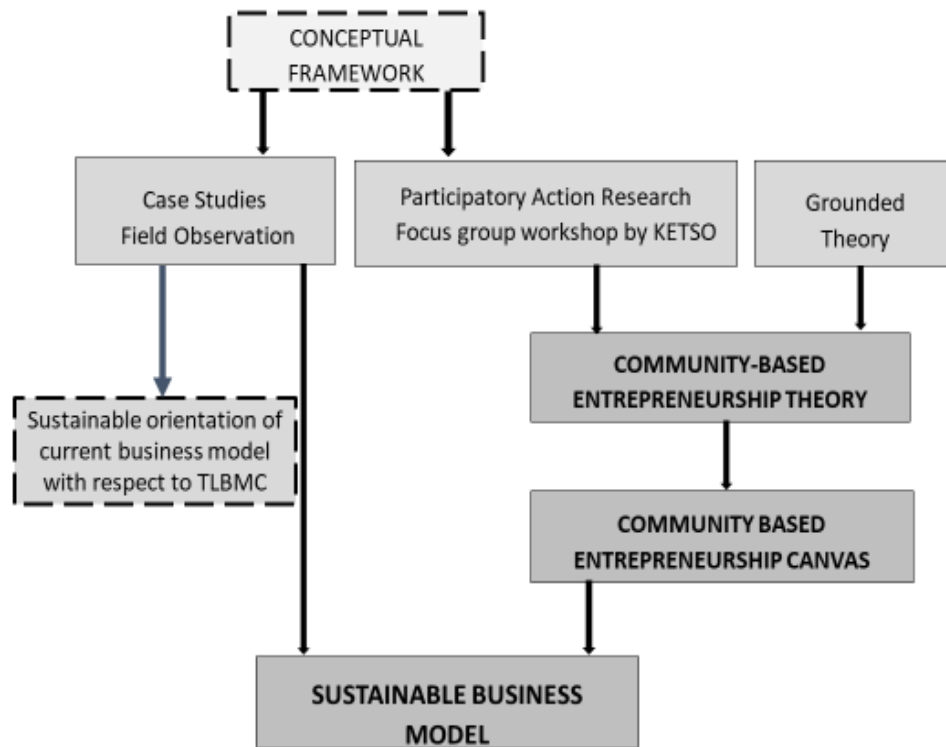


Figure 3.4 – Research design

3.7 Sampling strategy and study sample

There are many overviews of qualitative research sampling strategies (Byrne, 2001; Rapley, 2014; Gentles et al., 2015). The sampling process of this study involved the selection of samples from a larger set of possibilities of the population in the handloom industry of Sri Lanka. Sampling designs were decided considering the aim of this study. The sample was derived purposefully rather than randomly for the richness of data in answering the research question of this qualitative research. As Bell (2022) and Bryman (2016) pointed out, generally qualitative research sampling engages with a purposive sampling approach concerning the aims of the investigation. Purposive sampling is used to focus on precise characteristics of a population that are suitable to provide better

solutions to the research questions. (Patton, 1990; Kuzel, 1999). The theoretical sampling technique which plans to employ here is a variation of purposive sampling, and it tries to find types and properties and to recommend the interrelationships into a theory (Glaser & Strauss, 1967).

As Glaser (1978) defines theoretical sampling as the process of data collection for the generating theory whereby the analyst jointly collects, codes, and analyses his data and decides which data to collect next and where to find them, to develop a theory as it emerges. As Flick (2011) further clarified, theoretical sampling emphasized rigorously the choice of cases and units concerning the research questions which are related to the intended theoretical understanding. Therefore, as per the nature of the proposed study, a purposive sampling strategy followed by a theoretical sampling technique would practically provide the selection of elements to be included in the sample. Hence this study primarily focused on the theoretical sampling technique due to the characteristics of the population that is engaged in the textile handloom business. This is the best sampling design choice for this study, especially when there is a limited population in handloom communities, provincial council-based handloom business communities, and private handloom businesses and retailers involve in handloom business that can provide the evidence needed for the achievement of proposed research objectives.

Here the theoretical sampling technique involved the process of collecting data purposively to inform a research question, conducting preliminary data analysis, and then identifying further sources of data in response to the preliminary analysis. Initially, a researcher made decisions about what to observe who to interview, and what types of documentary data to collect based on the research question posed. Then, the researcher expanded the scope of the sample based on what is learned about the research question through preliminary work. This iterative process oscillates between data collection, preliminary analysis, and sampling, to generate new theoretical frameworks. However,

Glaser (1978) elaborated on how this process of data collection is controlled by the emerging theory, whether substantive or formal.

3.7.1 Case study sampling

The study population of the research study is the handloom industry in Sri Lanka. Though there are no precise rules in deciding the number of cases for multiple case study research, Eisenhardt (1989) suggested that 4 to 10 cases would work well with generalizability. Sri Lankan handloom industry consists of three major sectors, which are (i) handloom communities, (ii) provisional council-based handloom businesses and (iii) Private handloom businesses. The preliminary investigation was conducted with the Madampellela community, the Southern Provincial council (Hambanthota district) and an entrepreneur through 7 semi-structured interviews. The case study data were collected based on semi-structured interviews and field observations. Interviewees were selected from the handloom industry workforces who were considered ideal. Based on the variation of the purposive sampling approach, and theoretical sampling, this study selected 9 case studies. All the interviewees planned through the theoretical sampling method were contacted over the phone. Depending on their willingness to participate in the interview candidates were selected. Table 3.1 offers an outline of the data compilation design and an explanation of precise case study data gathering techniques.

(i) Handloom communities

Three leading handloom communities with a consistent community orientation in Sri Lanka were selected as the first set of case studies.

Thalagune Community (T) - The only indigenous traditional weaving community currently operating in Sri Lanka. Thalagune is a remote village in central Sri Lanka, where weavers have been passing their weaving skills from generation to generation over many centuries.

Madampellala Community (MP) - A weaving community established by the government of Sri Lanka in 1950. However, with the introduction of the open economy in 1977, this community experienced a decline and weavers struggled to continue the business. In 2006, the Madampellela weaving community was redeveloped under a government development program. This program intervened to introduce a new customer base and marketing channels to sustain the community-based business.

Marathamunie Community (MM) - Originating as far back as the 18th century with skills transmitted from generation to generation in the Eastern part of the country by Arabian Muslims. Currently, Maruthamunai is known for its family-based and factory-based handloom weavers. The tsunami disaster in 2004 had an adverse effect on this handloom business, however, the business has been re-developed with government support.

(ii) Government Provincial Council-based handloom business (S/W/NC)

This category of handloom community was created by the state sector with the intension of escalating the handloom industry and developing the rural livelihood of the country. Nine provincial councils in the country have been taking measures to establish handloom weaving centres within selected rural villages of the provinces. This study included 3 provinces, Western, North Central and Southern.

(iii) Private handloom business (PB)

Private handloom businesses are solely run by private entrepreneurs who mostly manage their own supply, production facilities and retailing in one central place.

Table 3.1 - Overview of the case study design

Criteria	Case T, MP, MM	Case W, S, NC	Case 1, 2, 3, 4
Handloom industry in Sri Lanka	Handloom Communities	Government Provincial Council-based handloom business	Private handloom business
Purpose of the data collection	Case studies with target groups to: <ul style="list-style-type: none"> • Explore the status of the textile handloom industry in Sri Lanka in terms of products, processes, business strategies and sustainability integration • Explore the sustainable design and manufacturing strategies that could be incorporated into textile handloom manufacturing • Explore the existing barriers/opportunities for CBE within handloom communities • Explore how design and manufacturing practices and community-based entrepreneurial behaviour could support the sustainability of handloom business 		
Time duration	From August to December 2017		
Approach	Semi-structured in-depth interviews, Field observation		
Category of respondent	Community Members Weavers	Provincial handloom Top management and middle management Weavers	Entrepreneurs Yarn supplier Weavers
No of interview participants	12	15	8
Approval Protocol	Ethics approval from Faculty of Graduate Study, University of Moratuwa		

3.7.1.1 Sample characteristics

There were eleven case studies and semi-structured interviews conducted with 40 participants as explained in Table 3.2.

Table 3.2 - The participant's detail of the case studies

Case study	Case	Participant number (Year of experience)	Participant Identification
Handloom Communities	1. Thalagune Community (T)	Community member 1 (27) Community member 2 (30) Community member 3 (35) Community member 4 (24)	CST ¹ CST ² CST ³ CST ⁴
	2. Madampella Community (MP)	Community leader 1 (28) Community leader 2 (29) Community member 3 (15) Community member 4 (10)	CSMP ¹ CSMP ² CSMP ³ CSMP ⁴
	3. Marathamunie Community (MM)	Community leader 1 (25) Community leader 2 (30) Community member 3 (8) Community member 4 (35)	CSMM ¹ CSMM ² CSMM ³ CSMM ⁴
Government Provincial Council- based handloom business	4. Western Province (W) (2 centres)	Deputy Director 1 (15) Technical officer 2 (20) In charge – Production planning of the province 3 (6) Weaving center in-charger 4(20) Weaver 5 (36)	CSW ¹ CSW ² CSW ³ CSW ⁴ CSW ⁵
	5. Southern Province (S) (3 centres)	Deputy director- Handloom (15) Field officer 2 (18) Weaving centre in-charger 3 (12)	CSS ¹ CSS ² CSS ³

		Weaving centre in-charger ⁴ (17) Weaver 5 (35) Weaver 6(25)	CSS ⁴ CSS ⁵ CSS ⁶
	6. North Central Province (NC) (2 centres)	Deputy director- Handloom 1(15) Field officer 2 (10) Weaving centre in-charger 3 (10) Weaver 4 (28)	CSNC ¹ CSNC ² CSNC ³ CSNC ⁴
Private Handloom Business	7. Business 1	Founder 1 (42) Director -Design 2 (21) Production Manager 3 (17)	CSPB1 ¹ CSPB1 ² CSPB1 ³
	8. Business 2	Founder/ Chairman 1 (48) Director 2 (15)	CSPB2 ¹ CSPB2 ²
	9. Business 3	Director 1 (21) Designer 2 (5) Technical Officer 3 (12)	CSPB3 ¹ CSPB3 ² CSPB3 ³

All the interviews and field observations were recorded, summarized and presented in Chapter 5, Empirical data.

3.7.2 PAR workshops (Ketso)

Innovative workshops facilitated by the Ketso toolkit were used to collect data only from handloom communities to develop the CBE layer. Provincial-based handloom business and private handloom business entrepreneurship were not considered here. Provincial-based handloom entrepreneurship is owned by the relevant provincial council and private businesses are progressing as entrepreneurship. As highlighted by Bates (2016), the Ketso tool helps structured a way to run a workshop. Ketso interactively allowed community members to speak out in identifying their problems and experiences related to questions around their business experience and knowledge, community social status and opportunities and barriers to community development. A structured guideline was used

for the workshop and each workshop was conducted for more than three hours with 4 to 5 community members, representing one community. Altogether 14 community leaders participated, sharing their community craft business experiences. Further, this tool itself allowed the researcher to make recordings of the PAR process and its outcomes. Consequently, the Ketso method promotes group interaction during the workshop enabling taking down notes and photographs without distracting the on-going workshop. Results were captured by photographs in summative form, categorized into themes and analysis was done using the Ketso spreadsheet tool. The workshop data will be analyzed to develop BM and formulate CBE theory claiming original knowledge on CBE and plan to carry out this enquiry analytically and systematically. The PAR workshops were not used for the provincial council handloom businesses and private handloom businesses because these businesses were not directly involved with the development of CBE.

3.7.2.1 PAR sampling

PAR sessions were conducted with the same three handloom community groups and used case studies with four to five persons in a group including community leaders. Variation of purposive sampling, a theoretical sampling technique was used to select the community groups. However, the study wanted to conduct the PAR workshops as the case study sample to compare some data and confirm the outcomes. Focus group members were selected among the community leaders of handloom communities who were considered the perfect candidates. They were contacted over the phone with the help of a known leader depending on their wiliness to participate in the workshop.

Table 3.3 shows a summary of the data gathering strategy of PAR and a description of specific data gathering methods.

Table 3.3 - Overview of data collection design of PAR

Criteria	PART		PARMP	PARMM
Handloom industry	Thalagune Community		Madamapellela Community	Maradamunie Community
Purpose of the data collection		Workshops with target community groups to: <ul style="list-style-type: none"> • Explore the status of the textile handloom industry in Sri Lanka in terms of products, processes, business strategies and sustainability integration. • Explore the sustainable design and manufacturing strategies that could be incorporated into textile handloom manufacturing. • Explore the existing barriers/opportunities for CBE within handloom communities. • Explore how sustainable manufacturing practices and community-based entrepreneurial behaviour could support the sustainability of handloom business 		
Time		From January to March 2018		
Approach		Focus group workshop by Ketso tool		
Category of respondent		Community members including community leaders		
No of the participants	5		5	4
Approval Protocol		Ethics approval from Faculty of Graduate Study, University of Moratuwa		

3.7.2.2 Sample characteristics

Three PAR workshops were conducted with 14 participants as shown in Table 3.4.

Table 3.4 - The participant's detail of the PAR workshops

PAR	Workshops	Participant number (Year of experience)	Participant Identification
Handloom Communities	Thalagune Community (T)	Community member 1 (28) Community member 2 (27) Community member 3 (35) Community member 4 (8) Community member 5 (15)	PART ¹ PART ² PART ³ PART ⁴ PART ⁵
	Madampella Community (MP)	Community leader 1 (24) Community leader 2 (28) Community member 3 (13) Community member 4 (16) Community member 4 (12)	PARMP ¹ PARMP ² PARMP ³ PARMP ⁴ PARMP ⁵
	Marathamunie Community (MM)	Community leader 1 (75) Community leader 2 (32) Community member 3 (18) Community member 4 (12)	PARMM ¹ PARMM ² PARMM ³ PARMM ⁴

All the PAR workshops were recorded, summarized, and presented in Chapter 5, Empirical data.

3.8 Data analysis

According to Bryman (2003), grounded theory is the highly influential common strategy for conducting qualitative data analysis. The collaborative character of grounded theory research extends beyond data collecting to encompass analysis. Based on the analytical aspect of grounded theory, raw data analysis was planned with the continuous comparison (Glaser & Strauss, 1967; Silverman, 2015). This entailed summarizing, abstracting into concepts, and aggregation to themes of the field observations, case study, and PAR workshop material gathered during the data collecting process.

3.8.1 Analytical framework

A combination of data analysis plans suggested by Silverman (2015) and Spiggle (1994) and Gioia et al. (2013)'s raw data analytical framework illustrated in Figure 3.6 was planned to employ with case study analysis. This systematic framework model provides a graphical representation with deductive influences, showing the progression from raw data to concepts and themes. According to Silverman (2015), Spiggle (1994) and Gioia et al. (2013), it increases the validity and makes the analysis more transparent and systematic.

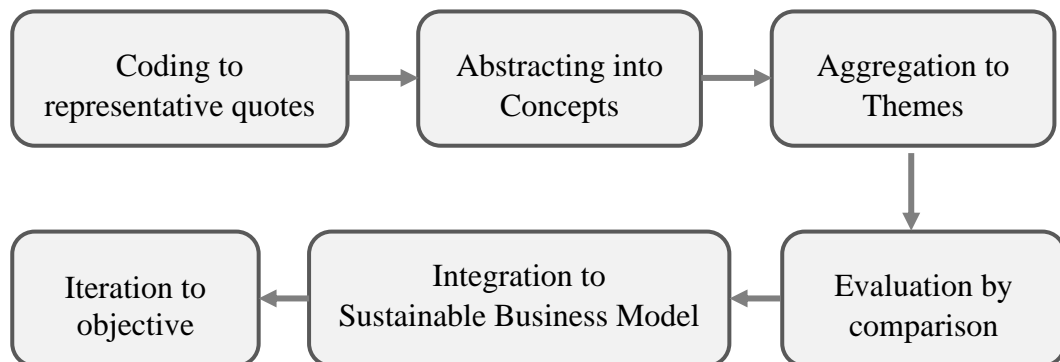


Fig 3.5 -Data analysis plan (Silverman, 2015; Spiggle, 1994 & Gioia et al., 2013)

Coding to representative quotes: Interesting phenomena can be identified in fundamental observations by breaking down the pieces of data. (Arnould & Wallendorf,

1995). Initially, codes need to be formulated to illustrate the representative quotes. The idea of coding is to place the collected data (participant's idea) into scientific terms. The raw data gathered from nine case studies and field observations are planned to transcribe, coded and categorize into representative quotes. As a result, the study intends to use deductive coding (from theoretical material) and inductive coding to derive significant categories pertinent to each layer of the TLBM (from the data gathered) (Gioia et al., 2013).

Abstracting into Concepts and Aggregation to Themes: The abstraction of the concepts and aggregation of themes are planned to develop identifying the concepts within representative quotas and hence the theme. These themes are refined according to the nine economic elements of Osterwalder and Pigneur (2010)'s business canvas and nine environmental elements and nine social elements of the TLBM (Joyce & Paquin, 2016) described in Chapter 2. The idea is to find identical elements and pictures of the representative cases. Abstraction helps to reduce data volume by combining categories into more generic concepts (abstraction), which helps to clarify the topics involved.

Comparison: Similarities and dissimilarities between data or categories are then explored at this stage. The comparison of business canvas elements among the case studies is initially achieved by assigning codes as representative coding. Concepts and themes are abstracted by identifying common patterns and through logical analysis. Further comparisons are performed through the cross-case analysis to identify diversified business situations among three different business setups discussed in Chapter 2.

Integration: Integration allows understanding of how abstract concepts and themes relate to each other. The concepts and themes abstracted here are compared and integrated to develop a sustainable BM for the Sri Lankan handloom industry. Further, integration examines the relationship building more deeply and ensures the BM closely represents the research findings.

Iteration: Iteration involves re-consideration of the transcription, re-analyzing and repeating the effort several times in the analysis processes targeting the research aims. Thus, the final interpretation is made from raw data aggregated from TLBMC and synthesizing theoretical concepts of sustainable BM innovation.

Figure 3.6 illustrates how elements of the BM canvases abstract the concepts into relevant themes.

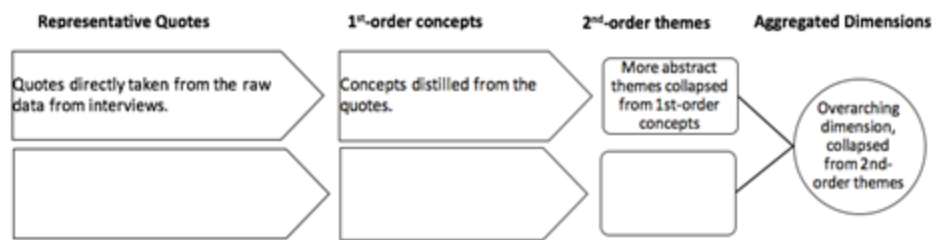


Fig 3.5 - Systematic model for the data structure (Gioia et al., 2013)

Further, the Ketso tool itself permitted the researcher to keep recordings of the PAR process and its results promoting group interaction during the workshop. Outcomes were recorded through photographs in summative form, and categorized into themes, and the analysis was completed using the Ketso spreadsheet tool as described in Chapter 6.

3.8.2 Grounded theory analysis

According to Coviello (2014), empirical data provides the opportunity to explain how findings expand existing theories and offer a fresh perspective. Lehmann (2001) and Fernandez et al. (2004) presented a cycle of data collection and analysis in the grounded theory method as shown in Figure 3.7. This cyclic model provides a graphical representation showing the progression from the initial data collection phase (data from case studies and field observation) continuing data collection (PAR) until theoretical

sample saturation and data analysis to categorization. This cycle makes the analysis more transparent and systematic to achieve the final objectives.

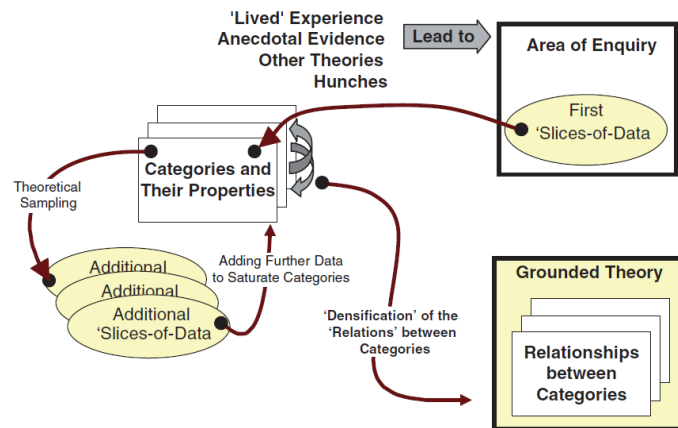


Fig 3.6 - Grounded theory data collection and analysis
(Adopted from Fernandez et al. (2004) and Lehmann (2010))

Following the protocols of Lehmann's (2010) and Fernandez et al. (2004) cycle, the initial data collection was performed until theoretical sample saturation. The data was coded to begin the analysis process. Coding is the crucial link between gathering data and formulating an emergent theory to describe it. This coding method may lead to unanticipated topics and research concerns (Charmaz & Belgrave, 2019). The criteria for the selection of codes are likely to become more explicit (Bhom, 2004) and proceed as open, axial and selective coding. The initial codes of open coding help to break the data into categories and enable the researchers to begin to see processes. Axial coding finds the relations between categories and their sub-categories while selective coding uses these to integrate and refine the categories that were identified. Therefore, the technique of selective coding aids in the identification and development of relationships between the major categories. The data analysis proposed for the study flowed as illustrated in Figure 3.8.

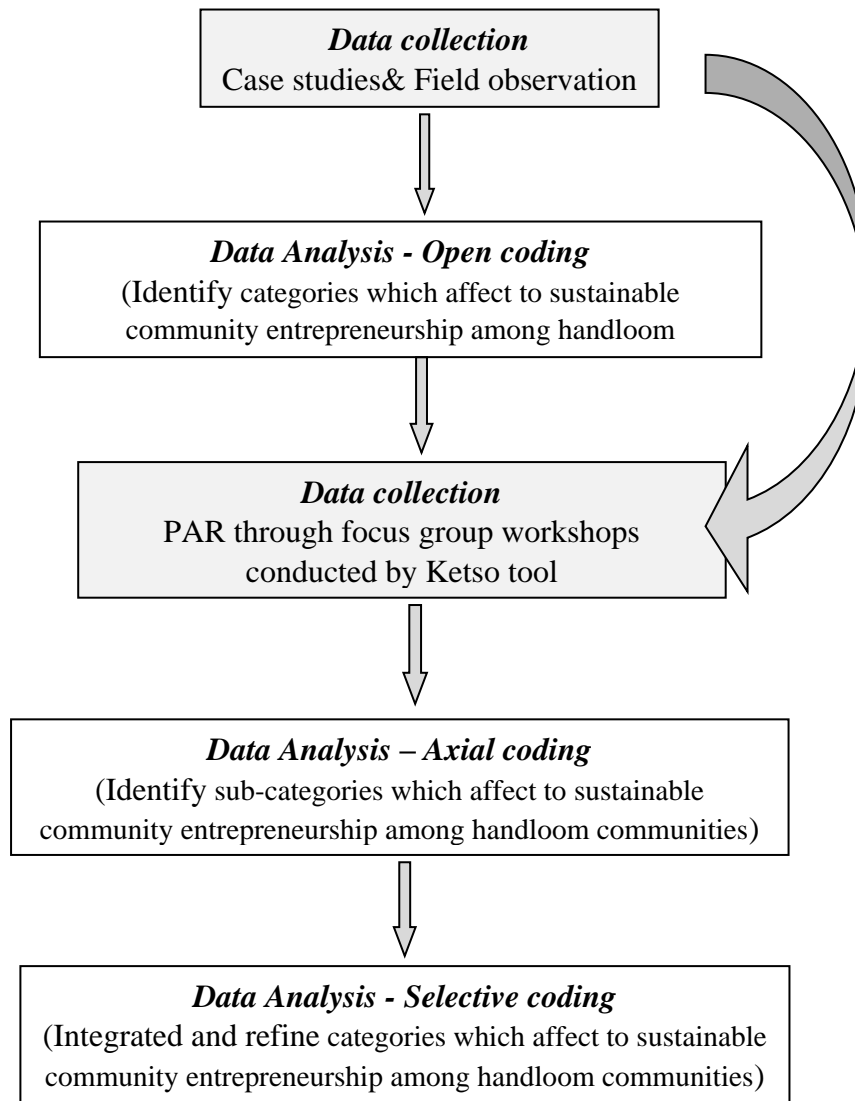


Fig 3.7 - Data analysis flow

The data which is ready for analysis with different variables are linked to each other and all original variables may not recur even in the critical assessment process. As emphasized by Wolfswinkel, et al. (2013) a review not only yields new ideas but may also reveal that old variables require (theoretical or operational) enhancement or that they require less attention. Hence, some of the main categories related to this research question composed were identified in the first stage of data analysis through case studies and field

observations. PAR data were further embedded until the theoretical saturation of the grounded theory analysis process.

The first step of the open coding analytical process here plans to generate higher-abstraction level type categories which begin to answer the research questions. Axial coding plans to develop the open coding initially derived. These coding are further categorized and related to their possible sub-categories. Once field observations, case study interview transcripts and PAR workshop data are coded, the researcher integrates categories across the data sources too. The finalized categories which are closely linked to the research questions are integrated and refined with selective coding.

3.9 Credibility, validity, and reliability of the research

Qualitative research is commonly complained about missing scientific thoroughness (Rigor, 1993; Rolfe, 2006). Credibility, reliability, and validity are concepts used to evaluate the quality of research. Lincoln and Guba (1985) offer alternative criteria for demonstrating thoroughness within qualitative research namely credibility (trustworthiness), validity (truth value), reliability (consistency) and confirmability (neutrality) and generalizability (applicability).

Credibility is a measure of the true value of qualitative research, or whether the study's findings are correct and accurate. The validity of a research study is the main extent to which a concept, conclusion or measurement is well-founded and likely corresponds accurately to the real world. Also, validity refers to how well the results among the study participants represent true findings among similar individuals outside the study. Reliability describes consistency within the employed in analytical procedures (Long & Johnson, 2000). If the same result can be consistently achieved by using the same methods under the same circumstances, the measurement is considered reliable.

The qualitative researchers aim to design and incorporate methodological strategies to ensure the credibility of the findings using strategies include accounting for personal biases which may have influenced findings (Morse et al., 2002), acknowledging biases in sampling and constant critical reflection of methods to confirm satisfactory depth and significance of data collection and analysis (Rigor, 1993), thorough record keeping, signifying rich conclusions trail and guaranteeing interpretations of data are consistency and transparency (Rigor, 1993; Rolfe, 2006), establishing a contrast case seeking out similarities and dissimilarities across accounts to ensure different perspectives are represented; (Slevin, 2002; Morse et al., 2002), including rich and thick precise descriptions of participants' accounts to support findings (Slevin, 2002), demonstrating clarity in terms of thought processes during data analysis and subsequent interpretations (Rigor, 1993), respondent validation: includes inviting participants to comment on the interview transcript and whether the final themes and concepts created adequately reflect the phenomena being investigated (Fraser & Greenhalgh, 2002; Long, Johnson & Rigour, 2000; Slevin, 2002), data triangulation which is the different methods and perspectives help produce a more comprehensive range of findings (Rigor, 1993; Long, Johnson & Rigour, 2000)

Creswell (2009) states that the research validity could be achieved by incorporating one or more validity strategies which are explained below:

- **Triangulate** various databases of information by analyzing evidence from sources and employing them to justify the findings The researcher used four sources of data: interviews, observations, case studies and PAR for the validity of the data.
- **Use rich, thick descriptions** to communicate the outcomes to give the reader a shared experience. For this study, detailed descriptions of the findings are found in Chapter 4.

- **Clarify the bias** the researcher brings to the research. Interviews and observations are biased from the effects of the researcher on the site, the effects of the site on the researcher, and the interviewer and interviewee bias (Miles & Huberman, 1994). Although interviewee bias is largely unavoidable, some strategies can be applied to avoid the other three forms of bias. To reduce the bias of the effect of the researcher on the site, Miles and Huberman (1994) suggest tactics including staying as long as possible on site, interviewing more than one person, and returning to the site on more than one occasion. For this study, the researcher stayed within the sites for a few hours after each interview, whenever possible, observing processes and taking photographs. interviewing more than one person and returning to the site at a later date to make further field notes.

This study applied appropriate techniques used by the scholars to improve the reliability, credibility and validity of the study methodology. Key steps taken included acknowledging study sample selection and avoiding personal biases when data gathering, and rigorous recordkeeping in case studies and PAR workshop records with Ketso tools and precisions analysis. The triangulation methodology, prolonged engagement with data, persistent observation, of multiple case studies and multiple PAR workshops analysis, and referential adequacy were planned to increase the credibility. To achieve the validity of the study, the researcher used four sources of data: interviews, observations, documents, and photographs. Using different sources of data helped to verify the details that the interviewees had supplied. Information from different data sources helped justify the findings and enhance their credibility and reliability.

3.9.1 Triangulation adaptation and multi-method research strategy

In recent years, the use of multi-method approaches, multi-theoretical perspectives, multi-data sources and multi-analysis techniques in exploring the identical phenomenon has collected considerable interest among researchers and scholars (Thurmond, 2001; Hussein, 2009; Wyllie, 2013; Noble, H., & Heale, R. (2019). Triangulation involves

looking at the research question from several viewpoints to increase the credibility and validity of the results (Lee, 1991; Miles & Huberman, 1994; Tindall, 1994; Mingers, 2001; Olsen et al., 2004; Flick, 2011; Bryman, 2016).

Triangulation is more accurate since it seeks to uncover complementarity, dissonance, and convergence among the outcomes (Hussein, 2009). However, there are different views on the uses of triangulation by researchers. According to Olsen et al. (2004), triangulation is used to gain a more comprehensive and in-depth understanding of the event under study. Also, there is an argument triangulation can increase study accuracy (Risjord, 2002; Hussein, 2009; Turner et al., 2017). Nonetheless, Creswell and Miller (2000) defined triangulation as a validity technique in which scholars seek merging among various and disparate sources of data to establish themes or categories in a study.

This study adopted the multi-method research choice to achieve its objective. Triangulation will initially be used for improving the broader and deep understanding of the study phenomenon with research strategies of case studies, action research, and grounded theory used sequentially and will synthesize all the findings towards proposed BM development and CBE theory formulation during the analysis process. Therefore, data analysis was validated by considering all consequences from different viewpoints supported by the outcomes of each strategic phase. Overall, this scientific and systematic design of the research confirmed the reliability and validity of the study.

3.10 Research ethics

It is very important to consider ethics in qualitative research. Myers (2019) identified research ethics as an application of moral standards in designing, performing and describing the outcomes of investigation studies. Furthermore, McNabb (2017) explained four practical ethical principles relevant to qualitative research truthfulness, thoroughness, objectivity and relevance. The golden rule of ethics for business and management research developed by Gensler (2013) has presently been interpreted by Maylor et al. (2016) as

treating others as you need to be considered and offer advantages to the individuals and organization engaged in your job. Payne and Payne (2004) further stressed the importance of research ethics as a prerequisite for appropriate conduct in knowledge creation. It does not imply that what is published should be considered complete truth, but conclusions are not self-evident. Honesty, plagiarism, informed consent, and permission to publish are very important ethical principles to be considered in research as highlighted by Myers (2019).

Before conducting the case studies, interviews and action research workshops the researcher referred to standard protocol concerning ethical approval.

The researcher:

- i. Understood the ethical issues involved in the qualitative interviewing with selected participants.
- ii. Described the nature of the study, the aim of the study and the type of data collected.
- iii. Explained the methodological procedures to collect, record, store data and final discard process.
- iv. Invited the participants formally and informally and signed off the informed consent (Appendix C)
- v. Received ethical approval (Appendix A) and conducted the research accordingly.

3.11 Research Implementation

Based on the outcome from the case studies and PAR workshops it was discovered that weavers' awareness of the design and product development process is considerably poor. Community awareness of design was identically in a primitive stage. Therefore, two design workshops (Workshop 1 and Workshop 2) were conducted for the community weavers as an implementation step of the study. Workshops were focused to develop the

weavers' understanding of contemporary design perceptions, product development process and market standing followed by the cocreation process described in Chapter 2.

The implementation effort was done in the Madampella handloom community. The workshops were conducted for 20 community participants who participated in case study, and PAR workshops and included a few more community craft persons who expressed their interest. The researcher planned the workshop with four freelance designers who joined as resource persons for the workshops. Design workshops were conducted in two stages with the design team in the community temple. The study took approximately nine months and researchers led the collaborative process including the design team and Madampellea handloom community. The anonymized details of the participants chosen for the study and the participant's identification are shown in Table 3.5.

Table 3.5 - Participants' information on the design workshop

Implementation	Design Workshop (DW) Participants
Participant No	1 to 12
Participant identification	DWT ¹ to DWT ¹²
Livelihood experience in years	5 to 30

3.12 Chapter Summary

The research philosophy, research methodology, research strategy, research methodologies, and data collection processes used throughout the study are presented in this chapter. An inductive approach was followed based on the research objectives and research questions posed in the study. Mainly case studies, PAR workshops, interviews data accumulation for the grounded theory method were planned in the study design.

The study was designed as multi-method research to deem the most useful outcomes to achieve the research objectives and validate the outcomes using one study to another. Therefore, the methodologies were also outlined in three sections to improve the clarity of the content. Finally tried out one implementation segment recognized as the most critical aspect; DI interrelated to handloom BM.

CHAPTER 4

EMPIRICAL DATA

4.1 Introduction to chapter

This chapter provides the empirical data gathered by research strategies described in Chapter 3 Methodology: case studies, field observation, PAR, interviews, and design workshops of preliminary investigation and final data collection.

The chapter is structured as follows:

4.2 Empirical data

All interviews and PAR workshops were conducted in Sinhala and Tamil languages. Each one of the interviews was more than two hours in length. The recorded interviews and PAR workshops were accomplished with the informed consent of the participants. PAR workshops took place for 4 to 5 hours. The researcher managed to translate the interviews from Sinhala to the English language. But interviews and PAR workshops conducted by the Tamil language in the Marathmunie community were translated from Tamil to English with the help of a translator. The data collected were transcribed, summarized and generated summary sheets.

4.2.1 Preliminary investigative data

The study conceptual framework was developed based on the literature and preliminary investigations of the textile handloom industry. The data collected at the initial stage of the study is presented in this section. This preliminary investigation was conducted with three case studies with interviews and field observations. Investigations were conducted with the Madampellela community, Southern Provincial council (Hambanthota district) and an entrepreneur (Seylin Handloom) through 9 semi-structured interviews and summarized data are presented in this chapter. Table 4.1 presents the summary details of the preliminary investigation data collection of the study.

Table 4.1 – Summary of the preliminary data collection

Case studies and Field observation locations	Case study (no interviews)	Responder identification
1.Handloom community	Madampella Community - PCS1 (3)	PCS1 ¹ PCS1 ² PCS1 ³
2.Government provincial council-based handloom business	Western province - PCS2 (3)	PCS2 ¹ PCS2 ² PCS2 ³
3.Private handloom business (Entrepreneur/Retailer)	Private business PCS3(3)	PCS3 ¹ PCS3 ² PCS3 ³

Three case studies that include nine semi-structured interviews and field observations were summarized and presented in this section. All the interviews were recorded and summarized. Interview responses and observations were summarized. Preliminary investigation data were used to develop the conceptual framework. Also, these data were further used with the empirical data below. Observation data were collected as photographs and videos to get available product design and development, production process and supply chain and Sales and marketing.

1. Madampella Community - PCS1

Madampella community is a government created handloom weaving community situated in a rural village of the western province, close to the capital city. This community is home to a unique handloom cottage industry led by a group of talented handloom weavers. Most of the villagers in Madampella were initially farmers and later switched to weaving. The community was initially trained on weaving skills with government support but now skills are passed down from generation to generation without formal teaching. The handloom community flourished in a protected environment created by the government, with steady market and state support and assistance. However, with the introduction of more open

economic policies in Sri Lanka, the handloom market declined as diverse alternatives became available with a wide range of alternative textile products at competitive prices. Yet, this community livelihood continues working in handloom weaving despite many difficulties. There are around 2000 community families involved with the handloom business and around 6000 weavers. On average, there are three people involved from each family and each house, with weavers within the age range of 18 to 70 years. Some people do not have their looms for manufacturing, and these work for neighbouring community families on a daily payment basis.

When first created in the 1950s the Madampella community weavers did not have their indigenous designs or weaving skills. However, over the decades since then the community has created a unique identity with their weaving techniques, structures and end products. The community employs mainly plain and twill weaving structures but specialize in adding different textures, lines and motif patterns according to demand and are skilled within the parameters of their limited technology. The community have limited production lines, making products such as sarees, sarongs, household linen and clothing materials.

(a) Product design and development

The PCS1 results revealed that the Madampella community primarily produces few handloom products and supplies only the domestic market. The current product range of the community is very limited. Existing products are very basic handloom products with little or no design features. The products include sarees, sarongs, shawls and household textile requirements; towels, bed linen, table ware and cushion cover. These products continue from generation to generation without significant design enrichment or gaining new value propositions.

The community uses plain and twill weaving structures for community products. Yet, most of the community weavers are talented and possess the skill of creating composite

structures to accomplish various textures, lines and motif patterns if a customer demand arises. According to community members they are not very good at designing new products or mixing colours but confident in repeating the same products. Yet, the community's focus is on continuing with the same limited product range and trying to achieve the economic objectives of the business. Therefore, they tend to produce regular and simple structures rather than focusing on new developments.

The case study revealed the lack of market exposure of the weaving community. However, the community maintain traditional practices and ensures they respond to cultural sensibilities in weaving, and this was a strong feature that keeps the demand for their products sustained in the surrounding area by people seeking to maintain cultural heritage. However, there are sometimes demands from customers for new approaches.

(b) Production process and supply chain

Each community house has its own weaving shed or dedicated space for weaving production with an average of 1-3 looms and other accessories used for handloom production. Almost all the members of a family contribute to the handloom production process in various capacities. Both men and women are engaged in the production process, men fulltime and women while engaging in the household work. Elderly and young family members also support yarn winding, sorting out work, finishing, etc.

The participants showed their passion for technological improvements to the handloom production process and were aware this could offer opportunities for innovation. However, weaving production is poorly linked to sources of support for the introduction of modern technologies.

The community members get orders primarily through intermediary people (middlemen) and retailers, and very infrequently from direct customers. Raw materials: cotton, polyester and rayon-dyed yarn are sourced from local yarn suppliers according to product

demand. Occasionally, they work with banana yarns and natural dyes for special customer orders. In addition, they get polyester yarns which are leftovers from the apparel manufacturing industry in the nearby industrial zone. They use polyester threads to manufacture low-cost sarees which are in-demand in local budget markets. Community members use their production facility within residential space for the production and storage of the finished products. However, they avoid keeping stock due to financial constraints. Therefore, it takes considerable time for these weavers to execute an order, depending on the product type and raw material availability. Usually finished products are collected by the person who placed the order. Weavers sometimes deliver goods to customers using public transportation services. Products are sold through regular retailers who usually sell apparel products in their stores, but this means the weavers are deprived of community recognition. Business middlemen sell community products to reputed handloom retailers, but the absence of the community identity on the products diminishes branding opportunities, and the middlemen obtain a portion of the profit. Community members very rarely find opportunities for direct sales, with these being limited to annual exhibition events.

This community has segmented their markets to a small extent, depending on the retail channel. Most products go to a particular consumer segment, 'handloom lovers. This consumer segment is unaware of the community identity as goods are marketed to retailers via intermediaries, and when 'handloom lovers' purchase community goods in specialist handloom stores, they have retailer rather than community branding. This strategy means specialist retailers benefit from weaving skills without community recognition.

(c) Sales and marketing

Non-brand identity, marketing through intermediaries, marketing community products under different retailer brands, lack of networking, lack of marketing and retailing capability, little knowledge in advanced marketing such as e-marketing and lack of infrastructure to use e-marketing tools were revealed as major marketing barriers. The

importance of encouraging the younger community members to remain was highlighted, as where digitally savvy youth were involved, they were able to innovate with direct digital marketing, as noted by a few older community members.

2. **Southern Provincial Council** possess 81 production centres within three districts: Galle, Matara and Hambantota employing 350 weavers. This case study is done with Hambantota District. Generally, these employees are within the age range of 25 to 65 years and 99% of them are female.

(a) Product Design and development

This segment of handloom product designs is identical to its area and characteristically designs are based on elegant inspirations that highlighted the province's identity with colours as well as textures. A designer works for the council to provide design directions to the weavers, specifying colours and structures for the planned products. The designer plans and develops a range of products. Then, a production planning coordinator who looks after handloom production in the district schedules the production depending on the skills of the production centres.

(b) Products and Production Process

These district centres are dedicated to manufacturing sarees, sarongs and handloom fabrics. In addition, they manufacture household linen, shawls, towels, and bed covers. Moreover, Southern provincial councils produce ready-made clothing using their own handloom materials and sewing facilities. They have started a new project to employ waste yarns and fabric products such as rugs, accessories etc. Other than regular production, many of the centres attempt to do new creations for the annual competition conducted by the Textile Department of the central government.

Southern provincial council has their dye plant situated in Ranna. They use semi-automated machinery for the dyeing process. They dye the yarn required for their

provincial weaving and others on demand. They do natural dyeing manually using part leaves, bark and flowers of trees. They do natural dyeing on customer demand.

The production centres are located within the village of the district. Village canters are very convenient to the women employees with flexible working hours to manage their household work and child care. These centres operate under an instructor who has a fair knowledge of handloom manufacturing techniques through formal training and experience. Each centre has an average of 10 to 12 weaving machines in this district. Each centre is specialized for a particular product or a product range. These weavers are paid according to piece rate which also includes an attendance allowance. Raw and coloured cotton yarns and dyed rayon yarns are used for the production process. This province has their dyeing facility which they use for raw cotton dyeing. Occasionally, natural dyeing is used on special customer requests.

In addition, they cater for customer-specific orders too within their production facilities. In such situations, the customer provides the necessary yarn according to their product requirements and collects work from the production centres.



Figure 4.1 - Yarn use in provincial councils

(c) Sales and Marketing

Finished products are sent from each centre to the district centres. There are dedicated district sewing centres for sewing production. This province retails their products under the brand name 'Ruhunu Ransalu' specific to the province. Apparel products and handloom materials are sent to retailer shops within the province for retailing.

Southern provincial council handlooms represent a considerable local market share. However, they cater for specific market segments. Province has retail shops across the province. They cater to direct customer orders too. This province handloom business provides specified products like shawls and accessories along the southern coastal tourist area of the country. Additionally, these products are marketed through trade exhibitions and seasonal fairs.

3. Private Handloom Business (PCS3) - Entrepreneur/Retailer

This business was started in 1980 by five members and five handloom machinery in the village in the western province of Kelaniya. They currently operate with 175 workers within its organization. They produce 100% cotton fabrics, home textiles, garments and toys in their factory with a traditional and modern variety of handicrafts inspired by Sri Lanka's tradition. Also they change designs to offer contemporary solutions across various product categories including highly technical and 100% cotton clothes, kids wear, household items, jewellery, toys and bags. They are motivated hard to record their global footprint in the Asian Region and are concerned with lead times of the production allowing customers to read and react to consumer needs and trends. They attempt to offer customers state-of-the-art products with exceptional quality through their innovation arm.

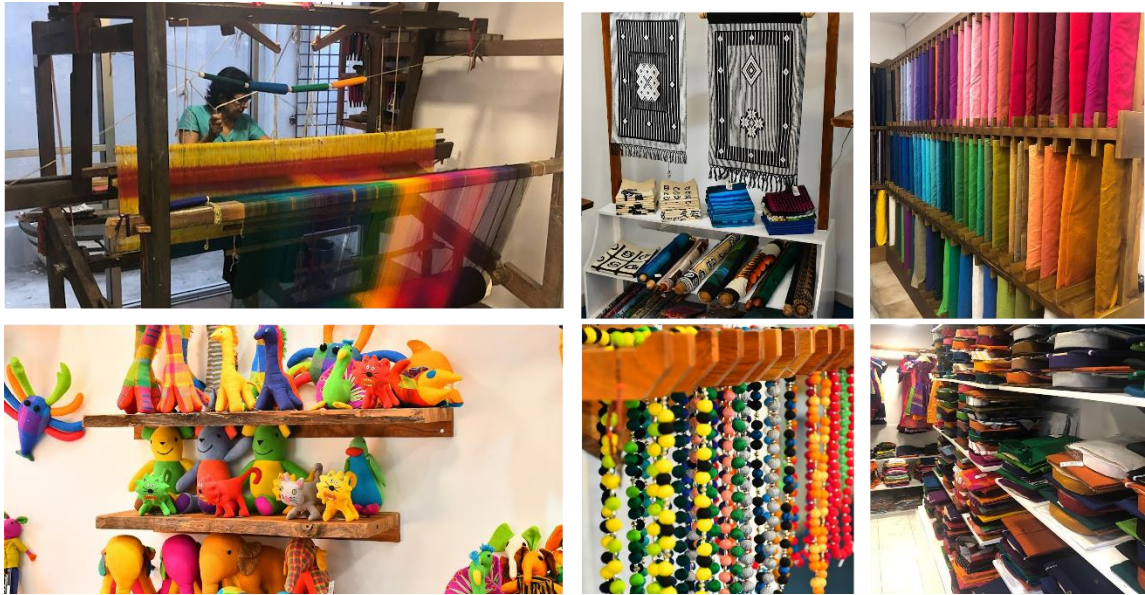


Figure 4.2 – A private business setup

4.3 Key data

4.3.1 Case studies and field observations - Nine case studies with 35 interviews and field observations were conducted with 3 handloom communities, 3 government provincial council-based handloom businesses and 3 private handloom businesses and summarized data are presented in this chapter. Both interviews and observational data collected were synchronized where possible to get a better understanding of the handloom industry processes.

4.3.2 PAR workshops - Three PAR workshops were conducted with 3 handloom communities and summarized empirical data were presented using the Ketso summarized tabulated format.

4.4 Design Workshops - Two design workshops (Workshop 1 and Workshop 2) were conducted with the Madampellela community members to provide fundamental knowledge in handloom product design and development processes with summarized data presented here.

Table 4.2 presents the summary of the data collection of the study.

Table 4.2 – Summary of the data collection of the study

Case studies and Field observations (No of interviews)	PAR workshops	Design Workshops
<i>Handloom communities</i>	<i>Handloom communities</i>	<i>Madampellela</i>
Thalagune Community-CST (4)	Thalagune Community-	Community
Madampella Community-CSM (4)	PART	Workshop 1
Marathamunie Community-CSMM (4)	Madampella Community- PARM	Workshop 2
<i>Government provincial council based handloom business</i>	Marathamunie Community-PARMM	
Western province -CSW (5)		
Southern province- CSS (6)		
North Central province- CSNC (4)		
<i>Private handloom business:</i>		
Business 1 (Entrepreneur/Retailer) - CSPB1(3)		
Business 2 - CSPB2(2) (Entrepreneur/Retailer)		
Business 3 - CSPB3(3) (Entrepreneur/Retailer)		

4.3.1 Empirical data from case studies and field observations

Ten Case studies that include 40 semi-structured interviews and field observations were summarized and presented in this section. All the interviews were recorded and summarized. Interview responses were summarized into themes: an introduction including history and status, design, products and production process, supply chain, markets and marketing, and government involvement and other support. Observation data

were collected as photographs and videos and themed as above where possible and presented. Each case study data and observation data were presented under Section 4.2.1.

4.3.1.1 Case studies with Handloom Communities

Three case studies were conducted in handloom communities using 12 semi-structured interviews with community participants. (Thalagune Community: Participant CST¹ to CST⁴, Madampella Community: Participant CSMP¹ to CSMP⁴ and Marathamunie Community: Participant CSMM¹ to CSMM⁴).

4.3.1.1.1 CASE STUDY 1 - Thalagune Community

(a) Introduction

Dumbara weavers are a community where craft lives rigorously within the Thalagune family members and is continuing from generation to generation. Thalagune is a remote village in Udu-dumbara in Kandy District, where Dumbara weavers have been living for centuries and this craft is preserved in only one village in Sri Lanka. According to oral history, it is believed that the weavers of the Dumbara community belong to the cast of 'berawayos' and are descendants of the indigenous people of Sri Lanka of the craftsmen. Also, there is another belief that they are migrants of Indian settlers who practice weaving in Sri Lanka. These indigenous hand weavers are reputed for the tradition of Dumbara weaving. They were established as a craft community during the Kandyan period and have become a significant political and socio-cultural society. Thalagune community ancestors were producing goods primarily for the kings by making their artier using significant craft skills. Their textile products were mostly used by the Kandyan upper-class people in ancient times.

Both men and women are engaged in weaving, the men fulltime and women while also engaging in household tasks. However, previous weaver generations did not consider weaving as a profession, but as an informal activity carried out in the households. Their lifestyle was bound with weaving, spinning, and dyeing-related work. Skills and

knowledge were passed down through poems as part of an oral tradition. However, according to Coomaraswamy (1956), they preserve the immense skills and expertise of the Dumbara handloom tradition for heritage purposes and to foster their culture.

According to participant CS² (a leading family weaver of the community), this community includes seven families, which represent around 35 work force engaged in Dumbara weaving. They maintain to have inherited it only within their families as skills were passed down from generation to generation.

(b) Design

Traditionally, these indigenous weavers have maintained a different aesthetic in handloom textiles, where their patterns and colours tend to be more restrained. The concept and inspiration of this weaving are influenced by the beauty of the surrounding nature they live. They use many simple traditional designs of geometrical shapes from their astrologists' ancestors. Also, many of the other motifs on the traditional handloom textiles are inspired by nature from botanical and animal designs of stylized motifs which were immortalized on the traditional loom. They use traditional Dumbara weaving techniques and motifs all over the weaving to emphasize the complexity and identity of the traditional Kandyan era shown as in Figure 4.3.



Figure 4.3 - Traditional designs

Almost all the weavers of this community continue with the same traditional weaving designs and structures. However, presently with the involvement of some professional designers and customer requests some community weavers attempt to bring new shapes and colour schemes into their traditional designs shown as in Figure 4.4.



Figure 4.4 - Modern designs

With the growth of the fashion industry and fashion design education in the country these weavers get the opportunity to work with fashion designers and design students. Therefore, with this exposure and experience some of the weavers attempt to sharpen their skills and improve their own traditional products range, as shown in Figure 4.5.

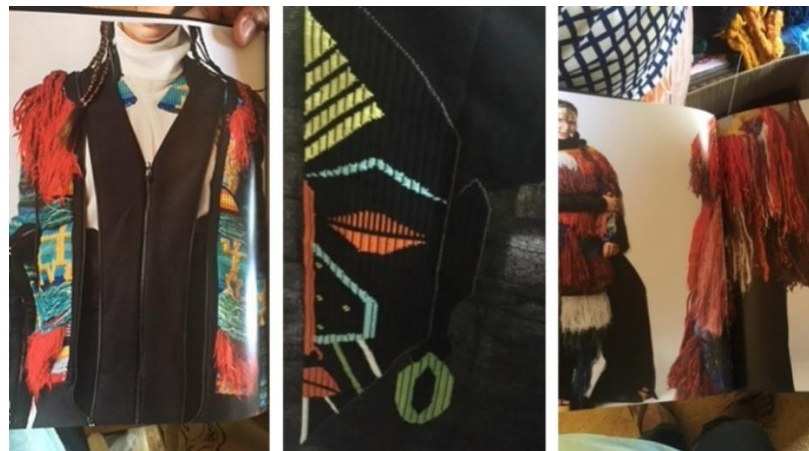


Figure 4.5 - Products influenced by designer ideas

(c) **Products and Production Process**

Mainly Thalagune community produce sarees and sarong, which are commonly worn among Sri Lankan men and women. Moreover, they craft household linen such as tableware, table mats, cushion covers, carpets and accessories such as bags, shawls and wall decorations shown as in Figure 4.6.



Figure 4.6 - Thalagune community product range

In the past, these traditional handloom textiles were performed on the conventional loom called pit loom which is unique to them shown as in Figure 4.7. These pit looms were used until the 1980s before replacement with a treadle loom. Long ago, the process was generally done in an open shed, on a platform called al-pila, attached to an outer veranda of a weaver's house.



Figure 4.7 - Pit loom

Presently in many houses in the village, a separate shed is dedicated to the machinery and materials required for handloom production. Other than the community weavers, women from neighbouring villages support producing handloom textiles on a daily payment basis. Very often plain and twill weaving structures are used to achieve the charming texture of Dumbara weaving products. Also, they use different traditional weaving techniques called ‘ekpath rata’ (unaffiliated techniques), ‘depath rata’ (Duplex techniques) and ‘thunpath rata’ (three-way techniques). Thalagune weavers use special weaving technique unique to the community to create their traditional motifs with the help of ekel sticks. The weaver expects to get a fine neat finish and minimize the time consumed for selecting yarns using these techniques. In addition, the Thalagune community has earned a great name for producing cotton, and handmade products of finer quality with traditional designs. Not only cotton but also they use silk yarn and other man-made yarns for weaving and use natural dyes on request of the customers. The community uses traditional weaving techniques to maintain the traditional touch of its products. However, a lack of development can be observed in weaving technology due to a lack of know-how and economical constraints, shown as in Figure 4.6.



Figure 4.8 - Production facility

(d) Supply Chain

The group of community, organizations, resources and activities engaged in the manufacture and sale of handloom products, from the sourcing of raw materials to the end user of the Dumbara weaving supply chain is illustrated in Figure 4.9.

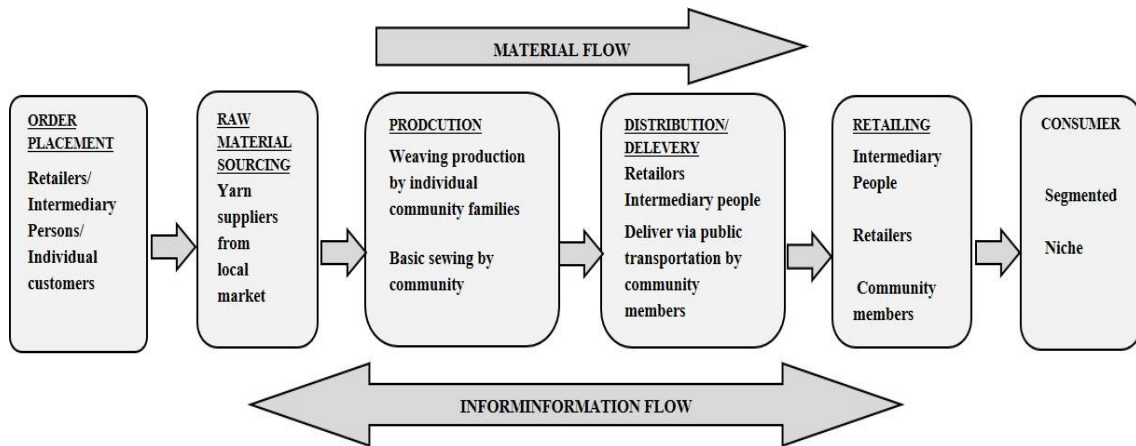


Figure 4.9 - Supply chain flow-Thalagune community

The community members get orders primarily through intermediary people, retailers and individual customers. Raw materials; mainly cotton and rayon yarn sourced from local yarn suppliers according to the product demand. Occasionally they request yarn such as silk and banana fibre yarn from customers for special orders. Community members use their production facility within residential spaces for production and storing the finished products. However, they avoid keeping stock due to financial constraints. Therefore, it takes considerable time for these craft people to execute an order depending on the product type and raw material availability. Finished products are delivered to direct customers, and private retailer shops, exhibitions, seasonal fairs. Public transportation is used for making deliveries. The retailing process of community products mainly takes place through retailers, but this deprives the community of wider recognition for their skill and artistry. The intermediary person also provides the community products to reputed handloom retailers protecting his share but again, this leads to an absence of community identity. Community members very rarely get opportunities for direct sales, mainly at annual exhibition events. This community has a diversified consumer base depending on

retail channels. Mainly community products go to a particular consumer segment that loves Dumbara handloom structures. However, some community products go to local and international niche markets under private brands without community identity with the products they make.

(e) Sales and marketing

Thalagune weavers have a considerable local market share for a range of handloom textile products inspired by indigenous and traditional touch and manufacturing within the community. These manufactured goods are marketed through formal and informal channels. The formal marketing channels comprise direct orders received from retailers such as Laksala, various boutique and gift shops and retail outlets in various tourist destinations. Moreover, some designers and reputed handloom retailers place direct orders with the Thalagune community but sell them under retailer-owned labels without any community identity. In addition, the community caters for the direct individual customers who are especially attached to the ‘Dumbara’ products, yet this is a very small portion of the overall sales. However, young community members are increasingly attempting to use e-marketing tools, which would enable them to expand their direct customer base.

A considerable proportion of local sales are made through informal channels. An intermediary person gets involved here between the craftsman and the retailers. Therefore, the community has restricted direct access to the retailer. The intermediary person receives a significant portion of the profit, which is otherwise owned by the community.

(f) Government and Other Support

The Thalagune community was supported by the government occasionally but without any regular development plan. Under government support, the community received handloom machinery, basic technological support, and access to retailer outlets in various

tourist destinations. Other than government support, some individual experts have served voluntarily to improve their design and weaving skills.

4.3.1.1.2 CASE STUDY 2 - Madampella Community

(a) Introduction

The Madampella weaving community was created during the heyday of the handloom industry in the country. During the period 1956 to 1977, within a centrally planned economy of the country with an emphasis on import substitution, the government protected the handloom industry and supported its growth. As a result, the Madampella handloom community was created with the assistance of the Ministry of Small Industries. Significant support was provided by the village temple allowing it to start training weavers on temple premises. Initial training was given to around 200 people in the village and raw materials were supplied by the government. Most of the villagers who were involved in farming at that time switched to the handloom industry. The handloom industry flourished in a protected environment together with a steady demand from government organisations and state support and assistance. With government assistance, this community started yarn dyeing to manufacture sarees, bed sheets, serviettes and towels. Gradually, power looms were introduced to the community.

However, along with the introduction of the open economic strategies to the country in 1977, the handloom industry was facing problems with changing local consumption patterns. In 2006, the Madampella weaving community was revitalized under a government expansion plan and the weavers were skilled in innovative technology and techniques. Also, this plan was followed to create a new consumer segment and a selling channel. According to participant XB³, presently there are around 2000 weaver families involved in the handloom business in this community.

(b) Design

Madampella community weavers do not inherit indigenous designs or weaving structures, rather they create simple designs by using the knowledge gained from the initial training received and influences from other communities. However, over the years they have developed skills to cater for various customer groups with a variety of weaving structures as shown in Figure 4.10.

Since this community of weavers is getting orders from diverse customer bases such as designers, private handloom businesses, and government orders, they could work with various products accordingly. Occasionally, these community weavers create new designs inspired by traditional motifs and customers' innovative ideas.



Figure 4.10 - Community product design

(c) Products and Production Process

Madampella community was initially trained in weaving skills and these skills were passed down from generation to generation. Currently, there are around 2000 weaving families that represent 6000 weavers in the age range of 18 to 70 years involved in the production process. On average, there are around three people involved from each family in the weaving process. Each house has its shed as the production space, which includes 2 to 3 looms. The same space was used to store yarns and other accessories required for the production process. Both men and women are involved in the manufacturing process,

men fulltime and women while engaging in the household work too. Some weavers do not have their looms but work for the neighbouring weaver families on a daily payment basis.



Figure 4.11 - Community product categories

Mainly plain and twill weaving structures are used for usual weaving production as shown in Figure. 4.11. However, these weavers are talented and can achieve any type of structure to accomplish different textures, lines and motif patterns according to the demand. This community is more profit-oriented and therefore the focus is on achieving productivity targets.



Figure 4.12 - Community production facilities

Madampella community manufacture sarees and sarongs of different quality levels. Their product range is limited to a few basic products such as household linen, shawls, towels, bed sheets and clothing materials. Creative products with a community identity could not be observed.

(d) Supply Chain

Madampella community handloom weaving supply chain is illustrated in Figure 4.13.

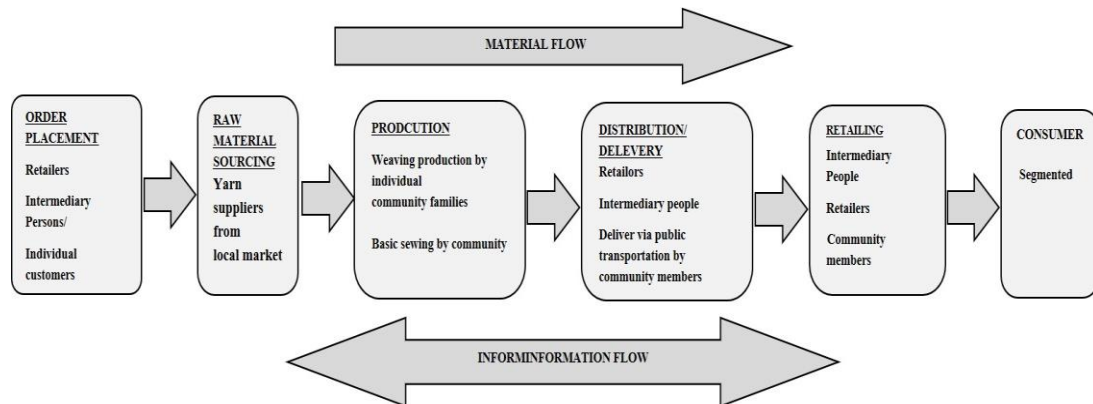


Figure 4.13 - Supply chain flow-Madampella community

The community members get orders primarily through intermediary people and retailers, infrequently from individual customers. Raw materials: cotton, polyester and rayon-dyed yarn are sourced from local yarn suppliers according to the product demand. Occasionally, they work with banana yarn and naturally dyed yarn for special customer orders. In addition, they get polyester yarns which are the leftovers of the apparel manufacturing industry of the close by industrial zone. They use these polyester threads to manufacture low-cost sarees which have more demand in local budget markets. Community members use their production facility within residential spaces for production and storing the finished products. However, they avoid keeping stock due to financial constraints. Therefore, it takes considerable time for these craft people to execute an order depending on the product type and raw material availability. Usually finished products are collected by the retailers, intermediary persons and customers from the community. However, craft people also deliver the goods to customers and then they use public transportation

services. Sales of community products mainly happen through retailers but are deprived of community recognition. Intermediary persons sell the community products to reputable handloom retailers protecting their share but without a specific community identity attached to the product. Community members get a very rare opportunity for direct sales at annual exhibition events. This community has diversified consumer bases depending on retailing channels. Mainly community products go to a particular consumer segment that loves handlooms. Some community products indirectly go to niche market segments through some retailers but under the retailer brand appreciating community skills but without recognition.

(e) Sales and Marketing

This created community enjoys a steady demand from the domestic market for their handloom products such as sarees, sarongs, and shawls and household textile requirements such as towels, bed linen, tableware and cushion cover. The community has a regular customer base and handloom retailers who work with the community to get the products manufactured for their retailer brand label. The products are sold through an intermediary person who facilitates the sales channels. However, the use of technology is very poor for marketing and communication.

(f) Government and Other Support

Madampella community received various support from the government for its establishment and continuous growth. Initially, the government provided all infrastructure facilities, equipment and necessary training for the community members. Frequently they were supported by providing more machinery, basic technological know-how and helping to gain access to the sales channels. Other than the government support, some experts and institutes have served voluntarily to improve the community's weaving and design skills.

4.3.1.1.3 CASE STUDY 3 - Marathamunie Community

(a) Introduction

Eastern Province handloom weaving community has a centuries-old history. It is believed that the Maruthamunai community has been originated in the 18th century. History accepts that 600 years ago Arabian Muslims who arrived from Far East countries as merchants colonized the Southeast region of Sri Lanka. The ancestors of these Muslims had brought weaving skills to eastern Sri Lanka. They settled with a group of Tamils who lived there and gradually intermingled and moved to Maruthamunai and built up the Maruthamunai community. These people were well- skilled in weaving. Thus, those who have done fishing switched to weaving with this influence. This community gradually built their life engaging in the home-based small-scale handloom textile industry.

The tsunami tragedy in 2004 made an unfavourable impact on the handloom community and the industry. As a result, they lost 500 weavers from 366 families and 768 handlooms and their accessories. More than 2,000 people gave up weaving and left for other jobs. However, the government and many non-government organizations supported them to re-start. Currently, Maruthamunai is known for its family-based and factory-based handloom weaving. According to participant XC¹, currently, there are around 2500 families from Maruthamunai and 600 families from Palamunai involved in family-based handloom manufacturing. In addition, 10 to 15 factory-based handloom business progress within the community. The weavers comprised 95 per cent Muslims and five per cent Tamils from the population.

(b) Design

Maruthamunai community designs are inspired by their ancestors. The identity is maintained by the bright colours they used in the designs. Maruthamunai products are well known in the local market as 'Batticaloa handloom'. With the recent expansion of the customer base, especially from the Tamil population, the community tends to focus on their cultural colours. Apart from that, for national festivals such as Sinhala New Year,

Ramalan and Hij festival, the community tends to use colours of the festival and seasonal products.

A special feature that can be observed in this community is the attachment of young community members to the handloom business. Young family members are keen to set up their businesses and attempt to use design ideas from TV advertisements, fashion programs and the Internet. Since the community weavers are getting orders from various customers such as designers and private handloom businesses, they have the opportunity to work with various design ideas. This exposure and experience add value to their product designs.

(c) Products and production process

Maruthamunai community is well known for quality sarees and sarongs. Apart from that, they manufacture household linen, bed covers and shirting. They specialize in kurtas, women draped in abhaya, the caftans, worn without the niqab and face veil and craft accessories such as handloom bags and shawls.

At present, there are more than 3000 families in Maruthamunai and Palamunai who are engaged in manufacturing handloom products within family-based and factory-based production facilities. Weaving is the core of the manufacturing process but dyeing and sewing processes are operated on a small scale. Primarily weaving is done by women and men get involved in other production related activities.

The family-based production process is carried out within the house with their machinery as shown in Figure 4.14. The factory-based weaving production process is carried out in the factory premises as shown in Figure 4.15. Some weavers work from home and hand over the production to the factory. The factory provides looms and raw materials to the weaver's homes so that the women could engage in weaving while doing their household activities.



Figure 4.14 - Home based production

Weavers who do not have enough space for the looms in their homes come and weave in the factory as shown in Figure 4.15. Weaving productions within a factory base setup manage by a master weaver who is brimming with technical concepts. If an order is new and complex, a supervisor follows up the production under the guidance of the master weaver. This community gain expertise benefits from more than 20 such master weavers. In addition, some factories have their mini sewing facility under the same roof.

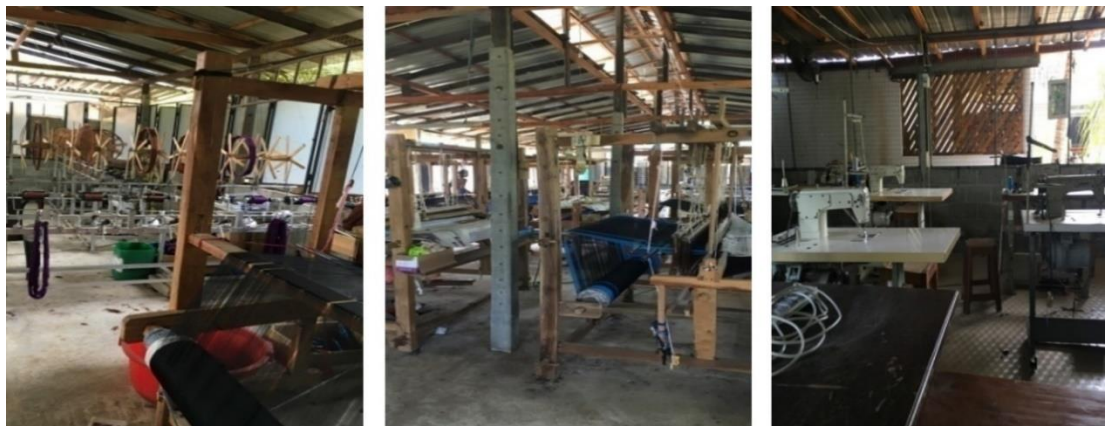


Figure. 4.15 - Factory based production

The grey yarn is bleached and coloured in the dye plants. Each factory in this community has its dye plant. The entire dyeing process is manual. However, one factory developed a manually operated bundle turning machine which can dye several bundles at the same time with a single operator which helps ensure even dye spreading and prevent shades from merging. They dye the yarn required for their weaving and others on demand.

Weavers' weekly minimum income range from Rs.5000/- to Rs.7000/-. Wages are paid at a piece rate and paid every Thursday. Friday is the customary holiday for this Muslim community. Each member of the weaver's family contributes to the weaving process in some way. Children of the family assist their parents by wrapping threads on to shuttles or on the wheel in their leisure time and especially during the school vacation.

(d) Supply Chain

The Maruthamunai community handloom supply chain is illustrated in Figure. 4.16.

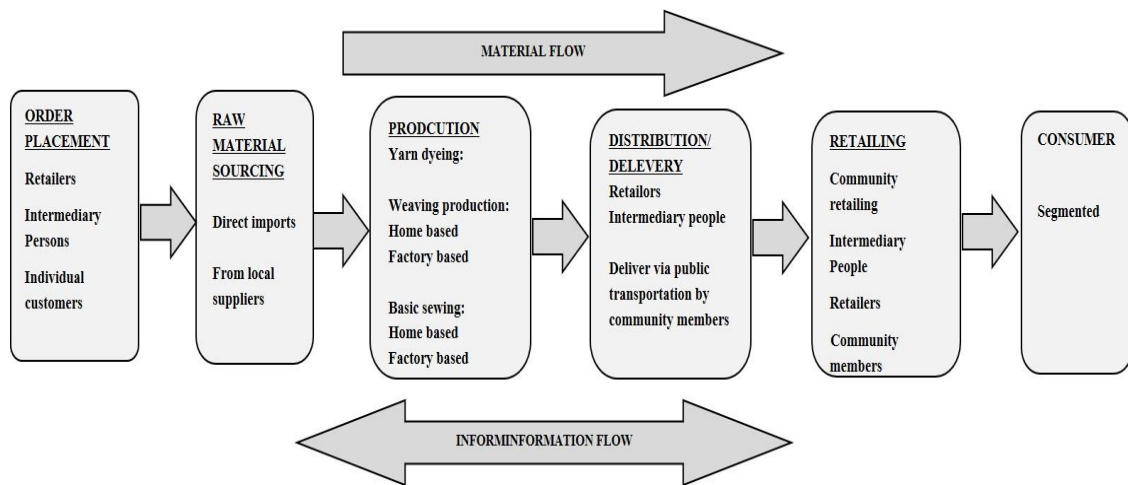


Figure. 4.16 – Maruthamunai handloom supply chain flow

The community gets orders primarily through intermediary people and retailers, infrequently from individual customers. Raw cotton yarn is sourced directly from India and dyed rayon comes from China. Factory-based producers import these raw yarns in different qualities depending on the quality requirement of the final product. This

community does not rely on imported dyed yarn because of the colour shading issues of the identical community products. Yarn dyeing material is brought down through a local agent from Switzerland to assure the quality of dyeing. They bleach and dye these yarns in their dye plants. They maintain yarn stocks for colours on demand. Home-based producers also purchase dyed yarn from the community dye plants. Thus, the whole community manages their dyed yarn needs within the community.

Factory-based producers do their production in their factories as well as by employing community weavers in weaver's houses providing them with all machinery and raw materials. They maintain stocks in factory stores. The retailing process of the community products mainly happens through their retail shops, other retailers throughout the country and through intermediate people to a few brand labels. These community products have a good customer segment throughout the country through the strength of their community identity.

(e) Sales and Marketing

Maruthamunai community benefits from the local handloom market, sharing a major percentage of the domestic market, and the products are well known as 'Batticaloa handlooms. Most of the factory-based producers within the community have their retail outlets in the province. Apart from that, this community has a regular customer base who work with them frequently to get handloom materials as well as finished handloom products. However, a major percentage of this production goes to the market under the names of other retailers and design labels. This community works for highly reputed handloom brands in the country and major clothing stores in Colombo and other main cities of the country.

This community of weavers, especially young weavers, use new technology through smart phones such as email and social media to market their products, get orders and share design ideas with customers.

According to one of the participants (CSMM¹²), a major producer of the community, they have ordered more than they could manage and sales worth more than 10 million rupees a month. However, the products of most home-based producers go to market through indirect sales channels with the involvement of an intermediate person who claims a portion of the profit.

(f) Government and other support

This community has received some government support to re-establish itself after the tsunami disaster. They were supported by the provision of machinery and basic technology. With the loss of many lives of weavers in the tsunami disaster, the government actively got involved in redeveloping the community by providing training and raw materials.

4.3.1.2 CASE STUDY 4, 5 and 6 - Government provincial council-based handloom business

This category of case studies was conducted in the Western province (Case study 4 with participants: CSW¹ to CSW⁵), Southern province (Case study 5 with participants: CSS¹ to CSS⁶), and North central province (Case study 6 with participants: CSNC¹ to CSNC⁴). Handloom communities created under the government's provincial council setups were investigated by respective provincial council officials and weaving centre employees.

(a) Introduction

This segment of the handloom industry was implemented by the state sector to improve the livelihood of the rural population. This effort is particularly aimed to provide employment opportunities for rural women. According to the 13th Amendment of the Constitution of government, the handloom textile industry has been established under the Provincial Councils. At the same time, the Department of Textile Industries got involved with the policy decision of the textile handloom sector. Moreover, this ministry facilitates

centralized activities and the provision of services towards the development of the industry. Provincial councils have taken measures to establish handloom weaving centres within selected rural villages. The Provincial council handloom sector is operated under the Department of Industries of the council and necessary training requirements for the sector are provided by the Department of Textile Industry. There are nine provincial council handloom business setups established in nine provinces and they all are identical. Provincial council business sets are further delegated to district levels and district setups operate the handloom centres which are established in villages.

Western Provincial Councils owns 53 production centres within three districts Colombo, Gampaha and Kaluthara and the council employs 235 weavers.

Southern Provincial Council possess 81 production centres within three districts: Galle, Matara and Hambantota employing 350 weavers.

North Central Provincial Council runs 53 production centres with 201 weavers within Anuradhapura and Polonnaruwa districts.

Generally, these employees are within the age range of 25 to 65 years and 99% of them are female.

(b) Design

This segment of handloom product designs is basically identical to its province and typically inspired by the surrounding environment of the province. Therefore, many product designs are based on such elegant inspirations that highlighted the province's identity with colours as well as textures. A designer works for the council to provide design directions to the weavers, specifying colours and structures for the planned products as shown in Figure 4.17. This person designs and develops a range of products with the province's identity. Then, a production planning coordinator who looks after

handloom production in the district allocates the designs for production depending on the skills of the production centres.



Figure 4.17 - Design development in southern province

Western province designs are inspired by its surroundings, and they are further inspired by other handloom brands and retailers who compete in the same market. The southern province is frequently inspired by the sea and coastal environment due to the province's situational boundaries to the ocean. Due to the historical background of the north-central province, they primarily inspire with ancient touch and colours. However, these handloom creations do not use many motifs but different patterns which are used by traditional communities and lines weaving of handloom are very much admired by them.

(c) Products and Production Process

A variety of product ranges is produced by provincial councils depending on their skills. Commonly they manufacture sarees and sarongs. In addition, they manufacture household linen, shawls, towels, bed covers, curtain materials, wall decorations, bags and clothing materials as shown in Figure 4.18. Moreover, many councils produce ready-made clothing using their own handloom materials and sewing facilities. Apart from that, waste yarns are used for rug manufacturing. Other than regular production, many of the centres attempt to do new creations for the annual competition conducted by the Textile Department of the central government.



Figure 4.18 - Sales outlet of North Central Province

The production centres are located within the village which makes them very convenient to the women employees with flexible working hours to manage their household work as well as child caring activities. These centres as shown in Figure 4.19 operate under an instructor who has a fair knowledge of handloom manufacturing techniques through formal training and experience. Each centre has an average of 10 to 12 weaving machines. Mainly plain and twill weaving structures are used in the production. Each centre is specialized for a particular product or a product range. However, some centres tend to conduct experiments in weaving by changing patterns and structures to innovate new designs while performing daily routines. Raw and coloured cotton yarns and dyed rayon yarns are used for the production process. Almost all the districts have their dyeing facility which they use for raw cotton dyeing. Occasionally, natural dyeing is used on special customer requests. These weavers are paid according to piece rate which also includes an attendance allowance.



Figure 4.19 - Production facility village centre in Western Provincial Council

Government Provincial Council-based handloom business supply chain is illustrated in Figure - 2.20.

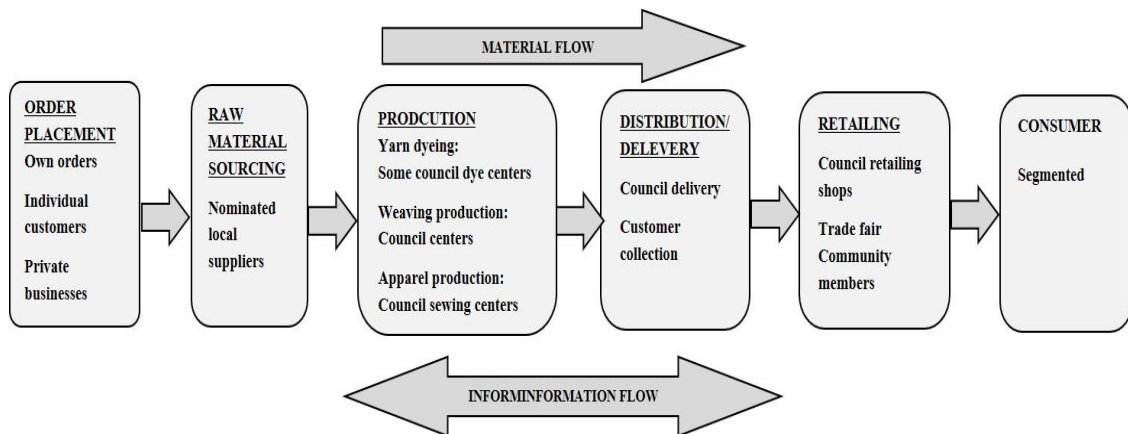


Figure. 4.20 - Supply chain process flow of Provincial council-based handloom business

Provincial councils source raw cotton yarn dyed yarn and rayon from council-nominated yarn suppliers. Raw yarns are dyed in council-owned dyeing facilities according to specific

colour requirements. A few centres do natural dyeing for special customer orders and experimentations as shown in Figure 4.21. Council weaving centres do the weaving production. Finished products are sent from each centre to the district centres. There are dedicated district sewing centres for sewing production. Each province retails their products under a brand name which is specific to the province. Apparel products and handloom materials are sent to retailer shops within the province for retailing. Each district centres attempt to make stocks depending on their production facility to cater for trade fairs and craft exhibitions conducted annually. This provincial council handloom business has a diversified consumer based depending on the quality level of the products.

In addition, they cater for customer-specific orders too within their production facilities. In such situations, the customer provides the necessary yarn according to their product requirements and collects work from the production centres.



Figure 4.21 - Yarn use in provincial councils

(d) Sales and Marketing

Provincial council handlooms represent a considerable market share with a large range of handloom textile products. They cater for a few different market segments. Each province has their own brand identity and retail shops in the main cities within the province. Other than their retailing, these centres cater to direct customer orders. Moreover, handloom products for government centres such as sarees and uniforms are manufactured through

the council handloom centres. In addition, some councils have retail outlets specified for the tourism market in tourist areas of the country. Additionally, these products are marketed through trade exhibitions and seasonal fairs. Some designers and reputed handloom retailers place orders with the council production centres and send them to market under retailer brand labels.

(e) Government and other support

This weaving sector is depending on government support and facilities. To develop the handloom textile sector of the country, these centres are managed by the government. There is a partnership with the handloom textile-related institutions that provides the necessary knowledge, technology and training requirements.

4.3.1.3 CASE STUDY 7, 8 9 - Private Handloom Business

The third set of case studies was conducted with three leading private handloom businesses: Private business 1 (Case study 7 with participants: CSPB1¹ to CSPB1³), Private business 2 (Case study 8 with participants: CSPB2¹ to CSPB2²), Private business 3 (Case study 9 with participants: CSPB3¹ to CSPB3³).

(a) Introduction

Private Business 1 - Entrepreneur/Retailer started in 1991 with 15 women weavers and progressed to a social business with the main aim of empowering rural women in the northwestern province. Currently, this business progresses as a design-led, innovative, fair trade and export-oriented leading handloom family business in the country. It has its own dyeing and manufacturing facilities with a retail chain in the local market and an export-oriented business.

Private Business 2 Entrepreneur/Retailer started with silk kimono production in 1989 with a Korean partner and 225 local weavers having few handloom weaving machines in

their production facility in the central province of the country. However, after a few years, kimono production and the partnership were abundant, and handloom textile production was started with silk and cotton design-led handloom products. Currently, this business is successfully moving ahead and has become a leading handloom manufacturer and retailer.

Private Business 3 Entrepreneur/Retailer started 20 years ago as a dyeing and weaving plant and is currently run as a family business with a leading brand identity in the local market. This business has its own dyeing plant, weaving production facilities with 20 weavers and a retail chain in the local market. This is one of the two leading cotton yarn dyers in Sri Lanka providing yarns for leading handloom manufactures, provincial council handloom producers as well as established handloom communities.

(b) Design

Private handloom businesses tend to offer handmade products while being innovative within the traditional craft. Private businesses employ qualified designers to create fashionable and modern designs in today's market. They still use traditional weaving techniques to achieve diversified structures and textures using conventional handloom machinery, yet with slightly improved technology. Moreover, new colour schemes were introduced to the traditional Sri Lankan designs to achieve contemporary customized outputs. Private handloom business A extends its product design capabilities with the support of international designers and offers educational soft toys to the global market.

(c) Products and production process

All private handloom businesses offer a diversified product range with good quality. This product range mainly covers handloom fabrics; fashion wear such as sarees, sarongs, shawls, shirts, and ladies' wear; home wear such as household linen, table wear, bed linen, home decorations, hand-crafted soft toys and many more accessories.

Almost all private handloom businesses have their manufacturing facilities generally established in countryside regions. Usually, the primary manufacturing facility consists of a dye house, a weaving centre and sometimes a clothing, toys and accessories manufacturing section depending on the product range. Both men and women weavers who live around manufacturing facilities engage in the production process on a full-time basis. Women are allowed flexible working hours to manage their childcaring and household work. Private Business A provides a childcare facility for its young weavers. They attempt to attract the young generation of this weaving community to the craft business providing a flexible and trouble-free work environment. The businesses that are based in Colombo, such as Business C and Business D establish their production unit in Colombo suburbs. They provide accommodation with a homey environment and other facilities to weavers who came to work in their factories from remote areas. Many of the weavers are from the older generation.

Private handloom businesses also operate as different decentralized weaving centres or use home-based weavers from remote villages. This weaving community is committed to working for private handloom businesses for a payment based on piece rates.

Mainly plain and twill weaving structures are used for usual weaving production. However, the weavers belonging to this community can achieve any structure to accomplish different textures, and lines of patterns according to expected quality standards. They use cotton, silk and rayon yarns according to the product category. Many of these private businesses directly import yarn and other necessary materials and occasionally buy from yarn importers. Occasionally, they offer products with sustainable yarns and natural dyes on demand and attract foreign customers. Moreover, this category of business is very keen on waste materials such as left-over fabric from garment manufacturing and waste yarn. Therefore, they use almost all the waste fabrics for toys and accessories manufacturing and waste yarns for the products such as lamp shades, garment accessories, key tags, etc. Private businesses have the flexibility to supply small

quantities as well as large quantities and styles catering to the individual tastes and requirements of different customers.

(d) Supply Chain

The supply chain flow of the private handloom businesses is illustrated in Figure. 2.22.

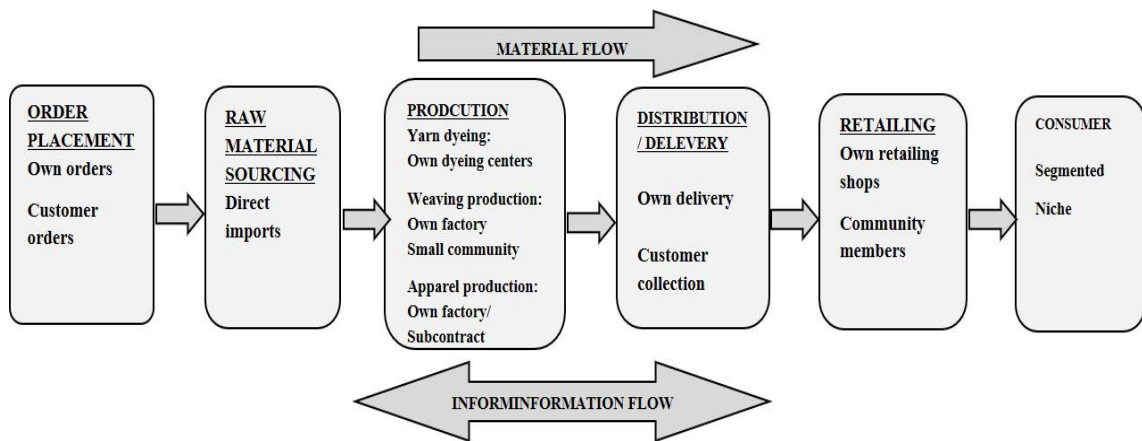


Figure. 4.22 - Supply chain flow of private handloom businesses

All private businesses design and develop their products with their design team aligning with their brand identity. They import raw cotton yarn, rayon, silk and dyeing material for the handloom manufacturing process. This category of business never relies on imported dyed yarn because of the colour shading requirements of their identical products. Thus, they fulfil 100% of the colouring requirement within their dye plants. Raw cotton yarns are directly imported from India and dyed rayon is from China.

The main production processes of private businesses take place within their production facilities including dyeing, weaving and sewing processes. However, the skilled craftsmen from the surrounding and remote weaving communities (in Kurunegala, Mathale, Kandy, Batticaloa and Trincomalee) contribute a major share of their handloom weaving production. Thus, private businesses also offer a worthwhile livelihood for direct employees who work for their production facilities and who work from home on orders

assigned to the community. Private Business A runs a unique BM in the textile handloom industry that enables these craftsman communities to become self-employed entrepreneurs providing their finished handloom fabrics to them. However, some private businesses have switched to power loom production too to meet the production demands and to fulfil some customers' quality expectations.

The retailing process of private businesses mainly happens through their retail stores. This community has diversified its consumer base. Mainly community products go to a particular consumer segment that loves handlooms and who looks for quality products.

(e) Sales and Marketing challenges

Private handloom businesses gained a significant market share with their innovative handloom textile- products with good quality. Most of them have their retail chains in the main cities of the country representing their brand. Furthermore, there are retail outlets in each of the production centres.

Private Business A was able to gain export market shares for their soft toys in over 20 countries such as the USA, UK, Germany, France, Netherlands, Italy, Australia, China, Japan, Korea, India, Thailand, Sweden, Norway and Maldives with sustainable handcrafted fairtrade mark. Private Business B has an export market share for handloom women's readymade apparel.

(f) Government and other support

Private businesses run their business on their own without any special support from the government. However, the government promotes and rewards them where possible such as annual promotional exhibitions.

4.3.2 Empirical data from PAR

This study conducted 3 PAR focus group workshops facilitated by the Ketso tool kit. The Ketso tool enabled to conduct of focus group workshops in a structured way to encourage presenting and sharing ideas. The workshops were structured with three main themes to explore: the current handloom business situation of the community, barriers to entrepreneurship for the community members and opportunities for entrepreneurial education. This tool was used to encourage interactivity with four to five-member groups of the community to voice their views on opportunities and barriers for CBE for them in the handloom sector.

The data gathered from PAR workshops were systematically tabulated using Ketso data tabulating formats. The Ketso tool facilitated the researcher to make records of the process and the outcomes while conducting the workshop without distracting the group interaction during the workshop by taking down notes. Photographs were taken and the workshops were filmed. Results were captured in a summative manner and categorized into concepts and themes.

4.3.2.1 PAR WORKSHOP 1 - Thalagune Community

The PAR workshop was conducted with the Thalagune community with participants PART¹ to PART⁵, to understand the possibility of CBE possibilities among community weavers. The workshop information is summarized in Table 4.3.

Table 4.3 - Workshop 1 Information - Thalagune Community

Workshop Information	
Title:	Thalagune Community
Date:	03. 03. 3018
Location:	Thalagune community village
Facilitator:	Researcher
Number of participants:	Five
Information about participants:	Potential handloom entrepreneurs among community weavers



Figure 4.23- PAR workshop at Thalagune community village

a. Theme 1 - Current Business Situation

The current business situation of the Thalgunne community was explored at the PAR workshop and data gathered by Ketso images is illustrated in Figure 4.24.

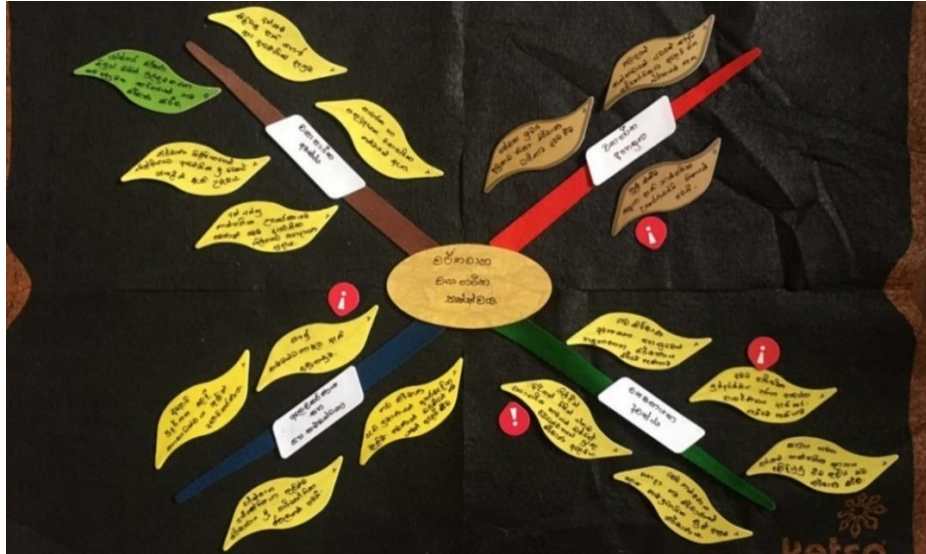


Figure. 4.24 - Current Business Situation

The current business situation was further explored considering 3 sub-themes as illustrated in Figure. 4.25 to 4.26 of Ketso images as business opportunities, barriers for the business, entrepreneurial opportunities, and current marketing and networking facilities.

Sub Theme 1 and 3 - Business opportunities and Barriers to the business

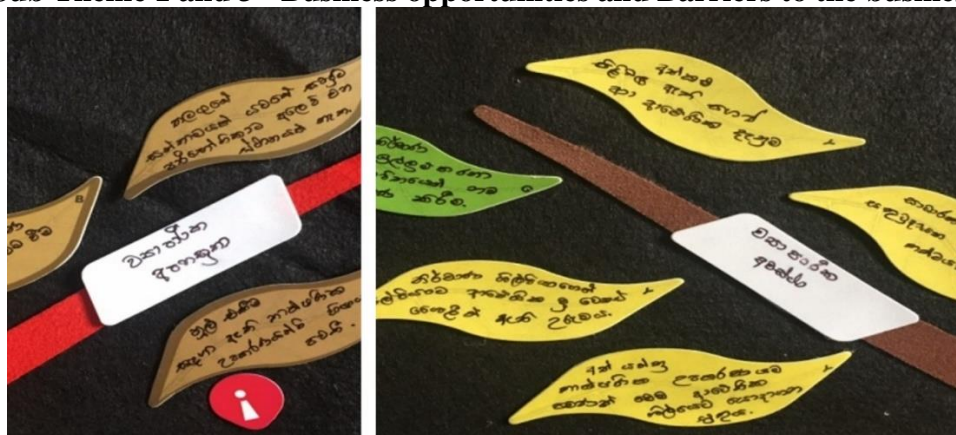


Figure.4.25 - Business Opportunities and Barriers to the business

Sub Theme 2 and 4 - Entrepreneurial Opportunities and Marketing and Networking

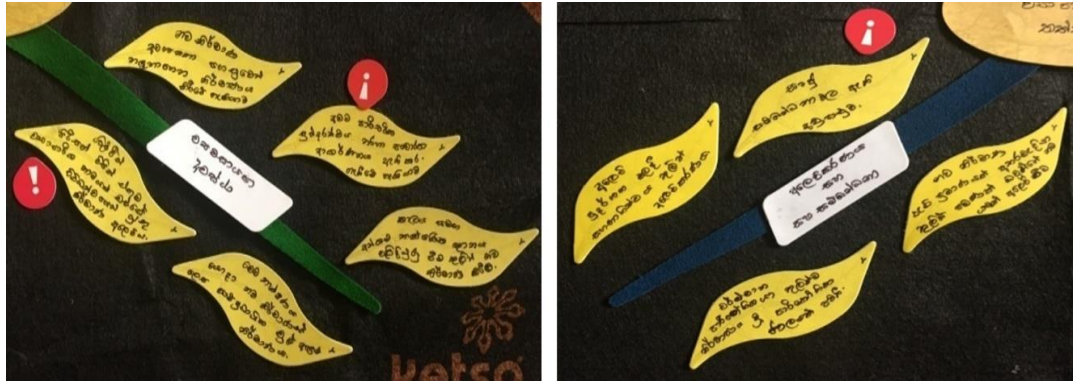


Figure. 4.26 - Entrepreneurial opportunities and Marketing & networking

These empirical data gathered at the focus group workshop were further analysed and arranged for grounded theory analysis.

b. Theme 2 - Barriers to entrepreneurship

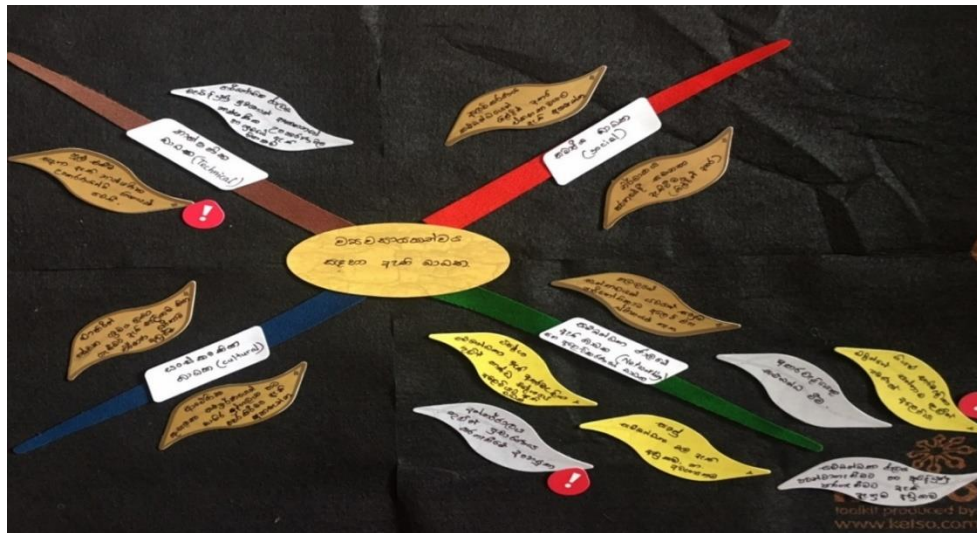


Figure. 4.27 - Barriers to entrepreneurship

Barriers to entrepreneurship were explored as shown in Figure. 4.27 considering 4 sub-themes as illustrated in Figure. 4.28 to 4.29 of Ketso images as social barriers, cultural barriers, technological barriers and marketing and networking barriers.

Sub Theme 1 and 3 - Barriers to entrepreneurship

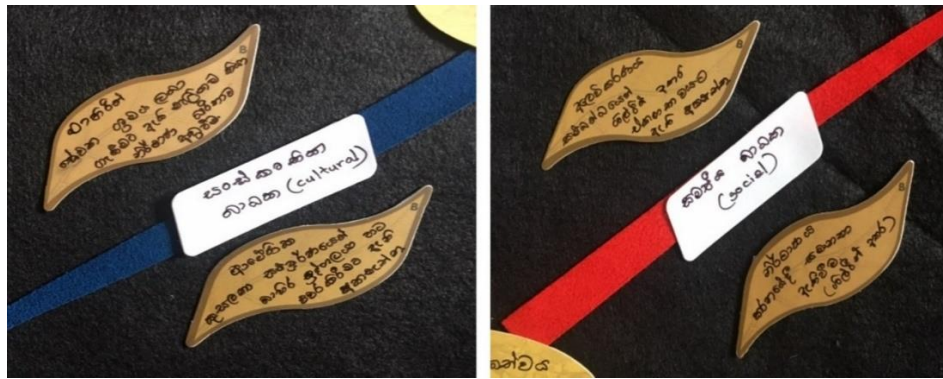


Figure 4.28 - Social barriers and Cultural barriers

Sub Theme 2 and 4 - Barriers to entrepreneurship

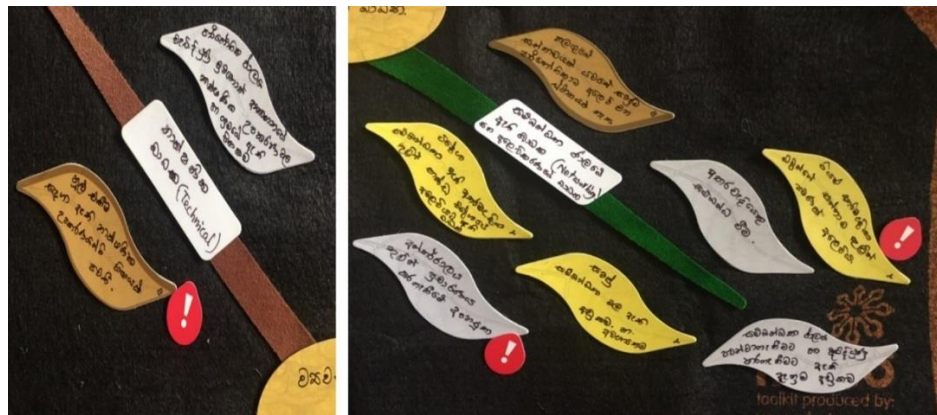


Figure 4.29 - Technical barriers and Marketing & networking barriers

Theme 3 - Entrepreneurial Education

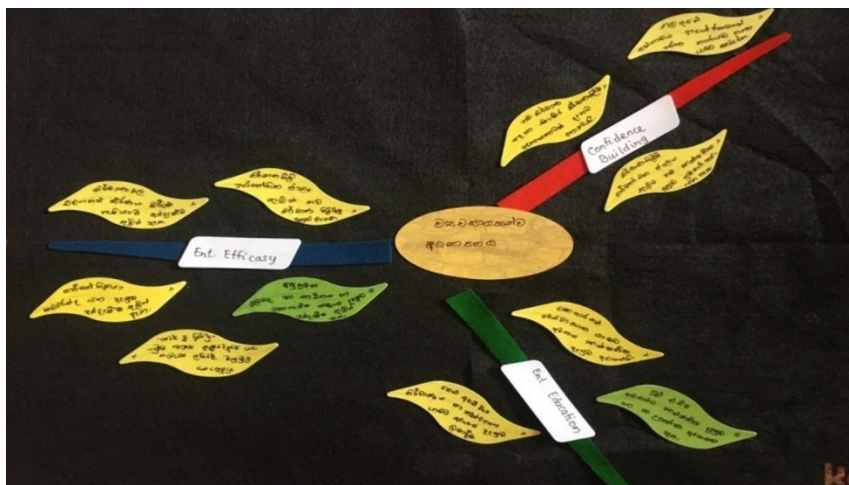


Figure. 4.30 - Entrepreneurial Education

Entrepreneurial education was explored as shown in Figure 4.30 considering 3 sub-themes as illustrated in Figure. 4.31 of Ketso images as entrepreneurial skills, entrepreneurial education, entrepreneurial efficacy and confidence building.

Sub Theme 1, 2 and 3 - Entrepreneurial education

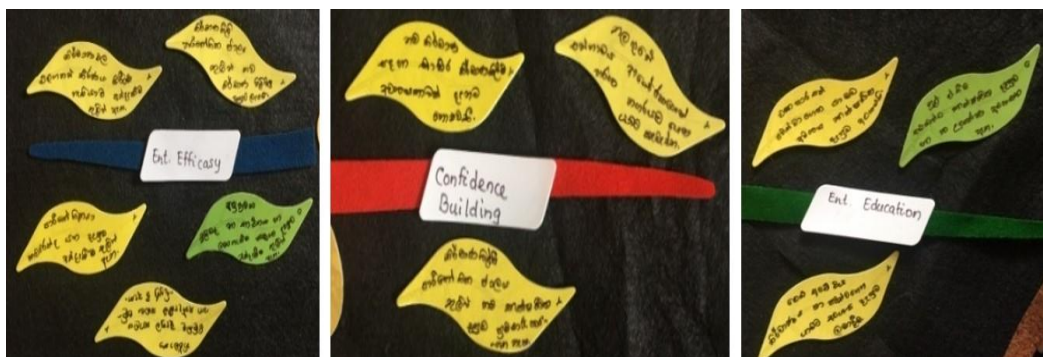


Figure 4.31 - Entrepreneurial education, Entrepreneurial efficacy and Confidence building

4.3.2.2 PAR WORKSHOP 2 - Madampella Community

Table 4.4 presents the PAR workshop information conducted with the Madampella handloom community with participant PARMP¹ to, PARMP⁵.

Table 4.4 - Workshop 3 Information - Madampella Community

Workshop Information	
Title:	Madampella Community
Date:	33. 05. 3018
Location:	IhalaMadampellela handloom village
Facilitator:	Researcher
Number of participants:	Five
Information about participants:	Potential handloom entrepreneurs from the community (Community leaders)

a. Theme 1 - Current Business Situation

The current business situation of the Madampella community was explored at the PAR workshop and data gathered by Ketso images is illustrated in Figure 4.32.

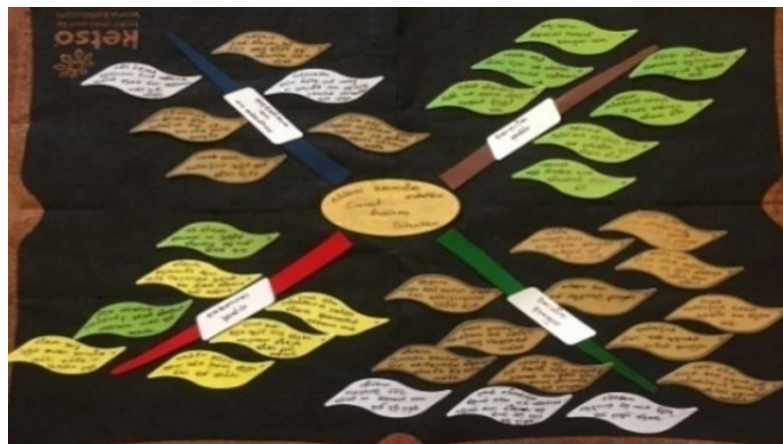


Figure. 4.32 - Current Business Situation

The current business situation was further explored considering 4 sub-themes as illustrated in Figure. 4.33 to 4.34 of Ketso images as business opportunities, barriers for the business, entrepreneurial opportunities, current marketing, and networking facilities.

Sub Theme 1 and 3 - Business opportunities and Barriers to the business

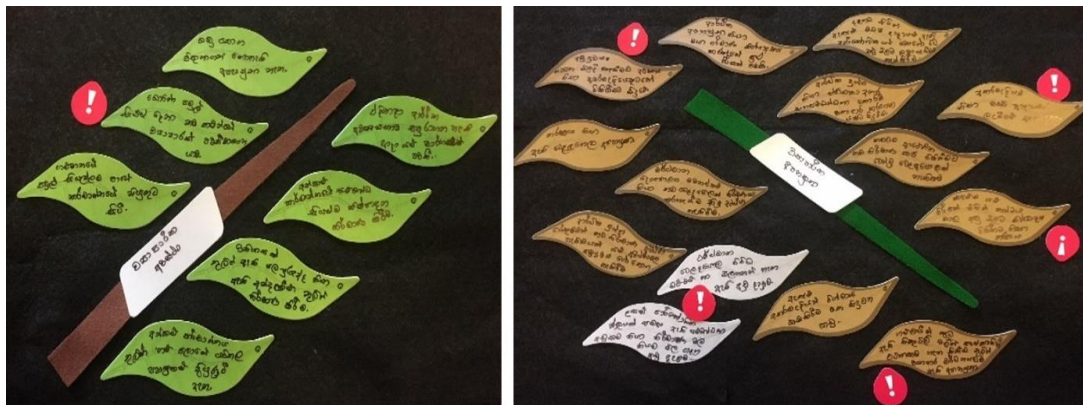


Figure. 4.33 - Business opportunities and Barriers to the business

Sub Theme 2 and 4 - Entrepreneurial Opportunities and Marketing and Networking

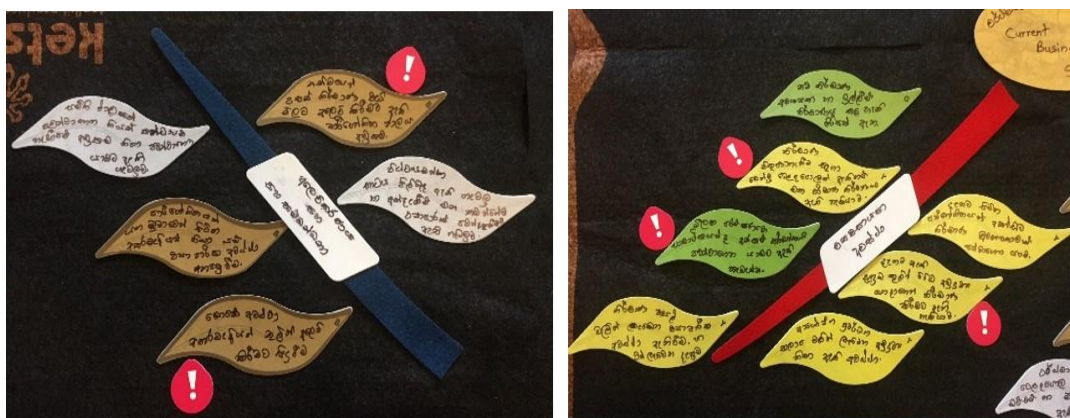


Figure. 4.34 - Entrepreneurial opportunities and Marketing & networking

b. Theme 2 - Barriers to entrepreneurship



Figure. 4.35 - Barriers to entrepreneurship

Barriers to entrepreneurship were explored as shown in Figure. 4.35 considering 3 sub-themes as illustrated in Figure. 4.36 to 4.37 of Ketso images as social barriers, cultural barriers, technological barriers and marketing and networking barriers.

Sub Theme 1 and 3 - Barriers to entrepreneurship

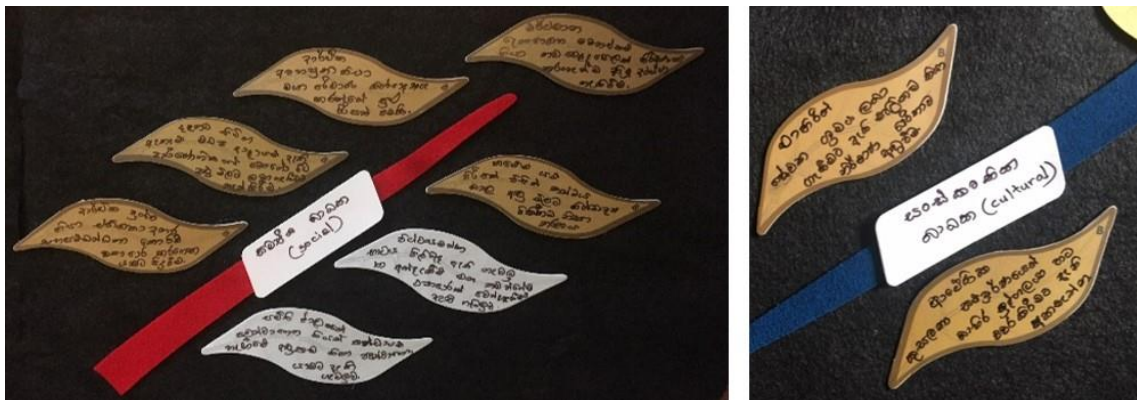


Figure 4.36 - Social barriers and Cultural barriers

Sub Theme 2 and 4 - Barriers to entrepreneurship

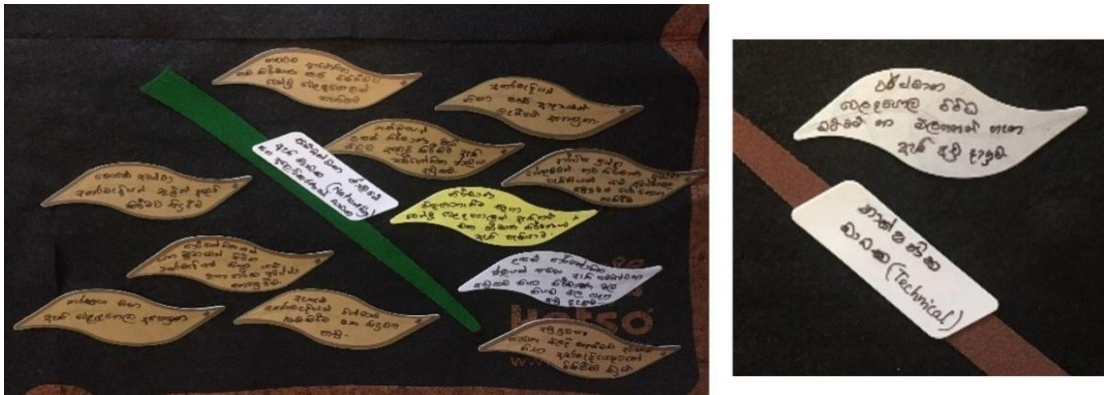


Figure 4.37 - Technical barriers and Marketing & networking barriers

c. Theme 3 - Entrepreneurial Education

The current business situation of the Madampella community was explored at the PAR workshop and data gathered by Ketso images is illustrated in Figure 4.38.



Figure. 4.38 - Entrepreneurial Education

Entrepreneurial education is shown in Figure. 4.38 was explored considering 3 sub-themes as illustrated in Figure. 4.39 of Ketso images as entrepreneurial education, entrepreneurial efficacy and confidence building.

Sub Theme 1, 2 and 3 - Entrepreneurial education

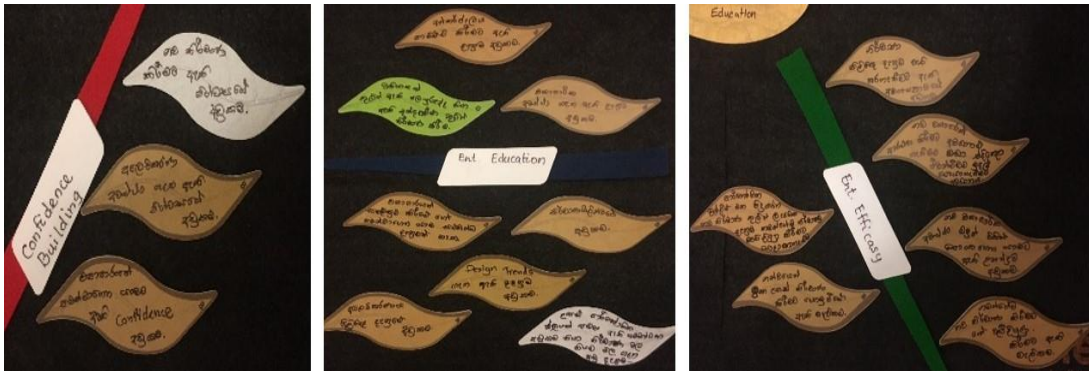


Figure. 4.39 – Entrepreneurial education, Entrepreneurial efficacy and Confidence building.

4.3.2.3 PAR WORKSHOP 3 - Marathamunie Community

Table 4.5 presents the PAR workshop information conducted with Marathamunie handloom community participants PARMM¹ to PARMM⁴.

Table 4.5 - Workshop 3 Information - Marathamunie Community

Workshop Information	
Title:	Marathamunie Community
Date:	25. 08. 2018
Location:	Marathamunie handloom village
Facilitator:	Researcher
Number of participants:	Four
Information about participants:	2 entrepreneurs and 2 potential handloom entrepreneurs from the community

a. Theme 1 - Current Business Situation

The current business situation of the Madampella community was explored at the PAR workshop and data gathered by Ketso images is illustrated in Figure 4.40.

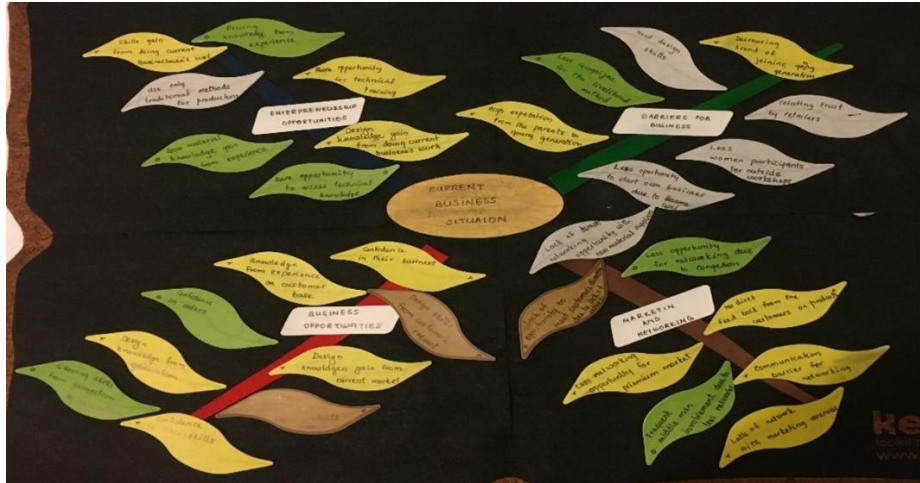


Figure. 4.40 - Current Business Situation

The current business situation was further explored considering 4 sub-themes as illustrated in Figure. 4.41 to 4.42 of Ketso images as business opportunities, barriers for the business, entrepreneurial opportunities, and current marketing and networking facilities.

Sub Theme 1 and 3 - Business opportunities and Barriers to the business

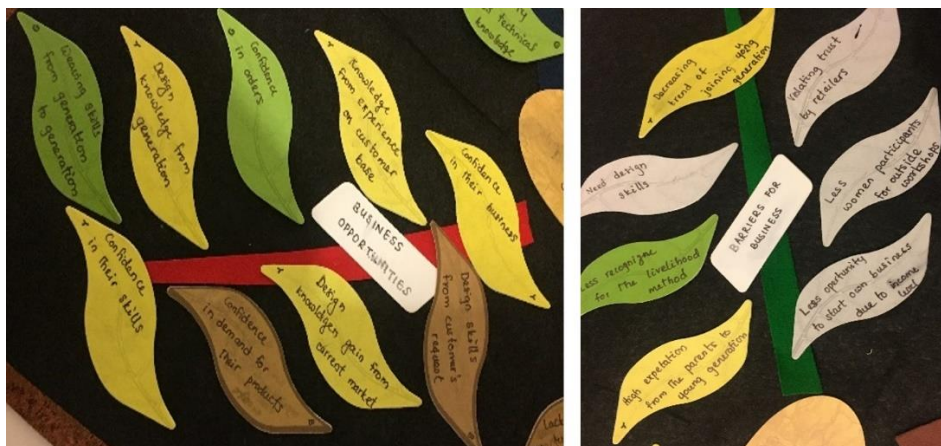


Figure.4.41 - Business opportunities and Barriers to the business

Sub Theme 2 and 4 - Entrepreneurial Opportunities and Marketing and Networking

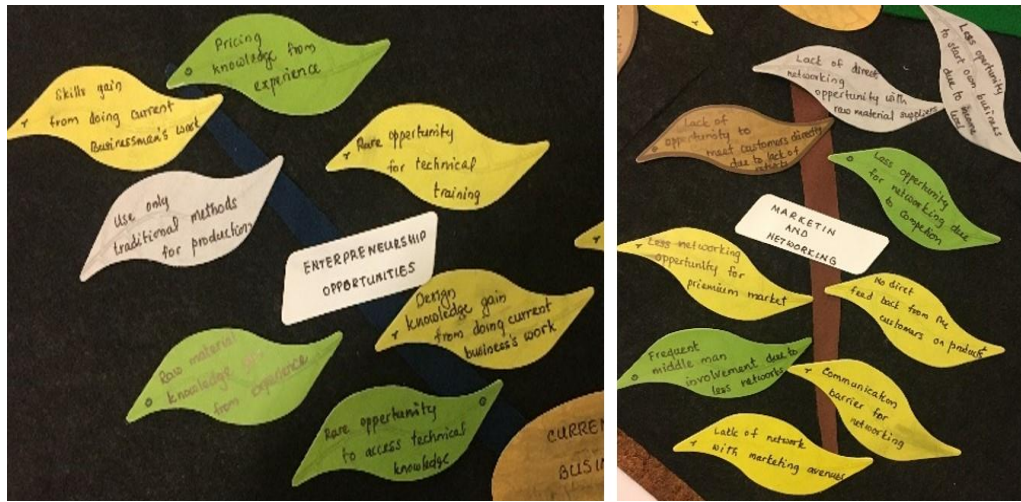


Figure. 4.42 - Entrepreneurial opportunities and Marketing & networking

b. Theme 2 - Barriers to entrepreneurship

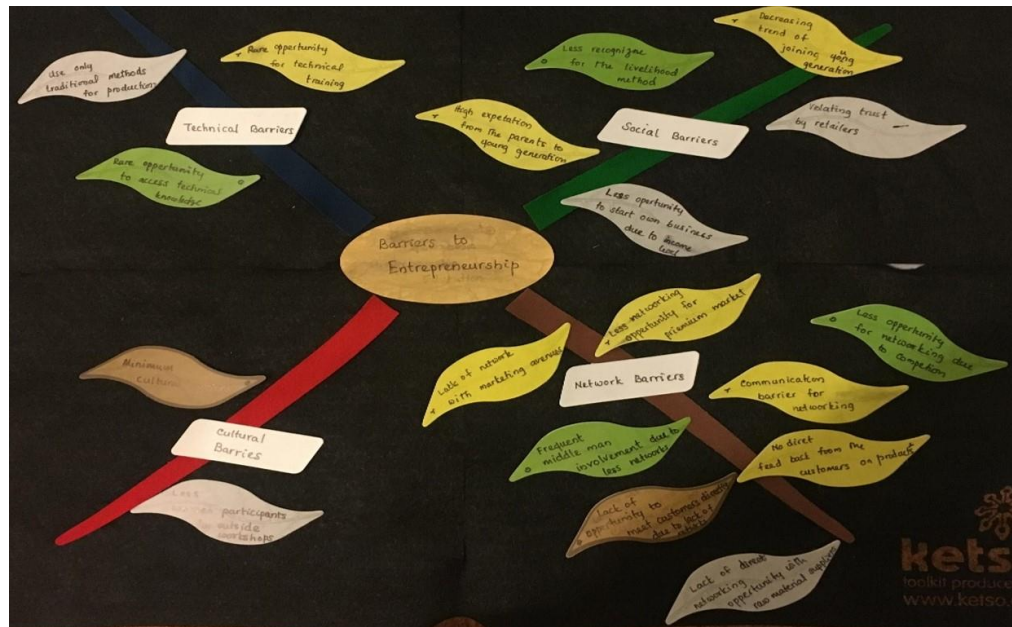


Figure. 4.43 - Barriers to entrepreneurship

Sub Theme 1 and 3 - Barriers to entrepreneurship

Barriers to entrepreneurship were explored as shown in Figure. 4.43 considering 4 sub-themes as illustrated in Figure. 4.44 to 4.45 of Ketso images as social barriers, cultural barriers, technological barriers and marketing and networking barriers.

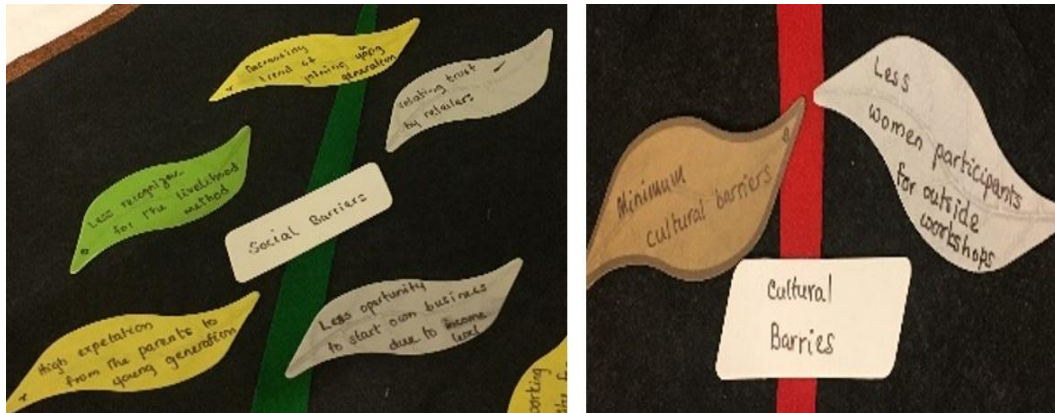


Figure 4.44 - Social barriers and cultural barriers

Sub Theme 2 and 4 - Barriers to entrepreneurship



Figure 4.45 - Technical barriers and Marketing & networking barriers

c. Theme 3 - Entrepreneurial Education



Figure. 4.46 - Entrepreneurial Education

Entrepreneurial education was explored as shown in Figure. 4.46 considering 4 sub-themes as illustrated in Figure. 4.47 to 4.48 of Ketso images as entrepreneurial education, entrepreneurial efficacy, confidence building and entrepreneurial skills.

Sub Theme 1 and 3 - Entrepreneurial Education



Figure 4.47 - Entrepreneurial skills and Entrepreneurial efficacy

Sub Theme 2 and 4 - Entrepreneurial Education

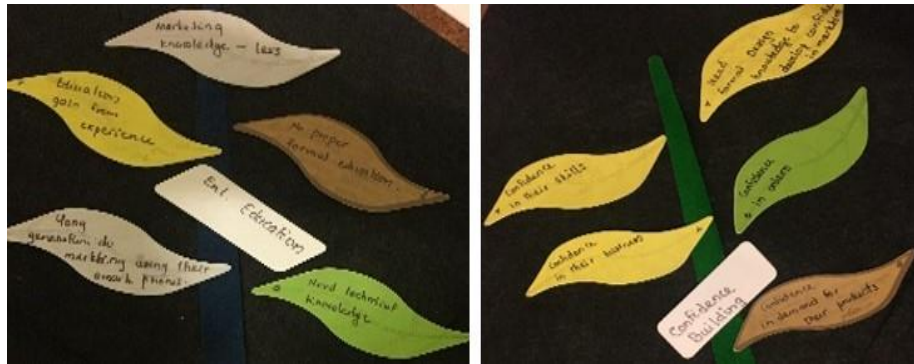


Figure 4.48 - Confidence building and Entrepreneurial education

4.4 Implementation – Design interventions

4.4.1 Design workshops followed by co-creation process

Two design workshops (Workshop 1 & Workshop 2) were conducted for the community members Workshop 2 is the continuation of workshop 1. providing fundamental knowledge in handloom product design and development processes. Design workshops facilitated the planned co-creation process described in 2.4.2. of Chapter 2, to investigate the possibility of applying DIs strategies. These design workshops were conducted only for the Madampelle community as an implementation step for the study.

The researcher organized the workshop with four freelance designers engaged with the community craft persons in acquainting designing, market trends, customers and usage of colour palettes and the weaving structures.



Figure 4.49 - Design workshop

Based on the exploration done in case studies and PAR the collaborative team understood the community skills, current product range and local business setting. With this understanding, a new product range was collaboratively explored and developed. The new product range (shirts, dresses and accessories) has been decided considering the current market trends for fashion clothing. The development process was formed gradually through design sketching, team discussions, prototyping and work presentation. The design team was solely responsible for the design concepts and presenting these to the craft person in a visual form based on the ideas developed by the entire collaborative development team as shown in Figure 4.63. Fabric prototypes were produced by the weavers under the close guidance of the designers as illustrated in Figure 4.64. The prototyping method of co-creation benefited both parties; the weaver needed to recognize the novel weaving production techniques and designers to enable a better understanding of the handloom craft.



Figure 4.50 - Designer and craft person collaboration process

Madampella community currently utilizes the entire piece of handloom materials they produce for end products. Most of the existing products are rectangular such as saree, sarongs, bed covers, pillowcases and serviettes. There is no fabric waste generation with current production. The collaborative team attempted to adhere to a similar concept and exploited the ‘zero material waste concept’ in the new design development process. Thus, the team was keen to focus on the new product range where waste fabrics from one product are utilized to create another byproduct targeting home décor and fashion accessories. These waste fabrics were planned to be utilized creatively and systematically for the byproduct focused on the remaining material's scale. The team initially proposed fashion accessories such as necklaces, earrings and hair bands from waste fabric.

The fabric prototype was developed by the weaver and the sample garments were produced by a suburb apparel manufacturing plant due to the current unavailability of community apparel production facilities. Figure 4.51 shows a long sleeve shirt as per the specifications, the percentage fabric utilization and the byproducts; earrings and necklaces were made out of the marker fallout fabric. Thus, samples of the clothing range were developed by the collaborative team.

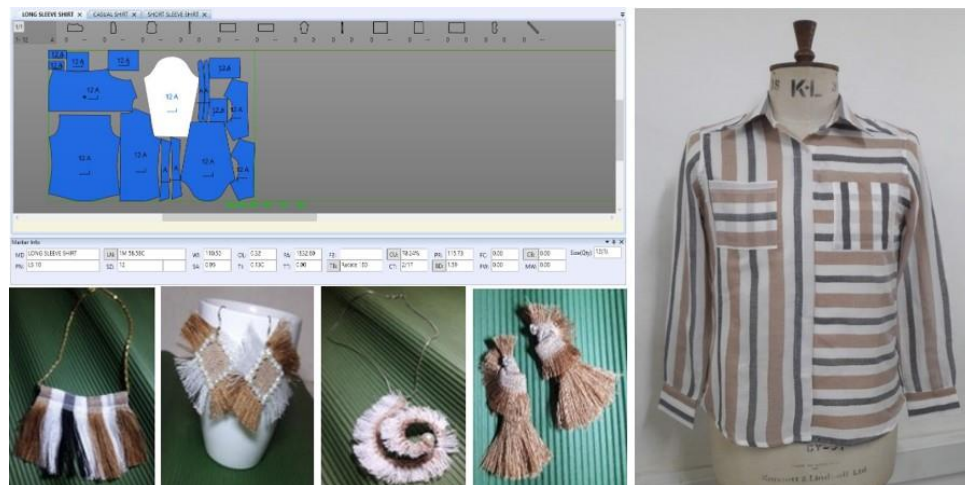


Figure 4.51 - Main products and byproducts range from the waste fabric

After completing the prototypes, product analysis was done by the designers and weavers. The co-creation prototyping process allowed designers to gain a deep understanding of the crafting process and the weaver to distinguish a traditional product range and possible innovations within handloom craft. Furthermore, products were presented to local retailers and their feedback and responses were obtained, which were further used for product improvement. Thus, the co-creation model (Sanders & Stappers, 2008) is regarded as a valuable tool to support the collaborative team to share their knowledge as well as disseminate the process outcomes among the handloom craft communities in design intervening.

4.5 Chapter Summary

This chapter presented empirical data after initial summarization. The data gathered from case studies and field observations were themed according to the semi-structured interview questionnaire as; an introduction including history and current status, design and design challenges, products and production process, supply chain, markets and marketing and government and other support. This initial summarization helped to explore and accomplish an in-depth understanding of the data analysis planned in Chapter 5 achieving sustainable BM for the industry.

PAR workshops facilitated to recognise the current business situation and opportunities and barriers for the sustainable community entrepreneurship of the handloom communities in the country. The initial summary of empirical data from PAR workshops was done according to workshop guidelines used to derive open coding and axial coding. This led to further analysis of grounded theory to achieve community entrepreneurship strategies by developing a new bottom-up innovation-based entrepreneurial theory for the handloom sector.

Design workshop summary is presented here plan to discuss in Chapter 6 Discussion.

CHAPTER 5

DATA ANALYSIS

5.1 Introduction

This chapter provides the empirical analysis of the data gathered by research strategies described in Chapter 3. The chapter presents a cross-case analysis of case studies (Section 5.2) and the BM analysis (Section 5.3). Section 5.4 presents a complete analysis of PAR workshop data for CBE development. The chapter further presents the analyses for community-based entrepreneurship theoretical modelling (Section 5.5). Section 5.6 shows how analysis focuses on the foundation for the community entrepreneurship layer.

5.2 Cross-case analysis

The cross-case analysis was done for the nine case studies by deriving common themes considering the initial summarized categories from Chapter 4 - Empirical data to achieve Objective 1, to investigate the current status of the textile handloom industry in terms of sustainability orientation recognizing the current BM concerning TLBMC and Objective 2, to explore the possible integration of sustainability into the handloom business incorporating sustainable DI and sustainable CBE practices. Hence the case study analysis outcome was employed in developing the proposed business model as shown in section 5.3.

The study identified some common characteristics across three types of handloom business setups within the cases.

Design - The product design process across eleven case studies is found to be quite similar. Traditional woven designs were given priority over contemporary designs.

Products and production process - Primarily community products are sarees, sarongs, household linen, clothing materials and shawls. Creative products with a community identity were rarely observed. Both men and women are involved in the manufacturing

process, with men full-time and women engaging in household work. The home-based production facility has its small shed as the production space, which includes one to three looms. The same space was used to store yarns and other accessories required for the production process. Factory-based production processes are primarily operated in private business setups.

Supply chain - Supply chain operations across eleven case studies are found to be almost similar other than retailing process of private business setups. The community gets orders primarily through intermediary people and retailers. Raw materials: mainly cotton and rayon yarn are sourced from local yarn suppliers according to the product demand. Community members use their production facility within residential space for production. Finished products are delivered to intermediary people, retailer shops, exhibitions and seasonal fairs. Public transportation is used for good deliveries. The retail process of community products mainly happens through retailers but is deprived of community recognition.

Sales and marketing - Significant number of local sales is performed through informal channels where an intermediate person gets involved between the community and the retailers. Private businesses and provincial council set ups use their own retailing and marketing channels for their products.

Government and Other Support - Handloom communities and provincial council setup businesses are privileged with government support. Handloom weavers are supported by the government without any regular development plan. They received handloom machinery, basic technological support and sometimes training programs.

Table 5.1 presents the common themes derived from the interview data concerning initial categories of design, products and production process, supply chain, sales and marketing and government and other support from the cross-case analysis.

Table 5.1 – Common themes derivation from case studies

Design	Products and Production Process	Supply Chain	Sales and marketing	Government and Other Support
Design applications	Primary production facilities	Raw material suppliers	Direct sales	Community welfare
Traditional/ Contemporary	Yarn dyeing	Retailers	Retailers	Community associations
Locally handmade	Weaving production	Intermediary persons	Intermediary persons	Basic equipment
Cultural sensibility	Weaving craftsmanship	Delivery (Public/private transportation)	Word of mouth	
Uniqueness	Ethical manufacture	Niche market/ Segmented market	Trade fair	
Customized	Flexible working hours			

5.3 BM analysis

A cross-case analysis was performed for the eleven case studies by evaluating the similarities and disparities shown in each element of the BM across cases. The study recognized several common elements across three categories of handloom businesses and shortcomings, as explained below under economic, environmental and social layer analysis concerning BM canvases of Osterwalder and Pigneur (2010) and TLBMC of Joyce and Paquin (2016).

Above themes derived from the cross-case analysis were used to develop the BM by considering their relationships and connections to the economic, social, and environmental layers of the business model. For this purpose, each theme was reallocated to the key elements of each layer of the business model, as explained below.

5.3.1 Economic layer analysis

Economic aspects of the handloom sector, which is derived through the thematic analysis, concerning the economic layer of Osterwalder and Pigneur (2010) are presented in Fig 5.1 using the data analytical framework described in 3.5.1 of Chapter 3. The economy layer is configured here with nine elements covering four main areas of handloom business infrastructure, offer, customer and financial viability.

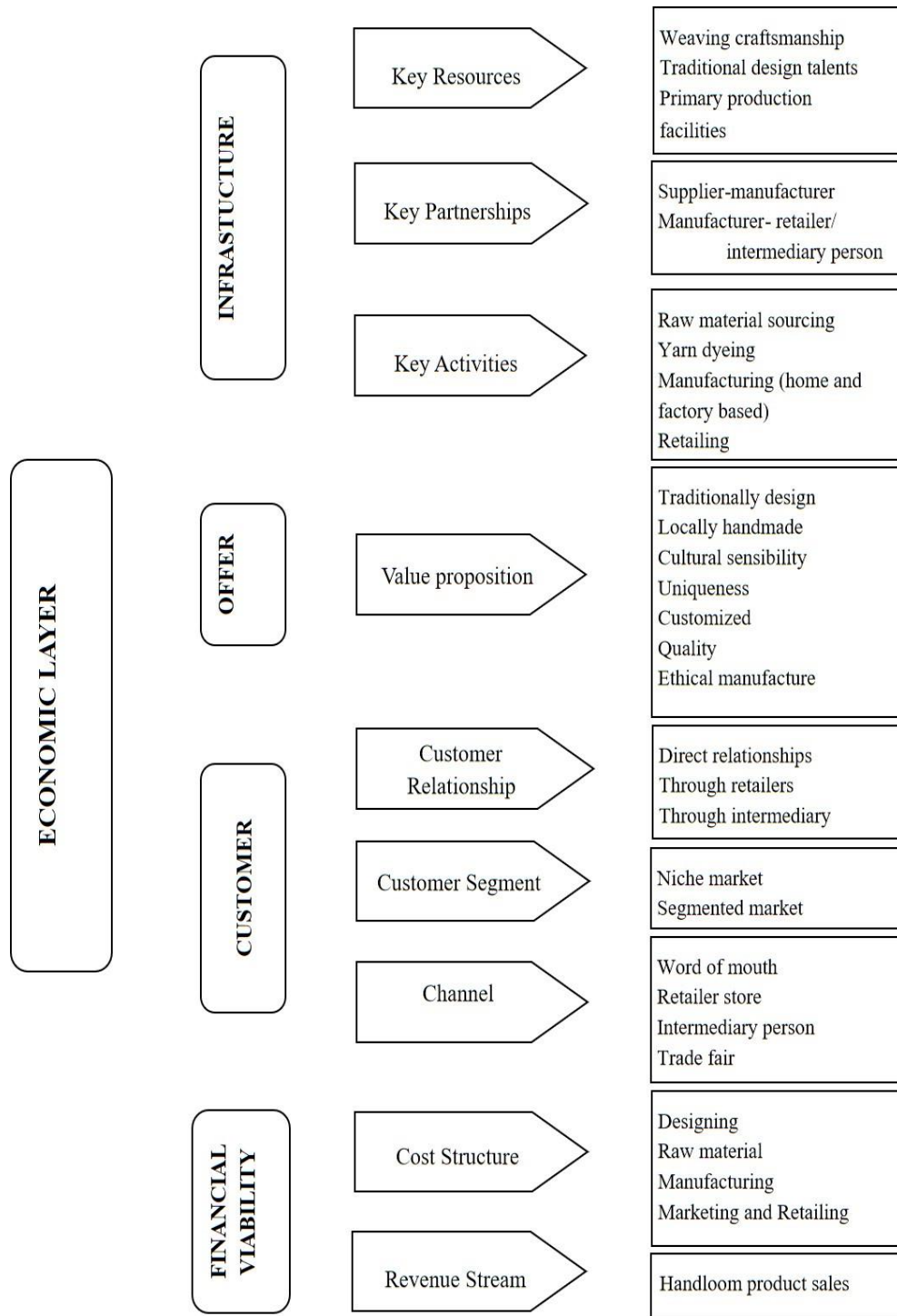


Figure 5.1. - Economic layer analysis concerning Osterwalder and Pigneur (2010)

This section presents a summary of the analysis of the economy layer of the textile handloom business.

a. Infrastructure

The infrastructure of the handloom business could be discussed under 3 elements of the business canvas: key partners, key activities, and key resources.

i. Key resources

The study identified the weaving craftsmanship is the most significant key resource possessed by the local handloom BM as human resources. Traditional design talent gained from the ancestors of the communities contributes as the main design input for the business. Fundamental key resources utilize here are the manual loom use for the fabric manufacturing process and basic sewing if require. However, these physical resources of weaving communities are very primitive and at a basic level. Private handloom businesses make efforts to develop manufacturing facilities to offer more value-added products to the sector.

ii. Key activities

The following key activities of the handloom business take place within this supply chain.

- (a) Sourcing of raw materials: cotton, silk, rayon, bamboo and banana fibres are imported.
- (b) Yarn Dyeing: When raw yarns are imported, the dyeing process is performed in local dye plants.
- (c) Product design: traditional craftsmanship is used.
- (d) Manufacturing: is performed under three scenarios- home-based weaving, community weaving centres and factory-based weaving
- (e) Retailing: Both direct sales (manufacturer to end consumer) and indirect sales (Manufacturer to retailer or intermediary sales agent) are taking place yet the majority accounts for indirect sales.

iii. Key partnership

This sector does not own all resources or perform every activity by itself. Thus, this BM runs with a variety of partnerships. Currently, this business progresses with the most fundamental form of relationship structure called buyer - supplier partnership network. However, this relationship assures reliable supplies to manage the flow of related key activities with available key resources for considerable progression of the industry. Supplier-manufacturer partnerships and manufacturer-retailer/manufacturer-intermediary salesmen are well established within the textile handloom sector. These partnerships help to market community products, reducing the sales risk in the market environment. However, designer-manufacturer and manufacturer- end-customer relationships are weak. There is a considerable partnership with the handloom textile related institutions that provide necessary knowledge, technology and training requirements where necessary.

b. Offer

Various types of value offered with the handloom products discuss under the value proposition of business canvas.

iv. Value proposition

The handloom textile sector offers customers a diverse bundle of value propositions comprising handcrafted, bespoke products with traditional creation, ethical and sustainable production processes. The product customization accomplished here by using various weaving structure and colours. All products are locally manufactured considering environmentally and socially sustainable production methods. Every design is unique and mostly the uniqueness is achieved though different colour combinations in the product design stage, featuring community and area identity rather than creating complex woven designs. Handloom manufacturers are capable of catering for the specific needs of individual customers or customer segments to satisfy the needs of price sensitivity. The option of ordering a customized product adds value to the business. Products mostly tend to be unique in design.

c. Customer

Customer networking of handloom business could be discussed under three elements of the business canvas: customer segment, customer relationship and channels.

v. Customer segments

Cross-case analysis revealed that the Sri Lankan textile handloom industry mainly caters for two different customer segments: Niche and segmented. Niche market customer expectation is most likely customized one-off pieces in high quality for premium price levels and customer relationships are very specific. Niche markets consist of both women's and men's wear, household products such as tableware and home decorations. High prices are associated with one or more key aspects such as uniqueness in design, quality, brand identity, sustainable and ethical manufacturing, and fair-trade practices. This segment is served by private handloom businesses with their own brand identity.

The segmented market serves the demands of more than one customer segment with slightly different value propositions. Unlikely in the niche market, repeats or of the same designs are available to purchase, yet volumes are not high as in the mass market. Prices are designed for customers with middle-level income and a diversified product range is offered including apparel and household items.

vi. Customer relations

The handloom sector exists within traditional customer-vendor relationship practices. However, this business attempts to establish and maintain better customer relationships with its specific customer segments. They try to sustain their premium customer base through direct human interaction through customer representatives at the point of sale in outlets and by the brand label. Thus, they maintain the deepest and most intimate type of relationship over a long period with the premium segment of regular customers.

However, community-based weavers primarily do not deal directly with ultimate customers. Therefore, their ultimate customer relationship is indirect through retailers and intermediary personnel. However, they maintain a healthy relationship with their direct customers who place direct orders and through trade fairs.

vii. Channels

Handloom businesses use both direct and indirect channels to reach customers to deliver value propositions. Handloom communities do not possess their retail shops, customers are allowed to visit community handloom centres and purchase products directly from the weavers. Direct channels open here for the direct orders place with manufacturers. Consumer awareness increases through indirect channels, annual exhibitions and trade fare activities. Word of mouth also works well to make channels for community products. Yet, indirect channels are prominent where the products are sold to partner channels. Partner channels work within the span of retailing and through intermediary involvement. This channel is beneficial to community weavers because the demand is predictable, and the business risk could be minimized yet lead to lower profit margins.

Provisional council-based handloom businesses and private businesses reach customers through their channels with higher margins. The value proposition is communicated via brand identity. Provisional councils differentiate their brands based on the provision that the products are being manufactured. Private businessmen use brand names to differentiate their products in the market regardless of where the products are manufactured and operate one or more outlets scattered around the country.

d. Financial viability

The financial viability of the handloom business is discussed under two elements of the business canvas: cost structure and revenue stream.

viii. Cost structure

Sri Lankan handloom BM is a low-cost driven model and further focuses on cost minimization wherever possible. The cost structure of this model represents fixed costs such as manufacturing facilities and salaries.

Raw material, design, manufacturing and marketing costs acquire the major portion of the cost structure. The raw material is the most expensive key resource since yarn imports. However, community business does not show any interest in pay out to sustain customer relationships. Yet private businesses value this and deserve the cost of well-built customer relationships.

ix. Revenue streams

Revenue generation take place from product sales. Revenue streams of handloom business differentiate from value propositions such as traditional designs, premium quality and longevity offered by different businesses to the customers. Handloom BM's revenue stream depends mainly on the pricing strategy factors such as the quality of the product, value propositions offered and the market level.

According to the summary of the analysis, the economic layer of the handloom BM gives an understanding of the orientation of nine key economic aspects in the business maintaining competitiveness and viability of the business. The study realized the accomplishment of every single business is mainly reliant on its value proposition. Businesses provide traditionally designed, ethically handcrafted, personalized products with exclusive fabric designs. Consumer appeal to those personalized fashion pieces assures a market and leads to the profit of the business where low volumes of manufacture can be compromised with premium prices.

The analysis still exposes that the lack of contemporary design talents may impact the business in the long run. Product strategy is mostly built on traditional understanding and

weavers do not have an approach to initiatives where they could understand new product design competences or practices. The community uses basic weaving structures for community products. Yet, most of the community weavers are talented and possess the skill of creating composite structures to accomplish various textures, lines and motif patterns if a customer demand arises. Nevertheless, the community focus is on continuing with the same limited product range and trying to achieve the economic objectives of the business. Therefore, they tend to produce regular and simple structures rather than focusing on new developments.

“We make products such as sarong, sarees, and bed linen which are rectangular and are a progression from the generation. We don’t have the required design knowledge to upgrade our product range.” (*Participants: CSMM¹, CSMP²*)

Community products continue from generation to generation without significant design enrichment or gaining new value propositions.

“Though we can go for fabulous weaving structures, we don’t have precise designing skills to use these structures appropriately blend with contemporary designs.” (*Participant: CST³, CSMP²*)

“If a customer requests, I can offer any weaving structure with whatever texture or motif. That is a personalized piece on their request. Then prices may be high. But I don’t attempt to utilize complicated things with my regular product. Because I need to achieve my daily production targets”. (*Participant: CST³*)

Key partnerships among designer-manufacturer and manufacturer-end consumers are limited. Although fashion designers are involved in the business, they are like commissioners. Thus, no access to design education would enable weavers to improve their portfolio of design.

“We are not very good in design and appropriately blend colours to our products. Most of the community members use a similar range of shades and get a similar product look without individual identification. Also, very commonly weft is leftover yarns from previous work. So, products get whatever the resultant colour, but not what we expected” (*Participant: CST¹, CSMP², CSMM³*)

Manufacturers (community members) are not directly connected to the end-consumer because the business channel runs through intermediaries. This can be salesmen, retailers or designers who gain and retain a larger portion of the profit margin of the product. While the relationship between the community weavers and end-consumer could be easily facilitated, the opportunity is blocked by intermediaries providing relatively low rewards for the effort and the inherited skill of weavers and leading to a decline in the numbers of weavers because young people are attracted to more lucrative occupations.

“Most of the products go to market through a third person and via a retailer brand. Because we don’t have appropriate understanding of the market and promoting our products.” (*Participant: CSMM¹, CST⁴, CSMP¹*)

The economic layer analysis of a BM shows the handloom business signifies a positive drive in the direction of a sustainable industry, implying the functionality of the model in the setting of an emerging economy. Working with weaving communities facilitated the project to discover related issues across different forms of handloom businesses; and thus, to draw the data from case study interviews onto the canvas to distinguish strengths and limitations. Figure 5.1 illustrates the economic layer of the textile handloom industry, and additional improvements recognized are emphasized.

<p><i>Key Partners</i></p> <p>Supplier - Manufacturer</p> <p>Retailer – Manufacturer</p> <p>Designer - Manufacturer</p> <p>Manufacturer – End user</p>	<p><i>Key Activities</i></p> <p>Raw material sourcing</p> <p>Yarn dyeing</p> <p>Manufacturing</p> <p>Product design</p>	<p><i>Value Propositions</i></p> <p>Traditionally designs</p> <p>Locally handmade</p> <p>Ethical manufacturing</p> <p>Cultural sensitivity</p> <p>Uniqueness</p> <p>Customized</p>	<p><i>Customer Relationships</i></p> <p>Through retailer</p> <p>Through intermediary</p> <p>Direct relationship</p>	<p><i>Customer Segments</i></p> <p>Segmented market with diversified need in volume</p> <p>Niche market with personalized high-quality one- off pieces</p>
<p><i>Cost Structure</i></p> <p>Value driven</p> <p>Major portion represent fixed costs of manufacturing</p>		<p><i>Revenue Streams</i></p> <p>Sales of handloom products</p>		

Figure 5.2 - Economic layer of the textile handloom industry

5.3.2 Environment layer analysis

Environmental aspects of the analysis concerning the environment layer of TLBMC of Joyce and Paquin (2016) are presented in Fig 5.3 using the data analytical framework described in Chapter 3. The environment layer is configured with nine elements covering the main areas of sourcing raw materials, manufacturing, distribution, use, and disposal incorporating the life cycle of handloom products. At the time of the study, quantified carbon footprint data along the life cycle of a handloom product were not available for the case studies conducted; however, this model can be used to qualitatively identify the key environmental benefits or impacts of the industry, which in turn helps in planning to improve environmental benefits.

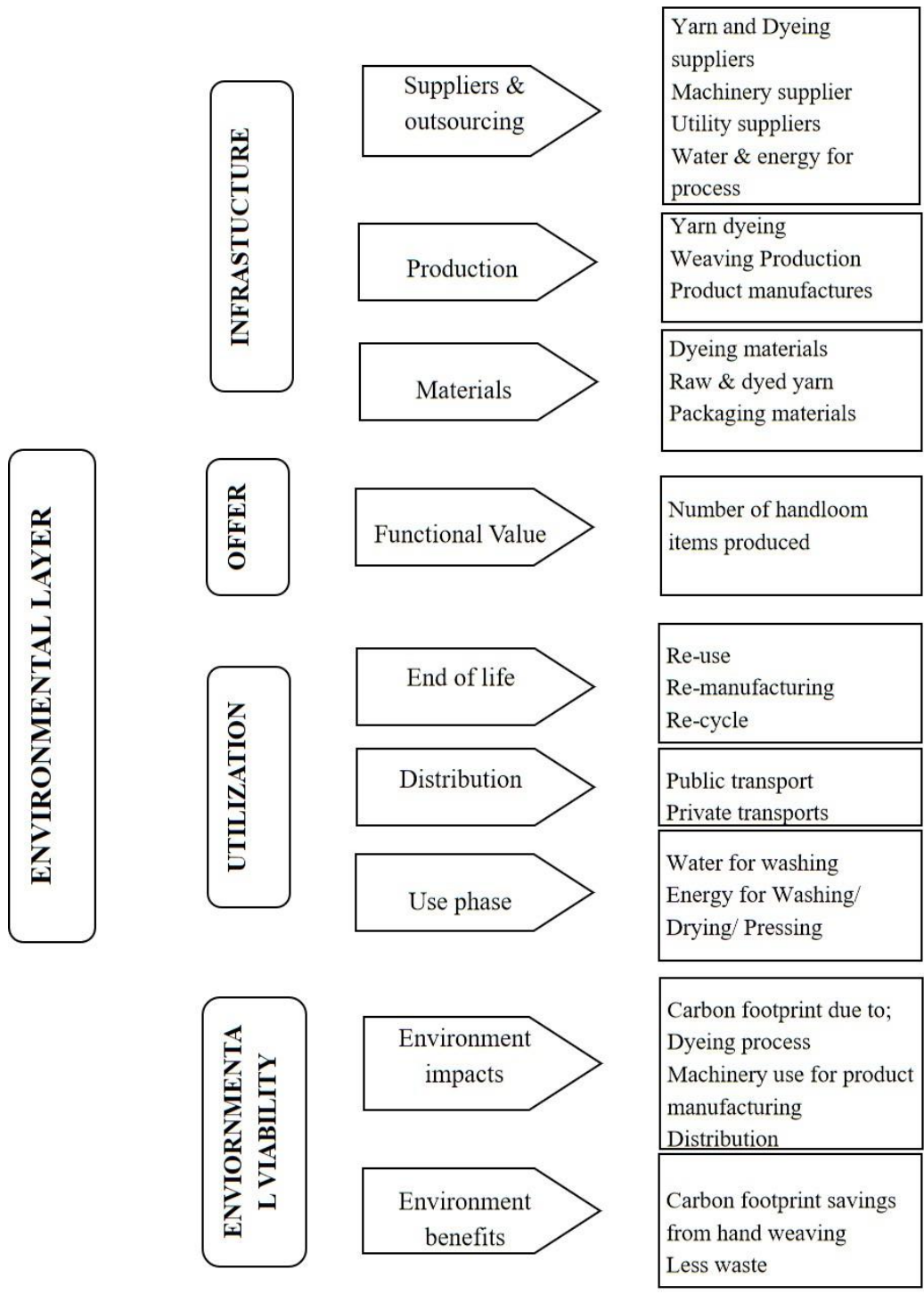


Figure 5.3 - Environmental layer analysis reference to TLBMC

This section presents the summary details outlined by the results of data analysis of the environment layer of the handloom business.

a. Infrastructure

Infrastructure of the environment layer of handloom BM canvas could be discussed under three elements about TLBMC: suppliers and outsourcing, production and materials.

i. Supplies and Outsourcing

Main raw materials such as raw and dyed yarn are imported materials. All the handloom machinery and other necessary accessories requirements are fulfilled by the local suppliers. Most of the handloom producers manage their key utilities' requirements, water and electricity from the home based well or else from national water supplying method. Also, they manage their energy requirement for in-house processes outsourcing from the national grid. 50% of the national electricity supply is done by the hydro power, and the balance is from fuel and coal that generates the harmful carbon footprint.

ii. Production

Yarn dyeing, weaving and handloom product manufacturing are the key production processes involved in the textile handloom industry. The yarn dyeing process involves both synthetic and natural dyes. In synthetic dyeing processes, environmental impact is minimized by using standard German dyes and proper treatment of wastewater, which can be reused in farming. Use of natural dyes is increasing, which minimizes the carbon footprint involved in the process. Handloom machines and yarn winding machines are manually operated; therefore, the carbon footprint is zero in the manufacturing operation. Sewing machines consume energy and thus generate a carbon footprint.

iii. Materials

Cotton and rayon yarn are the key materials used by the textile handloom industry. Because of the rise of sustainability concerns about cotton fibre, alternatives such as bamboo and banana fibres are being used to reduce the environmental impact caused by

cotton. However, it attempts to offer a range of values such as sustainable, quality products with long life to the customers. Some private businesses try to offer sustainable product ranges using sustainable yarn, dye and sustainable packaging to their premium customers. However, the textile handloom industry including community craftsmen is currently not in a position to offer an exclusively sustainable product range by using only sustainable materials. Yet, the industry tries to maintain the carbon foot prints level low as much as possible.

b. Offers

Offers of the environment layer of handloom BM canvas could be discussed under functional value.

iv. Functional Value

Functional value is the entire manufacture of handloom products during nominated period. Presently there is no accurate method to obtain the functional value of the industry due to the haphazard business situation of the textile handloom industry. This is mainly due to the disorganized business situation of the scattered small and medium-scale private businesses and community business situations in the country.

c. Practices

Practices of the environment layer of handloom BM canvas could be discussed under three elements; end of life, use phase and distribution.

v. End of life

The most used fibre is cotton and other sustainable fibres such as bamboo and banana fibre are biodegradable. Handloom textiles are primarily produced with mono materials that facilitate the recycling option. The end of life of handloom products depends on the type of product such as functional or fashionable. Also, it depends on the customer category, and it ends when the consumer decides to stop using the product. Re-purposing ensures with handloom products such as sarees, sarongs and bed linen.

vi. Distribution

Yarns are imported and a small percentage of finished products are exported, which involves shipping. Local transportation of goods primarily involves public vehicles such as trains; however, private transportation is occasionally used. Cardboard boxes are used as the main packaging material during transportation.

vii. Use phase

The textile handloom industry user phase includes functions such as washing, drying, pressing etc. with handloom products. Water and energy utilization for laundering and pressing make a key impact in usage. In the local situation, electrical energy is used basically for washing and pressing the handloom apparel but drying is done with natural energy using sunlight.

d. Environment viability

The environmental viability of the environment layer of handloom BM canvas could be discussed under two elements: environment impacts and environment benefits.

viii. Environment Impacts

The environmental impacts of the business can be mainly recognized from the raw materials, industrial processes and distribution. Environmental impacts are mainly associated with cotton farming. Rayon and chemicals used for dyeing have a direct influence on the environment. Yarn-dyeing of the textile handloom process generates an environmental impact due to the chemical and water consumption. There is no considerable impact from the weaving process due to manual operations. However, international shipping and local transportation generate carbon footprints.

ix. Environment Benefits

There are opportunities for environmental benefits from this industry. The production process does not consume energy. It significantly leaves out the energy consumption of the manual weaving process. Products are designed to minimize waste generation. There is almost zero wastage of handloom materials in products such as sarees and sarongs. Leftover yarn and fabric waste during cutting process is recycled into byproducts like lampshades, women accessories and soft toys.

The analysis of the environmental layer indicates an environmentally conscious production process and highlights the positive features of a sustainable BM. Currently, cotton is the dominating raw material in production; however, a trend towards using sustainable fibres, such as bamboo and banana fibres, is developing.

“We have a customer segment who value sustainability. So, we did some developments recently with bamboo yarn and have good demand.” (*Participant: CSPBI¹*)

There is a rising demand for naturally dyed products; therefore, the industry is presently looking for new avenues for emerging natural dyeing processes.

“We do natural dyeing at one of our centres. We do a limited amount of naturally dyed fabric for special customer requests.” (*Participant: CSS¹, CSS⁴*)

Weaving, which is the core manufacturing process, is entirely a manual process, with no energy use. Sewing machines are primarily used when manufacturing apparel using hand-woven textiles, which generate a carbon footprint because of energy consumption. However, only 3 companies out of ten cases own a small-scale in-house sewing facility; nevertheless, for all the cases, the main product is sarees, which are entirely hand-woven and do not require sewing.

Zero waste to landfill is another environmental benefit of this manufacturing process because the weaving process does not generate any fabric waste. Fabric waste generated in the cutting process is reused to make by-products such as soft toys and accessories.

“Our design team was keen to focus on waste yarn and fabrics. This waste is utilized to create another byproduct targeting soft toys, home decor and fashion accessories.” (*Participant: CSPB1¹, CSPB1²*)

Wastewater released from dye plants is properly treated to meet environmental standards, and then treated water is used for agricultural purposes.

“We have a treatment plant and treat even a single drop of water used for the dyeing process before we send it to the environment.” (*Participant: CSPB3¹, CSPB1², CSS¹, CSMM²*)

Environmental layer analysis in respect to the handloom business is demonstrated in Figure 5.4.

<p>Suppliers & outsourcing</p> <p>Utility suppliers: Water- In house Energy - Hydro power national grid</p> <p>Yarn and dyeing suppliers</p> <p>Machinery</p>	<p>Production</p> <p>Dyeing</p> <p>Weaving</p> <p>Sewing</p> <hr/> <p>Materials</p> <p>Dyeing materials</p> <p>Raw & dyed yarn</p> <p>Packaging material</p>	<p>Functional Value</p> <p>Total handloom production</p>	<p>End of Life</p> <p>Re-use</p> <p>Re-manufacturing</p> <p>Re-cycle</p> <hr/> <p>Distribution</p> <p>Transportation: Public Private</p>	<p>Use Phase</p> <p>Energy for; Washing, Drying Ironing</p>
<p>Environmental Impacts</p> <p>Cotton farming</p> <p>Impacts from raw material imports</p> <p>Synthetic dyeing process</p> <p>Distribution process</p>		<p>Environmental Benefits</p> <p>Handmade products</p> <p>Zero waste to landfill</p>		

Figure 5.4 – Environment layer of the textile handloom industry

5.3.3 Social layer analysis

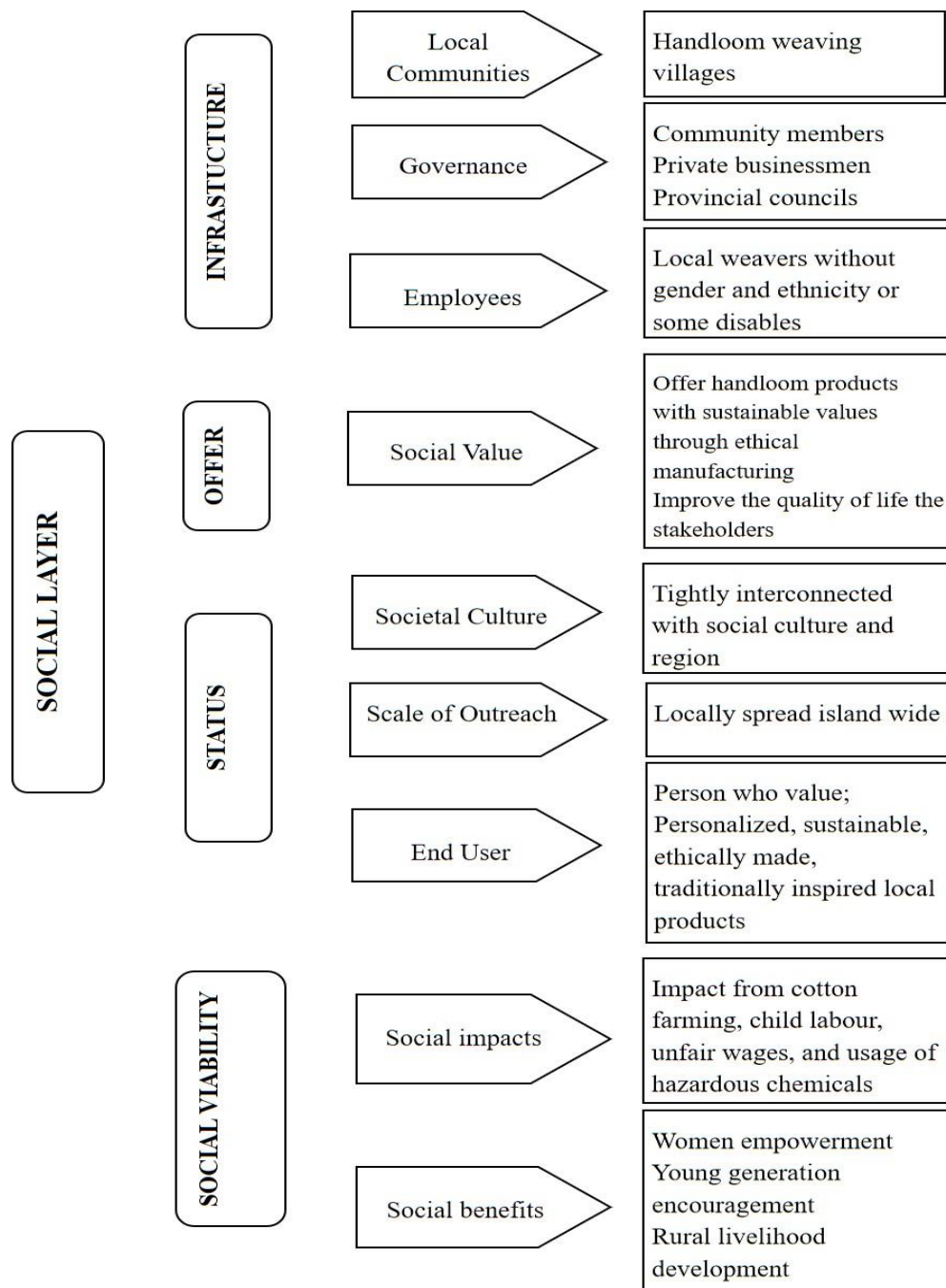


Figure 5.5 - Social layer analysis with respect to TLBMC

Social aspects of each case and cross-case analysis concerning the social layer of TLBMC of Joyce & Paquin (2016) were presented in Fig 5.5 using the data analytical framework described in Chapter 3. The social layer is configured with nine elements that concentrate on capturing significant social influences that assist to enhance social value creation.

This section presents the summary details outlined by the results of data analysis of the social layer of handloom BM. The social layer is configured with nine elements covering four main areas of handloom business key involvements human resources, offer, status and social viability reference to TLBMC of Joyce and Paquin (2016).

a. Infrastructure

The infrastructure of the handloom business reference to the social layer could be discussed under three elements of local communities, governance and employees.

i. Employee

The workforce involved in the textile handloom industry enjoys equity in terms of gender and ethnicity. Disabled employees are absorbed and trained for the sector. Flexible working hours are allowed to accommodate childcare, household work and family-related issues. Employees are trained in basic weaving skills and further development opportunities are provided. Additional support schemes such as childcare facilities, and home-based working centres are also provided.

ii. Governance

The handloom businesses are operated as independent, cooperatives or privately owned. Community businesses are run by individual community members and as small family groups. Provincial council businesses are governed by each council under a formal organization structure to reach the business vision. Private businesses run with the owner's leadership or under an organizational structure depending on the scale of the business. In a cooperative structure, active engagement of stakeholders and transparency in decision-making can be observed, whereas controlling power is exercised by higher authorities in privately owned business.

iii. Local Communities

The local community is embedded in the business through the concept of weaving villages. These villages operate as key communities (such as Thalagune, Madampelle and Marathamune), communities developed by the provincial council and small communities that serve private businesses.

b. Offers

Offers of the social layer of handloom BM canvas could be discussed under social value.

iv. Social value

The social values of the handloom BM signify the benefits for its stakeholders. As main stakeholders, weavers fundamentally benefit from their livelihood development. The textile handloom industry is severely connected with social culture of the country. Also product creations are identical to the its region and local culture. Most of the products are offered through sustainable and ethical manufacturing processes and some private business offer products according to fair trade regulations.

c. Status

The status of the social layer of handloom BM canvas could be discussed under three elements: end users, societal culture and scale of stretch.

v. End-users

End users are the consumers who value specified, tailer made, sustainable and ethically made local products.

vi. Societal culture

The textile handloom industry is tightly interconnected with social culture. The societal culture of the handloom craft industry influences the locality and responsibility. Product

designs are identical to the culture and the region. It promotes the responsibility of consuming locally made and hand made products. This culture positively increases the use of handloom products within different market levels.

vii. Scale of outreach

Handloom business locally spread overall nine provisional councils in the country providing weaving capabilities to a range of products.

d. Social viability

The social viability of the social layer of handloom BM canvas could be discussed under social impacts and social benefits.

viii. Social impacts

Social impacts associated with cotton farming such as child labour, unfair wages, and health issues of using hazardous chemicals used in the manufacturing process.

ix. Social benefits

Community craftspeople benefit from poverty alleviation, community harness and their wellbeing through the textile handloom industry. Rural livelihood development is one of the core objectives of the business. Also, all the stakeholders gain their personal and professional growth involved with the business. Women empowerment and personal development is facilitated through training. The young generation of the communities gets into the industry.

The analysis indicates that the handloom business offers important social benefits to the community such as providing jobs for rural communities, improving their income levels and living standards, empowering women to take leadership roles and providing self-development opportunities. Products are promoted with the identity of the community, which in turn provides strength and visibility for them in wider society. Weavers do not

have to travel to another city for employment and they can work closer to home, thus supporting their households and community.

“This job is very flexible. I do my household routine in the morning, drop my children to school and go to work and back home when my children return from school.”

(Participant: CSW⁵, CSS⁶)

This also sustains the individuality of the community and its product, which facilitates generating, harnessing and allowing collaborative advancement along with community members. Although these social advantages are encouraging for community-based businesses, provincial council-based and privately-owned business setups are attempting to protect the individuality and culture of the communities they work with. Manufacturing centres are situated in places near weavers’ residences, or they are given flexible hours and working from home preference.

“They provide me a loom and all raw material to my place. It is so flexible for me to complete weaving and return the finished work while accomplishing my daily routine at home.” *(Participant: CSS⁵, CSPBI³)*

While the handloom business generally creates social value, social and environmental impacts associated with cotton farming (such as chemical use, child labour, water depletion and emissions associated with importing cotton) cannot be underestimated. The social impacts of cotton as the primary raw material for the textile handloom industry can be considered a major social impact beyond the weaving communities in Sri Lanka; however, as cotton is not grown in Sri Lanka, these social and environmental costs are not directly felt in the weaving communities. The social layer of the textile handloom industry is shown in Figure 5.6.

Local Communities Local handloom communities	Governance Community members Provincial councils Private businesses	Social Value Ethically Made local products	Societal Culture Tightly interconnected with social culture and region	End User Who value; Personalized Sustainable Ethically made Local products
	Employees Local weavers without gender and ethnicity or some disabilities		Scale of Outreach Locally spread Island wide	
Social Impacts Impact for cotton farming		Social Benefits Women empowerment Rural livelihood development		

Figure 5.6 - Social layer of the textile handloom industry

5.4 PAR workshop data analysis for CBE and BM development

According to Wolfswinkel, et al. (2013), an analysis does not only take the lead to different perceptions, however, some of them may also suggest that previous variables may require (theoretical or operational) improvement or merely less awareness. Hence, some of the main categories related to the research question composed were identified in the initial stage of data analysis through case studies and field observations. PAR data were further embedded until the theoretical saturation of the grounded theory analysis process. Open coding and axial coding analysis were conducted and presented in Section 5.4.1.

The outcome of this analysis was incorporated into the entrepreneurial aspects of the proposed business model as explained in section 5.5.1.




5.4.1. Cross PAR workshop open coding and the axial coding analysis



As explained in Chapter 3, 3.2.3 coding analyses were done as open coding, axial coding and selective coding and cross-analysis results were presented in the Ketso analysis tabulating system under 3 pre-defined themes from the PAR workshops.

a. Theme 1 - Current business situation

The current business situation of the textile handloom industry was understood by four sub-themes: business opportunities, barriers to business, entrepreneurship opportunities and marketing and networking. Open coding and Axial coding were done during the initial phase of analysis and sub-themes were derived. The cross-analysis results were tabulated in Ketso format and presented in Table 5.2.

Table 5.2 - Open and axial coding analysis - Theme 1

 THEME 1: CURRENT BUSINESS SITUATION	
Open & Axial Coding Analysis Business opportunities Barriers for business Entrepreneurship opportunities Marketing & Networking	
 Business opportunities	 Barriers to business
<ul style="list-style-type: none"> • Due to traditional/ unique crafts skills gained from generation to generation • From the external orders through designers and hence the opportunity for weaving skill developments and exposure to new trends 	<ul style="list-style-type: none"> • Only very few craftsmen are doing business on a large scale due to a lack of capital investment • Market competition





<ul style="list-style-type: none"> • Due to the unique skills and product identity of every craftsman in the community • Due to majority of the families and almost all family members involved with this industry as their livelihood • Due to the capability to cater for any customer request • Because handmade products use handlooms • Due to the prevailing fare situation in the market • Due to the ethical manufacturing process • From the external orders through designers and hence the opportunity for weaving skill developments and exposure to new trends 	<ul style="list-style-type: none"> • Craftsmen tend to produce different quality products due to competitive pricing issues • Middlemen's involvement in selling and cheating the craftsmen • Low price expectations from middle-class level customers • No Own retailer outlets • No identified market for handloom products • No mutual trust and group effort due to financial issues • Current political situation • Lack of consumer awareness of the quality of the different handloom products • Cultural barriers • Lack of networking with premium-level customers • Lack of awareness of current trends and pricing
 Marketing & Networking	 Entrepreneurship opportunities
<ul style="list-style-type: none"> • No properly identified marketing channel • Marketing through retailers and middlemen • Problems due to middleman involvement such as cheating, misleading, missing business • Craftsmen skills market via someone else's brand name • Lack of networks 	<ul style="list-style-type: none"> • Ability to cater for customer request • Opportunity to merge with a tourist industry due to the environmental attraction of craft village • Exposure and experience gained from working with current private businesses and designers • Ability to offer a diversified product range under one brand name contributing several craftsmen • Ability to use weaving skills with current design trends







<ul style="list-style-type: none"> • Lack of group cohesiveness, mutual trust and hence difficulties in maintaining networks • Lack of networking for premium-level products • Current networking only through direct customers • The young generation involved with the business is trying to use new communication technology for marketing 	<ul style="list-style-type: none"> • Ability to go for mass production with the demand • Knowledge gained by student designers from leading fashion institutes in the country • Exposure and experience gained from working with current entrepreneurs and designers • Willingness to continue the business as a family business.
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b. Theme 2: Barriers to entrepreneurship

Data gathered under theme 2: Barriers to entrepreneurship were analysed under four sub-themes: social barriers, cultural barriers, technological barriers and marketing and networking barriers were tabulated with Ketso data tabulating format with open coding and axial coding analysis as presented in Table 5.3.

Table 5.3 - Open & axial coding analysis - Theme 2








 THEME 2 -BARRIERS TO ENTREPRENEURSHIP	
 Open & Axial Coding Analysis -2	
Social Barriers Cultural Barriers Technological Barriers Marketing & Networking Barriers	
 Social Barriers	 Cultural Barriers






 THEME 2 -BARRIERS TO ENTREPRENEURSHIP	
 Open & Axial Coding Analysis -2	
<ul style="list-style-type: none"> • Reluctant to work together as a group due to similarities in product occurrence • Disagreement among craftsmen in pricing and selling • Lack of mutual trust among craftsmen • Other expectations from the parents of the young generation than join to the same industry • Less recognition for the livelihood method • The current political situation in the country 	<ul style="list-style-type: none"> • Reluctant to get labour from outside the community and hence less capacity due to a smaller number of community membership • Reluctant to share craft knowledge outside the community • Fewer women participate in factory-based production due to reluctant to go out from home • Priority to home by women rather than attending to weaving
 Technological Barriers	 Marketing & Networking Barriers
<ul style="list-style-type: none"> • Lack of machinery and equipment to cater for big demand • Lacking the simple technological usage to improve productivity • Lack of infrastructure facilities 	<ul style="list-style-type: none"> • No brand identity for the community • No marketing and retailing capability for the community • Marketing through middlemen • Marketing community products under different brand names • Lack of networking • Lack of direct customers • Less opportunity to make a network among international customers • Lack of knowledge of advanced marketing such as e-marketing • Lack of infrastructure to use e-marketing tools
 Comment card	 Notes

c. Theme 3: Entrepreneurial education

Data gathered under theme 3: entrepreneurial education was cross analysed under four sub-themes: entrepreneurial skills, entrepreneurial efficacy, entrepreneurial education and confidence building. Open coding and axial coding cross-analysis were tabulated with Ketso data tabulating format as presented in Table 5.4.

Table 5.4 - Open & axial coding analysis - Theme 3






 THEME 3 - ENTREPRENEURIAL EDUCATION	
 Open & Axial Coding Analysis - 3	
 Entrepreneurial skills Entrepreneurial efficacy Entrepreneurial education Confidence building	
 Entrepreneurial skills	 Entrepreneurial efficacy
<ul style="list-style-type: none"> • Lack of skills in business planning • Lack of skills in generating ideas • Lack of skills in problem-solving • Lacking creative thinking • Ability to do marketing at a certain level • Enthusiasm in marketing using technology with smartphones by the young generation 	<ul style="list-style-type: none"> • Confidence in design with the exposure and experience gained from other designers' work and customer-tailor-made product request • Confidence in pricing the products by experience • Confidence in using raw materials and weaving production by experience • Confidence in delivering customer requirements
 Entrepreneurial education	 Confidencebuilding
<ul style="list-style-type: none"> • Lack of knowledge of current trends and basic designing 	<ul style="list-style-type: none"> • Need confidence in new design trends • Need confidence in technology usage

 THEME 3 - ENTREPRENEURIAL EDUCATION	
 Open & Axial Coding Analysis - 3	
 Entrepreneurial skills Entrepreneurial efficacy Entrepreneurial education Confidence building	
<ul style="list-style-type: none"> • Need awareness of market level and quality requirement • Lack of education in the use of new technology in marketing and production • Lack of marketing knowledge • Lack of education in the use of new communication technology 	<ul style="list-style-type: none"> • Need to gain confidence in the quality of raw material • Need to gain confidence in quality requirement of market levels
	 Notes

5.4.2 Selective coding analysis

The outcome of the selective coding cross-analysis was done and presented in Table 5.5.

Table 5.5 - Selective coding cross-analysis

 SELECTIVE CODING ANALYSIS	
 Sustainable Community Entrepreneurship	
 Networks <ul style="list-style-type: none"> Family involved business Social/ Culture influences Entrepreneurial efficacy Entrepreneurial education Entrepreneurial skills Innovation (Design/ Technical/ Marketing) Empowerment 	
 Comment card	 Notes

Based on the outcomes of the PAR cross-case coding analysis, the final themes were aggregated based on the most significant and common responses received by all three communities.

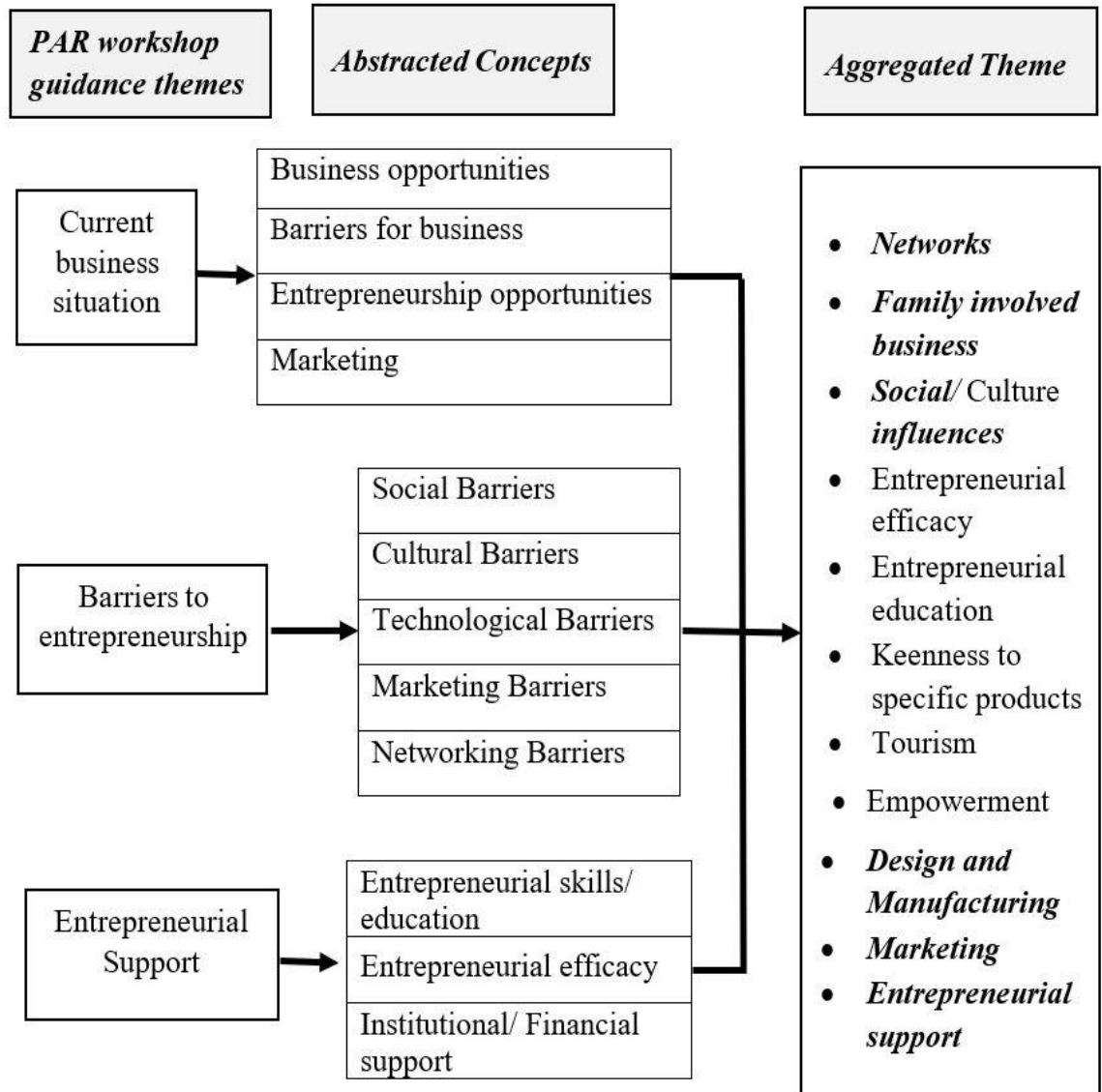


Figure 5.7 – PAR analysis outcome

5.5 Modelling community-based entrepreneurship

Study results permitted the inductive development of new concepts and groupings grounded in existing notions of the development of CBE within handloom communities supported by empirical evidence. The following themes emerged as important factors for the development of CBE within the craft communities, social status, generational differences, closed community, barriers to innovation, restricted networks, family and cultural heritage, which were condensed social networks(capital), social status, family involvement (family web) in business and innovation to produce our model of CBE. Supporting communities to build their knowledge, skills and capacity in these areas will, our findings suggest, facilitate the successful development of sustainable community-based enterprise in rural communities.

Based on the data analysis and findings, four emerging aspects of our CBE model shown in Figure 5.8 can be described as follows.

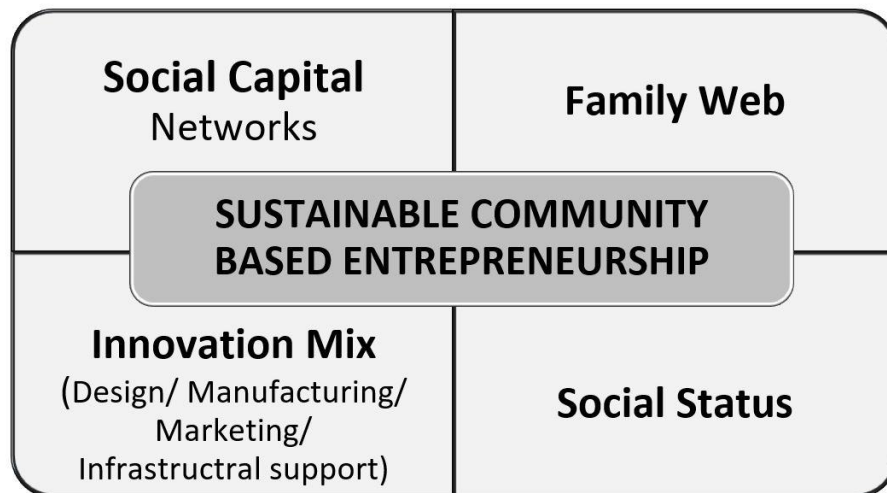


Figure 5.8 - CBE Model

The study identified inter-related themes from the analysis, which hinder the development of community-based enterprises in the handloom sector, restricted networking, family cohesion business, social influences, and barriers to innovation in product designing,

manufacturing, and marketing. These perceptions were further abridged to four key aspects as social networks, social status, family-involved businesses (family web) and innovative use of design, manufacturing, marketing and support gain for infrastructure.

5.5.1 Social networks

The study revealed that social networks external to the community are limited, restricted and weak. In turn, this significantly diminishes the CBE opportunities for craftspeople. This is mainly due to rural community locations, the desire to protect traditional approaches from outsiders and the lack of access to digital tools.

“Mostly our current networks exist within the community. We share everything with our community members. Sometimes within our family. However, we have realized how limited these networks are”. (*Participant: PARM⁴*)

The reliance on middlemen stifles business development, there is no incentive to innovate as the middleman takes a significant proportion of profit. Communities lacked networking, confidence and knowledge to manage without a middleman. Therefore, the handloom community entrepreneurial effort is currently stagnating, with few business development opportunities. However, communities are gradually recognizing the issue.

“Our networks have [been] limited to few parties. But gradually we have realized the limitations of them and try to extend the relationships with outside partners. Especially raw material supplies and retailers. (*Participant: PARM²*).

This study too recognized opportunities for improving network engagement and activation. The study further considered social networks as connections enabling better business relationships among the communities and related supply chains. These (often poorly exploited) entrepreneurial networks comprise the handloom communities, supply chain: raw material suppliers, service providers (for innovation: design/ manufacturing/ marketing/ institutional support) and customers. Though these links are currently not

dynamic, there are three forms of social networks existing within the handloom CBE business through handloom communities; 1. Community craftspeople-raw material suppliers(local), 2. Community craftspeople-intermediary/retailer and 3. Community craftspeople-community craftspeople (inter-community links). However, networking with entrepreneurial support (government, financial and educational institutions) and direct customers are very poor.

The example of the Marathamunie Community is an illustrative of the benefits of a self-generated network, and research in other settings suggests developing skills for networking rather than trying to build a network for the weaving communities may be more beneficial. The Marathamunie community has developed weak ties to a much greater extent than the other two communities. They have gone beyond the local raw material suppliers and developed operative networks with suppliers in India. They used inter-community networks to import raw materials directly, doing necessary colouring within community dyeing plants without third-party involvement. Correspondingly, this community was sustaining a direct customer base across the country with the effective utilization of weak ties in marketing.

However, in part, this problem is due to a lack of networks and knowledge. Middlemen guard their knowledge of supply chains, retail outlets and pricing strategies, and rural weavers have few urban contacts and little knowledge of how to build such networks to support them in moving to a more entrepreneurial approach to business, without the involvement of middlemen. Yet, networking with entrepreneurial support (government, financial and educational institutions) and directly with customers is limited. We have noted recent government action aiming to support handloom and craft development which aims to stimulate networks of handloom craft businesses; however, our findings are that top-down initiatives are rarely successful in improving network development.

5.5.2 Family Web

The study reveals family bonded businesses within the textile handloom industry create more advantages than individual CBE businesses. The term family web is used here to describe the family involvement in craft business processes within the local culture. This expresses how the immediate family becomes involved in the business, contributing to the business development process and the progress of the business through different generational stages of the extended family (children, adults, and even senior members in the family), playing different roles albeit contributing to the production process. For younger members, a family business can provide an opportunity for unique work or professional experiences that may not be available to others.

Community members were proud of their family, their identity, and their cultural heritage but communities are reluctant to open up to outsiders, generally resistant to innovation or even to allow the community to grow by training outsiders who showed an interest in learning the craft.

“Thalagune community, we all one related family, consists of seven individual families. Our youngsters will come up soon as the next generation. But we protect our weaving techniques and our traditional ‘Dumbara designs’ within our community family. Wherever we sell our community products we have our own family identity.”
(Participant: PART⁴)

The study further identified unity and mutual support within the family and the family web businesses. The Thalagune community is a perfect example of such a family-oriented CBE business, which has survived through several generations. Currently, this community consists of seven related families, and they play a dominant role in the traditional handloom business in the country. Each member, including younger to senior persons is involved in the various stages of the business. This community attempts to sustain their community identity as ‘Dumbara Weaving’ which is unique to its products and

manufacturing techniques. Also, they preserve their traditional designs and manufacturing technology only within the community permitting its' use only for the community.

Where younger people remained in the community, working alongside their families, there were instances of younger weavers managing to develop product innovation, alongside maintaining traditional approaches to manufacturing,

“I am 23 years old. I started my own business very recently. I got my basic knowledge from my parents and well-experienced crafts persons from my community. However, I Google and found information related to new products. So, I planned these products inspired by related innovation, via the internet. Already I have good demand for my range all over the country. I hope to use new information technology to improve our community products in this way”. (*Participant: PARM⁵*).

The potential for family-led innovation where young people remain in the community indicates innovation opportunities for handloom, which could be further developed, through CBE but we found family could offer both an opportunity for CBE and act as a barrier. The close-knit, family-led communities supported each other in completing work, fixing equipment, sharing skills and resources,

“In our community, each family work separately. Sometimes immediate family and extended family run the same business. Or sometimes immediate family members do their business. However, they all support each other in performing their task when necessary”. (*Participant: PARM³*).

5.5.3 Innovation mix

The study findings reveal that sustainable entrepreneurship development in craft communities requires an innovative approach to new product look, process, and market, and we suggest four key aspects to engage to sustain the CBE businesses. The four areas where innovation support should be provided are product designing, improved product

manufacturing techniques, marketing strategy and infrastructure support as a blend to encourage new CBE opportunities.

5.5.3.1 Designing

As the study discovered, communities are not able to offer a range of products that meet market requirements. Therefore, the proposed model highlights the need for strategic design innovation and DI as a bridge to fill the gap between traditional artisans and mainstream markets, to develop trade with new fashion markets, especially in the West, which could be facilitated by government agencies and given the widespread use of mobile telephony and 3G connectivity.

However, the study further discovered that the communities wanted to maintain traditional practices, and traditional designs and ensure the cultural heritage of weaving continued; this was a strong motivator for maintaining handloom, despite the difficulties.

“Still, we continue some products such as wall hangers done using traditional weaving techniques inspired by Sri Lankan cultural heritage. Any time it has equal demand.”
(Participant: PART²)

The participants described existing business opportunities as mainly due to their traditional/unique handloom weaving skills and current market appreciation for ethical production, handmade and fair-trade products, particularly among tourists.

“We would like to continue our handloom craft using our own cultural inspirations. Tourists who came to us like products that are inspired by Sri Lankan craft heritage”
(Participant: PART¹).

“Foreign customers love the products with our traditional handloom structures. They appreciate culturally inspired products. Specially gift items that signify the cultural heritage.” *(Participant: PART⁵)*.

Yet, the communities wanted to maintain traditional practices and ensure the cultural heritage of weaving continued; this was a strong motivator for maintaining handloom, despite the difficulties.

“Still, we continue some products such as wall hangers done using traditional weaving techniques inspired by Sri Lankan cultural heritage. Every time it has equal demand.”
(Participant: PART²)

However, innovation was seen as a potential threat rather than an opportunity, as it was considered this might dilute the craft's heritage, damage reputation and lead to the ultimate destruction of heritage. Older community members had a limited understanding of innovation, not recognizing BM, marketing, supply, and distribution of products could all be areas for innovation, saw innovation as related solely to production methods and considered this might be damaging to their craft heritage.

“Many of us still use the same basic technology in our industry. It's challenging us to engage with new technological innovation.” *(Participant: PARM²)*

However, younger weavers were open to innovation, although noting substantial barriers to innovation existed within their communities.

“Our community elders always continue the same products for years. But I love to try new products range. Currently, I am undergoing a diploma program related to craft at a reputed institute in the country. I hope I will get the necessary knowledge. I intend to design a new range of products for the market.” *(Participant: PART³)*

As the study discovered, communities are not able to offer a range of products that meet market requirements. Therefore, our model highlights the need for strategic design innovation and DI as a bridge to fill the gap between traditional artisans and mainstream markets, to develop trade with new fashion markets, especially in the West, which could

be facilitated by government agencies and given the widespread use of mobile telephony and 3G connectivity.

5.5.3.2 Marketing

Although craftspeople have realized the importance of developing local market shares and understand the domestic market is a significant driver of the growth of CBE craft businesses, as noted above handloom craft producers have only limited direct contact with local markets and no direct contact with global fashion markets which could drive innovation in both design and marketing. The study found handloom communities have very little understanding and knowledge of the domestic market and market networks which hampers their developing markets for themselves, linking back to their reliance on strong, and community-based familial networks and lack of wider, weak networks which may facilitate access to new knowledge and opportunities. Furthermore, they cannot engage external marketing agencies to support them, due to the cost. Very limited practices of social media-based marketing and social media networking take place within community businesses, and where this does occur it is always with the involvement of community youth. However, young people do not have the skills to segment the market and build an effective marketing strategy. These factors embed reliance on intermediaries and can lead to the exploitation of crafts manufacture. The study indicated that simple strategies such as providing distance learning resources to develop marketing skills among the younger, more digitally literate members of the handloom communities could potentially improve marketing innovation.

Thus, the study revealed that marketing challenges are one of the dominant issues encountered by the handloom CBE. They do not have a clearly defined target market and are poorly equipped to innovate in marketing. Most community producers trade their products using informal channels such as weekly fairs, and seasonal fairs, through intermediate persons. However, they have a limited number of direct customers who come to them for craft products, minimizing the producer's profit and leading to the community

businesses being uneconomic. Therefore, community craft business mostly depends on and is influenced by intermediaries and retailers. Intermediaries' involvement is a vital challenge for the current handloom business process as intermediaries largely benefit from the products of the community members and have a significant interest in maintaining the status quo, rather than in encouraging innovation and broadening community-based enterprise. The role of intermediaries results in a major share of community products going to market through various retailer brands without indicating community identity, breaking the link between the producer and consumer.

The reliance on middlemen stifles business development, there is no incentive to innovate as the middleman takes a significant proportion of profit. Furthermore, communities lacked the confidence and knowledge to manage without a middleman. Lack of knowledge, alongside lack of funds, were identified as key barriers to innovations in the supply chain, product designing, manufacturing, and marketing by all the participants while further barriers were the need to access support for business development with little knowledge of processes or agencies involved.

Therefore, innovation to overcome marketing barriers was a significant barrier to developing entrepreneurship,

“Most products go to market through a third-person involvement. Because we don't have appropriate understanding of market our products. This third person sells our products via his brand or directing to a retailer”. (*Participant: PART², PARM³, PARM⁴*).

“We don't have any idea of marketing our products. From time to time the government introduce some channel. But it won't sustain. (*Participant: PARM³*)”

Non-brand identity, marketing through intermediaries, marketing community products under different retailer brands, lack of networking, lack of marketing and retailing capability, little knowledge in advanced marketing such as e-marketing and lack of

infrastructure to use e-marketing tools were revealed as major marketing barriers. Once again, the importance of encouraging the younger community members to remain was highlighted, as where digitally savvy youth were involved, they were able to innovate with direct digital marketing, as noted by one older community member,

“We got used to getting help from third parties to market our products. Anyway, now our youngsters who are good in IT, support us for our marketing to a certain extent. So, our community may have hope for our product marketing in future.” (*Participant: PARM2*)

Marketing innovation relies on families having the ability to use online tools suggesting that support with digital marketing and digital networking skills development may encourage CBE and reduce reliance on middlemen.

5.5.3.3 Manufacturing

Every single craft product tells a story of it and it's difficult to replicate the same product enriching the same value. Therefore, every craft product makes a precise appeal to purchasing it. As the study reveals, craft manufacture requires an intimate knowledge of methods of production from an experienced individual. Skilled craft community people involve with manufacturing and manufacture products in low volume, one by one, with a great level of range, to meet up the needs of their customers. Over the past centuries, handloom craft skills have been transferred from weaving masters to apprentices primarily from generation to generation. Local handloom craftspeople work at home or in small workshops attached to the home and yet manufacture hand or hand-operated machinery and equipment. Correspondingly, craftspeople share some scarce resources among the community drawing from the community's traditions of helping each other. However, this system worked well so far with small-scale local handloom production in the craft communities. As revealed by the study results, the handloom community craft sector is looking for a possible innovative process automation contribution without compromising

the craft value of the products and with low overhead cost accumulation. It supports the business expansion plan of the community focusing on sustainable CBE efforts.

Correspondingly, ethical production and fair trade are well-admired concepts in the textile industry in sustainable development concept. Sustainable manufacturing challenges employee and product safety ensuring ethical production and applying traditional skills to meet new opportunities and challenges aiming for sustainable markets too. However, handloom craft manufacturing is already an ethical manufacturing process which adds the constructive sight of CBE settings.

Historical experience indicates that adverse situations and economic crises could also be a catalyst for an entrepreneurial drive. Correspondingly, the existing handloom manufacturing process benefit to become a protective manufacturing method to offer the appropriate solution to the tragic Covid-19 situation. Due to individual and family webbed business setup and the ability to work at home or workshop attached to a home, this provides a protective environment to continue the production fulfilling local apparel requirements. Hence, the community manufacturing structure encourages the prevailing manufacturing mode with economical automation upgrading to promote sustainable CBE attempts.

5.5.3.4 Infrastructural Support

The infrastructure support needed for CEB development is significant, but it creates a possibility of safety and guarantees concerning fulfilling community ambitions. However, initial support is an encouragement for entrepreneurial startups. Infrastructural support may take different forms; Legal infrastructure-Support on laws and regulations concerning entrepreneurship; Physical infrastructure-Support for transport, energy, communication, and utilities; Financial infrastructure-Support from financial institutions such as banks, savings and loan associations, money and capital market, funds, definite models of financial support like business angels and risk capital; Educational infrastructure-

Educational support from state institutes, scientific research institutes that are an important source for acquiring knowledge and skills, sharing experiences, getting consultancy; Institutional infrastructure-Supports from state and private institutions that assist the entrepreneurship encouragement and development.

As evidenced by the study, the effectiveness of the current entrepreneurial support to CBE for the community craft sector is very limited and not well planned. Therefore, the craft community needs enormous support in guidance, mentoring, educational, marketing and financing at different stages of business development to turn their community craft business into a more sustainable CBE. They particularly need assistance at the pre-startup, startup, development and growth phases. However, CBE development requires not only a supportive infrastructure but a long-term commitment of craftspeople and resources to facilitate the process of releasing the entrepreneurial spirit of the community for the progression of this effort.

5.5.4 Social status

Within the craft sector, generational progression persists in transferring craft skills. Indigenous and traditional weaving community growth is entirely based on the related family group by generation. However, the study discovered an unwillingness to become a craftsman among the younger generations of communities, linked to perceptions of lower social status. Youngsters in the communities expressed strong preferences for technological or office-based occupations and conventional eight-hour jobs outside the community as these are believed to be more prestigious occupations than craft livelihoods and entrepreneurial efforts. Accordingly, the study found perceptions of social status significantly reduce the number of young people joining the family business, which, if the pattern continues, has significant implications for the long-term sustainability of CBE within the handloom sector.

Handloom weaving in Sri Lanka has a documented tradition of c3000 years, but weavers believe it does not confer social status, parents who can afford to do so encourage children to leave the community.

“We like our children to find alternative jobs other than involvement in the handloom business, this business does not guarantee a consistent income. In certain months we didn’t earn any income. Therefore, we couldn’t even manage our day to expenses. Also, we would like them to get better recognition with a different livelihood engagement” (*Participant: PARM²*).

Also, handloom is not recognized by wider society as a valuable contribution to the economy, despite its importance as a tourist attraction, and weavers are not seen as business owners or self-employed, but rather as workers under the control of middlemen. This represents lower social status, and many parents encourage their children to seek new opportunities in urban areas while young people themselves aim to leave the community to seek other work,

“From my childhood, I help my parents’ handloom business. But it’s my dream to find employment with new technological engagement. Then I can get good recognition from our society”. (*Participant: PARM¹*).

There is a trend in rural to urban migration, with early migration profiles, meaning younger people are those most likely to migrate in search of work reducing the pool of potential weavers and removing the age group most likely to use the internet as a tool for innovation. Because handloom weavers in communities are largely reliant on middlemen to access raw materials and to get their finished goods to market, this puts weavers in the position of sub-contractors, reducing their agency and income, which in turn lowers the status of those engaged in this highly skilled sector; urban dwellers are not aware of the skill involved in this ancient craft, but recognize that the weavers are relatively poor and powerless, leading the weavers to seek to improve the status of their children,

“We tried our level best to give good education to our children. So, we like to see them engage in white collar work than craft work. Otherwise, they won’t get recognition in our society” (*Participant: PART⁴*).

5.6 Foundation for community entrepreneurship layer

Numerous social approaches channel the way towards sustainability in community entrepreneurship: cultural (Huggins & Thompson, 2012; Swanson & Devereaux, 2017)), networks (Granovetter, 1983; Kramer and Porter, 2011), social entrepreneurship (Yunus et al., 2010), Social status, livelihood asserts (DFID, 2000). While existent BM research is often rooted in economic, environmental and social sustainability, few scholars have addressed how social BMs can become a means to addressing entrepreneurial needs. Seelos and Mair (2020) explored social BMs when they analyzed entrepreneurial methodologies to enhance healthcare facilities and mobile communication infrastructure in impoverished regions. The authors describe social BMs as characterized by stakeholders that replace shareholders as the focus of value maximization. Further Freeman and Reed (1983) have discussed social issues in the BM towards and stakeholder theory. This stakeholder approach contrasted with Friedman's (2007) point of view that profits for shareholders were the social responsibility of a business. The outcome of this study adapted the entrepreneurial perspectives of handloom business to the proposed eight elements entrepreneurship layer.

Figure 5.9 shows how the entrepreneurial approach of the sustainable community entrepreneurship layer of the handloom BM elaboration on the handloom business through the study outcomes.

Craft Communities Small entrepreneurs Craft families Weavers	Innovation Design Manufacturing Marketing	Social Status Social recognition Social respect	Networks Internal networks - Within community External networks - With suppliers - With retailers - With customer	User base Craft communities
	Culture Traditional capabilities Family web			
Entrepreneurial inventive Entrepreneurial skills Entrepreneurial efficacy			Livelihood growth Increase well being Better income Empowerment Reduce vulnerability	

Fig 5.9 - Community entrepreneurship layer of the textile handloom industry

This section presents the summary details outlined by the results of data analysis of the CBE of handloom BM. The entrepreneurship layer is configured with eight elements of key contributions for CBE as craft communities, innovation, culture, social status, networks, user base, entrepreneurial inventive and livelihood growth.

5.6.1 Craft communities

The craft communities are the key stakeholders in BM. The craft community's element includes subgroups of communities such as present community entrepreneurs, craft families, weavers, and related suppliers. Even if stakeholders are scattered geographically, the business relationship between the suppliers and the customer needs a close association. In the handloom business, 95% of raw materials are imported from India and China and local communities participate in the manufacturing process.

5.6.2 Innovation

Innovation is a vital feature of entrepreneurship development in craft communities. According to Mortati (2015), sustainable innovation for products and process

improvement were the keys to sustainable development leading to a sustainable marketplace. As discussed in section 5.5 key four segments where innovation support should be provided in handloom business development through CBE are product designing, upgraded product manufacturing techniques, marketing strategy and infrastructure support.

5.6.3 Culture

“Culture is a driver of development, led by the growth of the creative economy in general and the creative and cultural industries in particular, recognized not only for their economic value, but also increasingly for the role in producing new creative ideas or technologies, and their non-monetized social benefits.” (UNESCO Report, 2013, p11). This study’s interpretation of culture is identical to this understanding. Community culture here directly influences growth, with the development of traditional craft capabilities and family involvement in the community business. The study uses the term ‘family web’ here to describe the family involvement in craft business processes within the local culture. Involvement and commitment of family members and interaction with the business itself generate a bunch of resources.

5.6.4 Social Status

According to Wright (1997), possession of skill is one indicator of social class position. Social status expresses skill levels, power and impact an individual possesses (Burgard et al., 2003). Commonly, in developing countries social structures are based on cultural aspects that closely connect to the social status of people. They are convinced that societal status comes from connecting social and economic aspects. This study’s interpretation of social status is identical to these understandings. It is described how to craft communities achieve societal status through entrepreneurial development and hence gain social recognition and social respect. Its drive is broader than assuring community economic existence. Thus, the mission should be to provide support to create an entrepreneurial environment in craft communities to enhance the societal status of craft people.

5.6.5 Networks

Social networking is a key aspect of CBE development (Granovetter, 1983; Omar, Higgs, Wei, & Ali, 2020). The study emphasizes the importance of forming and maintaining relationships internally and externally with stakeholders for business development opportunities. Internal networking within the community, as well as external networking with relevant suppliers, consumers, and competitors, are well appropriate for CBE growth. Similarly, networks could be useful here as channels for information and knowledge, for the refinement of ideas, for gathering information, and for enabling better recognition of entrepreneurial opportunities.

5.6.6 User base

The user base is the stakeholders who use the BM for community growth. In this BM key users are the craft communities who use the BM for the development of craft businesses. The user base may contain entrepreneurs with self-employed mindsets or with the attitudes of the owner in small-scale enterprises.

5.6.7 Entrepreneurial inventive

In the economic BM canvas, the performance indicator represents the financial benefits. The environmental BM canvas of TLBMC signifies meta-indicators of performance. The social layer designates the social impacts depending on the issue at hand in the situation. In this case, the CBE business canvas is considered an entrepreneurial invention that could be encouraged entrepreneurial effort. In the case of craft development entrepreneurial efficacy, entrepreneurial skills and entrepreneurial education are prioritized. However, these are not easily identifiable and quantifiable. Therefore, the performance indication needs to be designated situationally considering the case in hand.

5.6.8 Livelihood growth

Livelihood growth is the collection of improvements to the quality of life of community members and families. This meant enhancements living standards in terms of monetary

status, well-being and more. This is the same as entrepreneurial inventiveness. Livelihood growth is measured in multiple indicators that are to be established by the community business.

5.7 Design intervention in the textile handloom industry through the co-creation process

Based on the information gathered from the case study and PAR it was discovered that the level of community craft person's awareness of the design and product development was at a primitive stage. Therefore, two design workshops were conducted for the community craft persons to provide fundamental knowledge in handloom product designing and development processes and identification of probable markets. Design workshops addressed how can design intervention support the revival of handloom products by employing a co-creation process to investigate the possibility of applying design interventions to community products.

The case study interviews analysis identified the below themes.

- (i) handloom manufacturing processes of the community
- (ii) physical resources and skills of the community members
- (iii) community product range and current supply chain,
- (iv) design and product development process
- (v) marketing challenges

Correspondingly, PAR workshop data were processed according to the cycle of data collection and analysis based on the grounded theory and the following themes were derived.

- (i) products/ product design and development
- (ii) production process and supply chain
- (iii) sales and promotions
- (iv) design awareness.

Four themes were aggregated from the case study and PAR workshops which were deemed to have the best potential for revitalizing community handloom products.

Table 5.6 – Theme analysis of design intervention

Sub-themes	Final themes
From case studies	
(i) Handloom manufacturing processes of the community	
(ii) Physical resources and skills of the community members	
(iii) Community product range and current supply chain,	
(iv) Design and product development process	
(v) Marketing challenges	
From PAR	
(vi) Products/ product design and development	
(vii) Production process and supply chain	
(viii) Sales and promotions	
(ix) Design awareness.	
	(i) Product design and development (ii) Production process and supply chain (iii) Sales and marketing (iv) Design application through design intervention

(i) Product design and development

The study results revealed that the Madampella community primarily produces few handloom products and supplies only the domestic market. The study results show the current product range of the community is very limited. Existing products are very basic handloom products with little or no design features. The products include sarees, sarongs,

shawls and household textile requirements: towels, bed linen, table ware and cushion cover.

“Most of our community members do sarongs, sarees, and bed linen which are rectangular. Though we can go for fabulous weaving structures, we don’t have the precise design skills to use these structures appropriately and blend them with contemporary designs. So, we are not confident to go for new products.” (*Participant: CS⁵ and PAR⁸*)

These products continue from generation to generation without significant design enrichment or gaining new value propositions.

“We make some handloom products which are a progression from our generation. We don’t put much effort to upgrade the products because we do this business mainly for the domestic budget market and to cover up our daily expenses.” (*Participants: CS³ and PAR¹⁰*)

The community uses plain and twill weaving structures for community products. Yet, most of the community craft people are talented and possess the skill of creating composite structures to accomplish various textures, lines and motif patterns if a customer demand arises. Nevertheless, the community focus is on continuing with the same limited product range and trying to achieve the economic objectives of the business. Therefore, they tend to produce regular and simple structures rather than focusing on new developments.

“If a customer requests, I can offer any weaving structure with whatever texture or motif. But I don’t attempt to utilize complicated things with my regular product. Because I need to achieve my daily target. Otherwise, I can’t reach my monetary targets.” (*Participant: PAR¹¹*)

The community members stated that they are not very good at designing new products or creatively mixing colours.

“We are not very good in design and appropriately blend colours to our products. Most of the community members use a similar range of shades and get a similar product

look without individual identification. Also, very commonly weft is leftover yarns from previous work. So, products get whatever the resultant colour, but not what we expected” (*Participant: CS¹, CS⁴ and PAR⁹*)

The study identified a significant lack of market exposure in the weaving community. However, the community maintain traditional practices and ensures they respond to cultural sensibilities in weaving, and this was a strong feature that keeps the demand for their products sustained in the surrounding area by people seeking to maintain cultural heritage. Nevertheless, there are sometimes demands from customers for new approaches.

“From time-to-time customers come to us and ask to customize products. But we can’t offer customer demand other than the woven work due to a lack of product designing knowledge. If we have design support, we are confident to get the manufacturing challenge.” (*Participant: CS⁵ and PAR¹²*)

(ii) Production process and supply chain

Each community house has its own weaving shed or dedicated space for weaving production with an average of 1-3 looms and other accessories used for handloom production. Almost all the members of a family contribute to the handloom production process in various capacities. Both men and women are engaged in the production process, men fulltime and women while engaging in the household work. Elderly and young family members also support yarn winding, sorting out work, finishing, etc.

The participants showed their passion for technological improvements to the handloom production process and were aware this could offer opportunities for innovation. However, weaving production is poorly linked to sources of support for the introduction of modern technologies.

“Many of us still use the same basic technology in the production process. It’s a real challenge for us to do experiments, engage with new developments and go for

productivity targets. However, some of our young members upgraded a few types of machinery using simple technology. We are looking for an opportunity for loom advancement.” (*Participant:CS², PAR⁷*).

The community members get orders primarily through intermediary people (middlemen) and retailers, and very infrequently from direct customers. Raw materials: cotton, polyester and rayon-dyed yarn are sourced from local yarn suppliers according to product demand. Occasionally, they work with banana yarns and natural dyes for special customer orders. In addition, they get polyester yarns which are leftovers from the apparel manufacturing industry in the nearby industrial zone. They use polyester threads to manufacture low-cost sarees which are in-demand in local budget markets. Community members use their production facility within residential space for the production and storage of the finished products. However, they avoid keeping stock due to financial constraints. Therefore, it takes considerable time for these craft people to execute an order, depending on the product type and raw material availability. Usually finished products are collected by the person who placed the order. Craft people sometimes deliver goods to customers using public transportation services. Products are sold through regular retailers who usually sell apparel products in their stores, but this means the craft people are deprived of community recognition. Business middlemen sell community products to reputed handloom retailers, but the absence of the community identity on the products diminishes branding opportunities, and the middlemen obtain a portion of the profit. Community members very rarely find opportunities for direct sales, with these being limited to annual exhibition events.

This community has segmented their markets to a small extent, depending on the retail channel. Most products go to a particular consumer segment, ‘handloom lovers. This consumer segment is unaware of the community identity as goods are marketed to retailers via intermediaries, and when ‘handloom lovers’ purchase community goods in specialist

handloom stores, they have retailer rather than community branding. This strategy means specialist retailers benefit from weaving skills without community recognition.

“There are few agents who come to us to buy our products. They always bargain. However, we must sell our products via them.” (*Participant: CS⁵, PAR⁹*)

(iii) Sales and marketing

Lack of marketing knowledge and promotions were one of the significant barriers to the revitalization of community handloom products.

“Most of the products go to market through a third person and via his brand. Because we don’t have appropriate understanding of the market and promoting our products.” (*Participant: CS³, CS⁶, PAR⁹*)

Non-brand identity, marketing through intermediaries, marketing community products under different retailer brands, lack of networking, lack of marketing and retailing capability, little knowledge in advanced marketing such as e-marketing and lack of infrastructure to use e-marketing tools were revealed as major marketing barriers. The importance of encouraging the younger community members to remain was highlighted, as where digitally savvy youth were involved, they were able to innovate with direct digital marketing, as noted by a few older community members.

“Now our youngsters who are good in IT, support us for our marketing to a certain extent. So, our community may have hope of our product marketing in future.” (*Participant: CS⁵, PAR¹⁰*)

(iv) Design application through design intervention

Due to the tradition of intergenerational learning hand loom craft persons generally have minimal access to formal craft design education. However, there are young community

members who have a vibrant vision to go with their formal education and these members suggest ways for the progression of community business.

“Though elders continue the same products for years, I need to try an innovative range. Currently, I am undergoing a diploma in design. I hope I will get the necessary knowledge and acquaintance to do a new range of products with our community inspiration.” (*Participant: DW¹⁶*)

Design workshops are conducted to provide basic design knowledge to community participants through the experience of a co-creation process. Textile design experts initially shared contemporary design perceptions of the handloom, product design and development processes with community participants. With the accumulated knowledge, the community participants were asked to create a handloom fabric (as a small group task) for a given colour range under the guidance of the design experts during the workshop and feedback was given for their outcomes. Participants were excited to be involved here.

“In the first time we experience this type of learning. We just use colours for our products. We don’t have awareness of inspiration. This helps us to think inventively.” (*Participant: DW¹⁴, DW²³*)

Based on the analysis of the case studies and PAR the collaborative team understood the community skills, current product range and local business setting. With this understanding, a new product range was collaboratively explored and developed. The new product range (shirts and dresses) was decided by considering how the current market could be combined with novel handloom fabrication. This would be a fresh market segment for the community. The development process was formed gradually through design sketching, team discussion, prototyping and work presentation. The design team was solely responsible for the design concepts and presenting these to community members in a visual form based on community ideas developed by the entire collaborative development team. Fabric prototypes were produced by the community members under the guidance of the designers. The prototyping method of co-creation benefited both

parties; the community members needed to identify the novel weaving production techniques and designers gained a better understanding of the handloom craft.

Madampella community currently utilizes the entire piece of handloom materials they produce for end products. Most of the existing products are rectangular such as saree, sarongs, bed linen and tableware. There is no fabric waste generation with current production. The collaborative team attempted to adhere to a similar concept and exploited the 'zero material waste concept' in the new design development process. Thus, the team was keen to focus on the new product range where waste fabrics from one product are utilized to create another byproduct targeting home decor and fashion accessories. These waste fabrics were planned to be utilized creatively and systematically for the byproduct focused on the remaining material. The team initially proposed fashion accessories such as necklaces, earrings and hair bands from waste fabric.

The fabric prototype was developed by the community craft person and the sample garments were produced with the help of a suburb apparel manufacturing plant due to the current unavailability of community apparel production facilities. The prototype of the clothing range and byproducts range of accessories (earrings and necklaces) were made out from the marker fallout fabric developed by the collaborative team as shown in Chapter 4, Figurer 4.49 and 4.50.

After completing the prototypes, product analysis was done by the designers and community members. The co-creation prototyping process allowed designers to gain a deep understanding of the craft process and community members to distinguish a traditional product range and possible innovations within handloom craft. Furthermore, products were presented to local retailers and obtained their feedback and responses, which were further used for product improvement.

All parties of the collaborative team benefitted through this design intervention collaborative process. This exercise was a shared learning effort to exchange knowledge. The craft people benefited through gaining design knowledge, potential product categories and market standings during design workshops and the collaborative process. This process certainly supported community members in understanding their skills, identifying possible improvements, and recognizing market opportunities. Fashionable clothing and accessories were completely strange products to the community, and they realized the wider market opportunities and the types of market they can now approach. This was a hands-on experience for designers to work with a community to understand crafts persons' skills and practical difficulties. It is clear that many positives come from the development of knowledge exchange partnerships between designers, handloom craft persons, apparel manufacturers and retailers and fostering these relationships could enable continuing a collaborative effort for community business growth.

5.8 Community entrepreneurial approach towards sustainable BM

This section discussed how each of the construct's entrepreneurial theories and BM innovation of the theoretical framework has been operationalized in deriving the CBE layer with analysis outcomes. This proposed sustainable community entrepreneurship layer can be supported by an innovative exploration of sustainable BMs and sustainability focused on invention more broadly within handloom community entrepreneurship practices.

The wide acceptance and application of the BM canvas recommend it is a beneficial approach for understanding and sharing an active BM and for encouraging business innovation (Geissdoerfer et al., 2018). Therefore, the proposed layer of the BM is framed based on Osterwalder and Pigneur's (2010) BM canvas which invests and supports economic value creation and Joyce & Paquin's (2016) Triple Layered BM Canvas (TLBMC) sustain the environment and social value with newly discovered entrepreneurial layer naming SEEE BM.

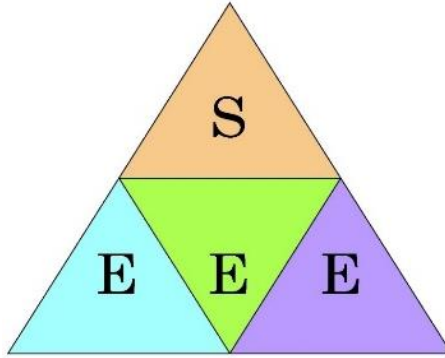


Figure 5.10 – **SEEE** BM for the textile handloom craft industry

5.8.1 Social Layer

The social layer of this BM includes eight elements that primarily affect the handloom business. Two elements of the TLBMC model, local communities and scale of outreach have been considered as single elements here representing both by local communities. The local communities in handloom BM represent the island-wide scattered all handloom communities that operate as independent communities such as Thalagune, Madampellela and Marathmunie and those who worked for provincial council businesses and private businesses.

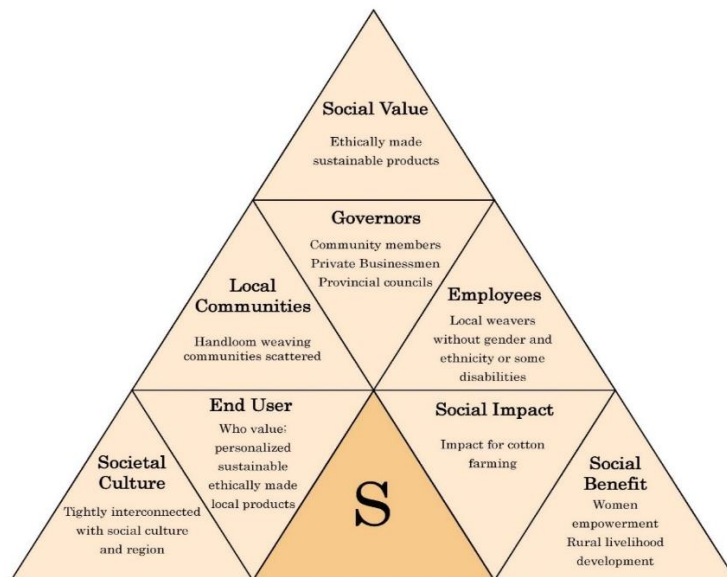


Figure 5.11 – Social layer of the textile handloom business

5.8.2 Economic Layer

The economic layer of handloom BM includes eight elements that tend to affect the economic aspects of the handloom business. Two elements of the Osterwalder and Pigneur (2010) model, customer relationship and customer segments were considered together as a single element here. Weak customer relationships in different customer segments are significant issues identified by the study. As the study discovered the customer relationship of the handloom business directly relates to the customer segments. Customer bond with the craftspeople preserves with different customer segments. It was further revealed that focusing on customer relationships concerning each customer segment would address the issue rather than focusing on two elements in the BM.

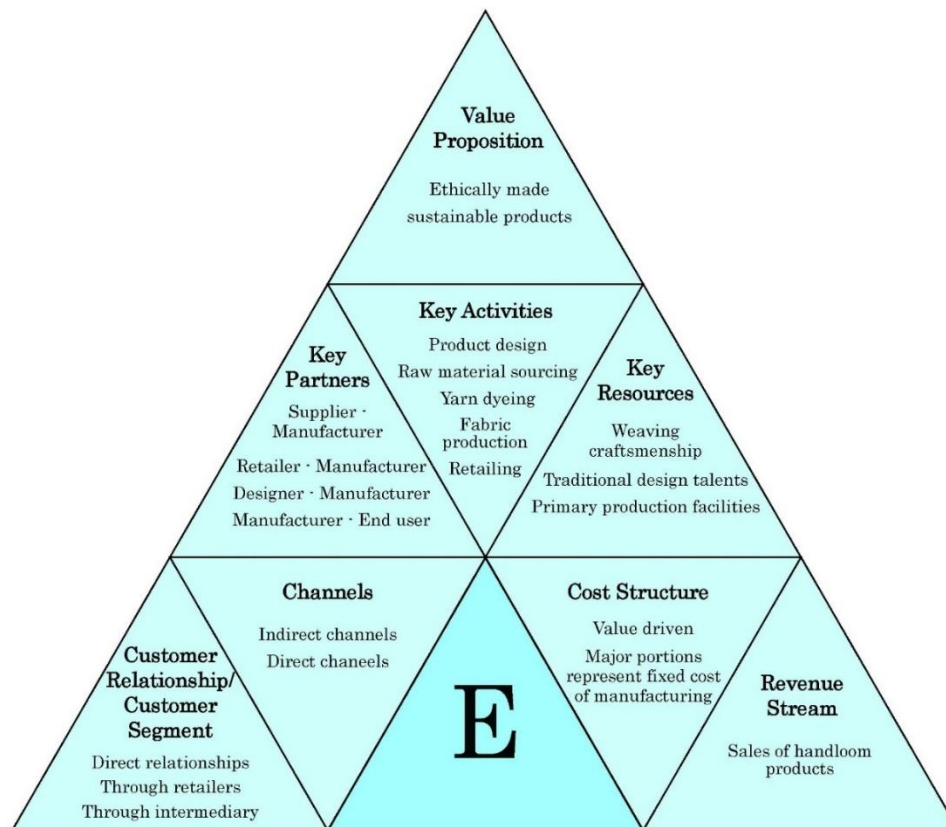


Figure 5.12 Economic layer of the textile handloom business

5.8.3 Environment Layer

The environment layer of handloom BM includes eight elements that largely affect the environmental aspects of the business. According to the study outcomes ‘user phase element’ of the TLBMC model has not largely affected the environment.

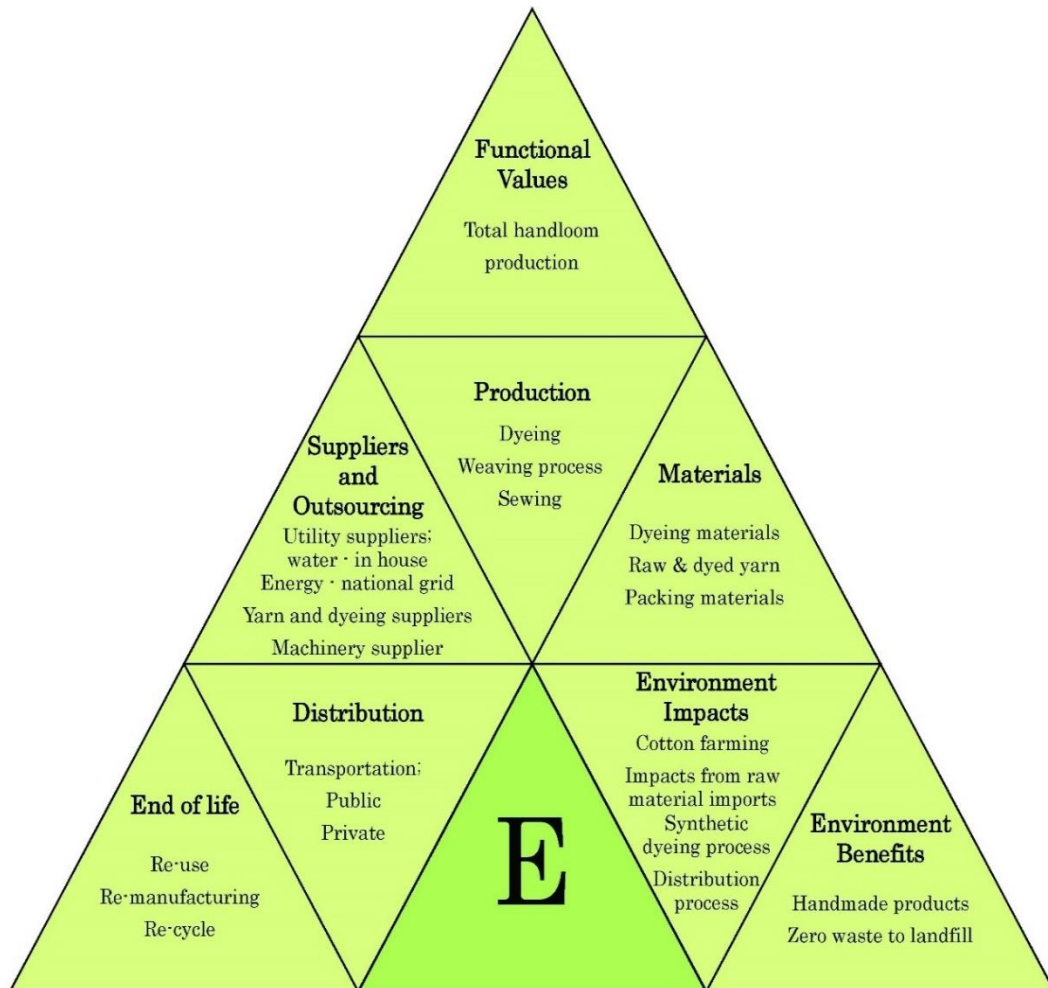


Figure 5.13 Economic layer of the textile handloom business

5.8.4 Entrepreneurship Layer

The entrepreneurship layer of textile handloom craft BM includes 8 elements as discussed in section 5.6.

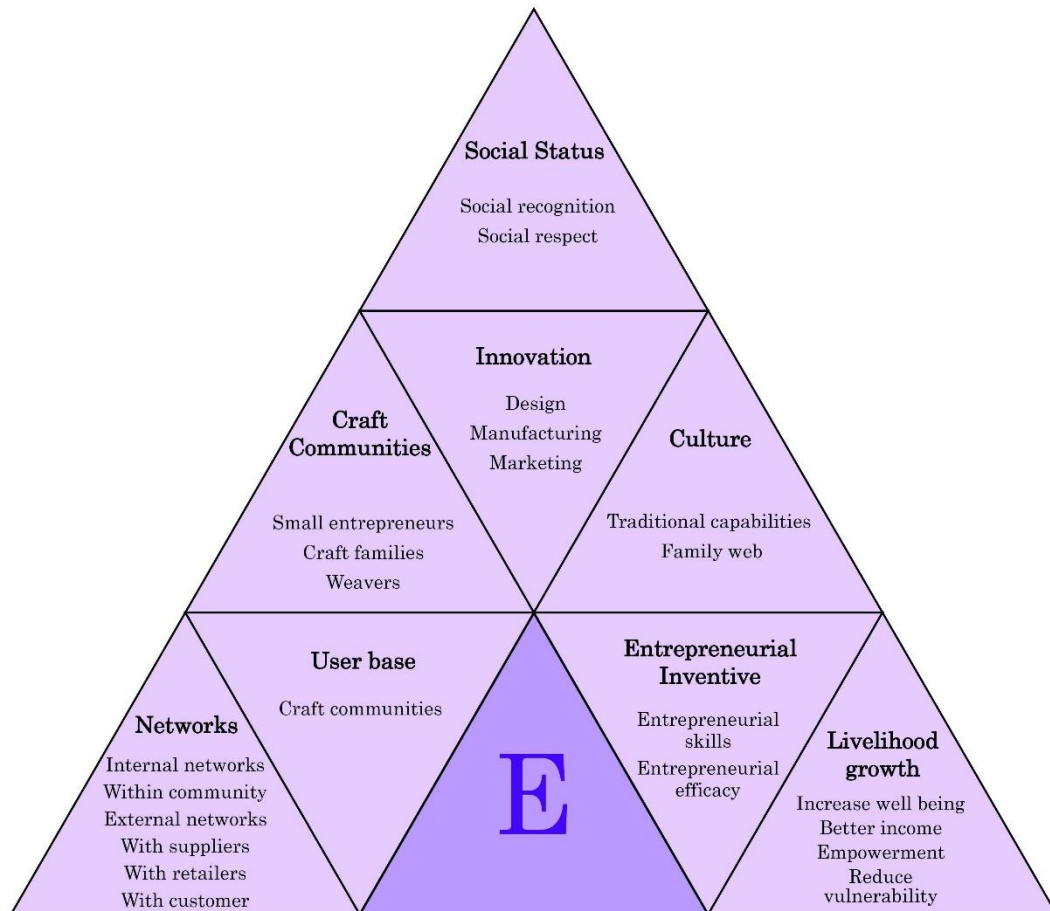


Figure 5.14 Entrepreneurship layer of the textile handloom business

This proposed sustainable community entrepreneurship canvas introduces a sustainable entrepreneurship value creation layer extending beyond the business components from the Osterwalder and Pigneur (2010) canvas and TLBMC. This additional layer does not simply parallel the TLBMC to explore community entrepreneurship impacts separately, rather it deliberately draws relations within a respective layer and between the four layers to support an integrated sustainable perception of generating entrepreneurial values to craft communities (Glaser, 1992; Hubbard, 2009; Sherman, 2012). Also, the additional

layer supports a ‘horizontal’ coherence for discovering economic, environmental, social and entrepreneurial value independently and vertically linking up all four layers.

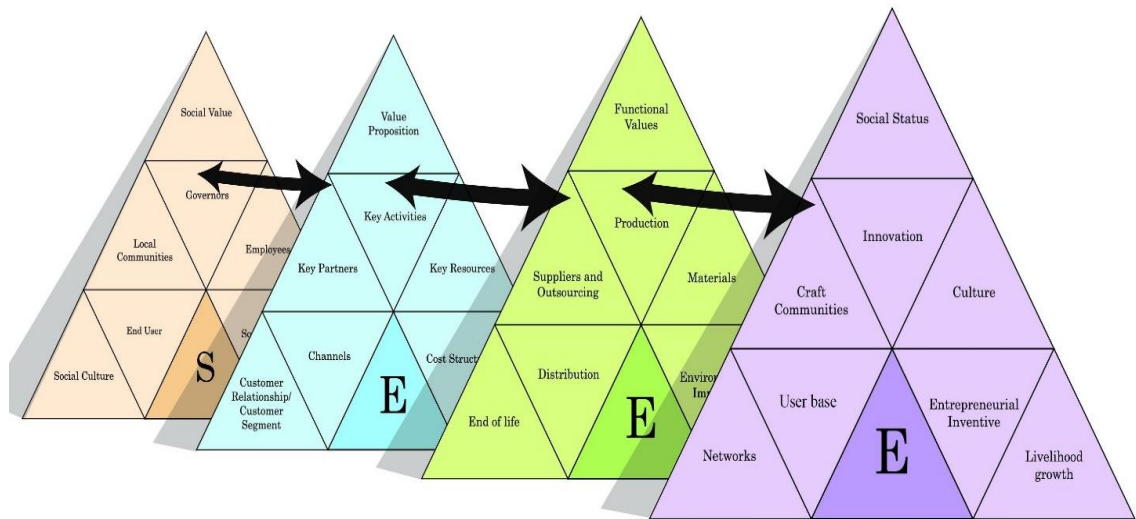


Figure 5.15 - Interrelationship of the layers

A three-dimensional attempt at sustainability at this point encourages a deeper and well understanding of a company's value creation (Joyce & Paquin, p78, 2016). Through the TLBMC and entrepreneurial layer discovered by the study is a path to innovatively investigate sustainability-driven products, processes, and BM inventions that may assist organizations to well address sustainability challenges. As the initial BM canvas is considered at length by the initial authors, Osterwalder and Pigneur (2010) and TLBMC by Joyce and Paquin (2016) the fourth layer based on the community entrepreneurship with novelty model called SEEE model for the craft businesses and will further discuss in Chapter 6.



Figure 5.16 – Detailed SEEE Model

Scholars (Battilana & Dorado 2010; Börje & Nordqvist, 2020) highlighted the importance of utilizing pro-social and environmental value along with economic value in entrepreneurial activities. Also, the sustainable BM literature recommends that holistic hybrid BMs of sustainable entrepreneurship can be survived where the social, environmental and economic values can be mutually-concern with each other (Shepherd & Patzelt, 2011; Davies & Chambers, 2018; Terán-Yépez et al., 2020). This directs the research study to discover value creation in economic, environment and social and hybrid entrepreneurship to develop a sustainable BM in facilitating multiple forms of value creation. This study recognized several entrepreneurial strategies that can fusion with the

TLBMC approach and provides a unique empirical assessment of how value propositions are crafted and implemented in hybrid businesses. Thus, the SEEE model is an appropriate solution for the prevailing requirement of connecting entrepreneurial capabilities to address social, environmental and economic aspects of sustainable development. Further, the SEEE model focuses on the recognition of new business opportunities in the craft sector that result in more sustainable products, and processes than in existing market hybrid with sustainable entrepreneurship. This model may create the possibility for pressure between multiple forms of value creation to merge societal goals with entrepreneurial spirit aiming towards achieving broader community objectives.

5.9 Chapter Summary

This chapter presented the cross-analysis of case studies, field observations and PAR. The further chapter presented the theoretical modelling of the sustainable community entrepreneurship model development for the craft communities and the derivation of a novel layer of CBE development of the handloom craft industry named the SEEE model.

CHAPTER 6

DISCUSSION AND CONCLUSION

6.1 Introduction

This chapter reviews the findings from the study and discusses the findings within the contexts of literature and research aim and objectives. The discussion concludes by identifying the limitations of this study and recommendations for future research.

The study aimed to develop a sustainable BM that enhances the development of the Sri Lankan textile handloom industry. The study objectives were to;

1. investigate the current status of the textile handloom industry in terms of sustainability orientation
2. explore the possible integration of sustainability into the handloom business by incorporating sustainable DI and sustainable CBE practices
3. develop a new BM that represents sustainable DI strategies and sustainable community entrepreneurship strategies by developing a new bottom-up innovation-based entrepreneurial model

6.2 Objective 1: Investigate the status of the textile handloom industry in terms of sustainability orientation

Textile handloom industry standings were presented in Chapter 4 and status was analyzed in Chapter 5 concerning TLBMC (Joyce and Paquin, 2016). The TLBMC is considered here as the most appropriate tool for investigating sustainability-oriented BM status and hence potential improvement. It allows us to explore explicitly multiple aspects of the economic, environmental and social status of the handloom sector. It also permits getting an existing view of the current BM visually represented through canvases in a more holistic and integrated view. Thus, concerning TLBMC, the handloom business represents a positive drive towards a sustainable business, suggesting the utility of the model in the

setting of a developing country. Working with weaving communities enabled the study to identify similar problems across different structures of handloom businesses. It was then possible to map the data onto the canvas to identify strengths and weaknesses and to understand the present status of the industry.

6.2.1 Economic layer

<p>Key Partners</p> <p>Supplier - Manufacturer</p> <p>Retailer – Manufacturer</p> <p>Designer - Manufacturer</p> <p>Manufacturer – End user</p>	<p>Key Activities</p> <p>Product design Raw material sourcing Yarn dyeing Fabric production Retailing</p> <p>Key Resources Weaving craftsmanship Traditional design talents Primary production facilities</p>	<p>Value Propositions</p> <p>Traditionally design Locally handmade Cultural sensibility Uniqueness Customized Ethical manufacture</p> <p>Contemporary designs</p>	<p>Customer Relationships</p> <p>Direct relationships Through retailers Through intermediary</p> <p>Channels</p> <p>Indirect channels Direct channels</p>	<p>Customer Segments</p> <p>Segmented market with diversified need in volume</p> <p>Niche market with personalized high-quality one-off pieces</p>
<p>Cost Structure</p> <p>Value driven Major portions represent fixed costs of manufacturing</p>		<p>Revenue Streams</p> <p>Sales of handloom products</p>		

Figure 6.1 – Economic layer

Figure 6.1 shows the economic layer of the present textile handloom industry, areas requiring further improvements are highlighted. The economic value of the business is largely governed by consumer trends towards long-lasting, customized and unique product ranges. However, this relies on consumers being aware of the availability of handloom. Equally consumer tastes vary, the study reported that handloom communities were not well placed to identify or respond to differing tastes across markets even within Sri Lanka and certainly not in the export market. To gain a competitive position in the market, the study highlighted several elements likely to support sustainability and innovation within the sector. Enhancing the design capabilities and improving the value proposition to cater for contemporary customer requirements is one of the key factors. This can be achieved by providing design education or with the involvement of an expert

designer, thus enabling innovation reflecting current market trends without losing the traditional touch. As Sanders and Stappers (2008) stated, DI is a possible process to merge designers and weavers via direct interaction and co-creation processes that would possibly stimulate the growth of the business. This process can involve innovative re-designing of existing products, designing entirely new products, exploring new markets and using traditional skills to match the requirements of contemporary fashion markets. This process relies on reusing existing knowledge and innovatively recombining this to create a novel product to fulfil the market demand (Pannozzo, 2007).

Weak customer relationships and inappropriate marketing channels are significant issues that need to be addressed. Improving manufacturer-customer relationships will support the design co-creation process and cater for the actual desires and demands of the customer. Handloom products are already made with unique designs; therefore, opening relationship links between the customer and the manufacturer could further facilitate producing customized designs for individual tastes, which in turn can develop customer loyalty towards the products and the manufacturer. These types of healthy relationships are vital for market expansion and the long-term economic success of the business. For this purpose, exceptionally strong Smartphone penetration in Sri Lanka (Jebamani, 2018) could be harnessed to facilitate contact as most of our weaving communities are not easily accessible from the urban centres where markets are based. However, for rural communities, smart phones (enabling internet access) are far less common than more basic phones; therefore, this is another structural barrier preventing innovation in handloom.

6.2.2 Environmental layer

Figure 6.2 shows the current status of the textile handloom industry concerning the environmental layer highlighting the requirement for further improvements.

Suppliers & outsourcing Utility suppliers: Water- In house Energy - Hydro power national grid Yarn and dyeing suppliers Machinery	Production Dyeing Weaving Sewing	Functional Value Total handloom production	End of Life Re-use Re-manufacturing Re-cycle	Use Phase Energy for; Washing, Drying Ironing
	Materials Dyeing materials Raw & dyed yarn Packaging material		Distribution Transportation: Public Private	
Environmental Impacts Cotton farming Impacts from raw material imports Synthetic dyeing process Distribution process		Environmental Benefits Handmade products Zero waste to landfill		

Figure 6.2 - Environmental layer

Production is a low-energy process, where handloom machines are manually operated, and electricity is used only for a few sewing machinery and other support services such as lighting. Therefore, handloom textile manufacturing can be identified as an environmentally sustainable process generating a very low carbon footprint, especially where a portion of the electricity is supplied from renewable resources. Major environmental impacts come from cotton farming and the import of yarns from India and China. This study identified a trend towards using other sustainable fibres such as bamboo and banana fibres instead of cotton. However, only a few weavers are using those fibres now, and the use of these fibres tends to result from special orders rather than being an integral part of the production. While there are no production issues identified with these new sustainable fibres, high cost and lower availability of sufficient quantities are current concerns. If those fibre markets were to be developed, the textile handloom industry could be lifted into a new level of environmental sustainability. Within the current scenario, developing partnerships with small-scale organic and fair-trade cotton suppliers would also help minimize the environmental and social impacts of sourcing raw materials. However, again there are structural barriers to accessing environmentally sustainable

materials. Weavers are not easily able to source from new suppliers because of the lack of knowledge about foreign suppliers and difficulties in communicating with them because of poor access to the internet. This requires weavers to develop new skills in procurement and be able to place larger orders to purchase at a cost-effective price. Again, co-operative, community-based business organizations could help overcome this barrier.

The textile handloom industry is already practising “zero waste to landfill” in its manufacturing process, although the end-of-life disposal does generate waste. There is a possibility of incorporating closed-loop manufacturing strategies into the business where products are taken back for reuse, recycling, or remanufacturing. Because handloom textiles are primarily produced with a mono-material such as cotton or silk, recycling them back into yarn is a possibility and encouraging innovation in this area would be beneficial. Moreover, products can be upgraded using craft techniques such as batik or by re-dyeing them. When natural dyes were used in the colouration process, depending on the compatibility of the exiting colour of the fabric, fabrics can be re-dyed. Therefore, at the end of the use phase, consumers can return their product to the manufacturer and have them re-dyed and upgraded to an “as new” product. This facilitates extending the product’s life while providing the consumer with a product with a completely new look. Furthermore, products such as sarees consist of 5 m of fabric, which can be taken back, upgraded and used in manufacturing other apparel such as dresses, blouses or skirts. Currently, there is a market for reusing sarees but closed-loop manufacturing, even within Sri Lanka, has structural barriers which need to be overcome, and systems and incentives need to be developed to support manufacturers in organizing this.

6.2.3 Social Layer

As shown in Figure 6.3, the textile handloom industry represents a socially responsible business in various aspects. The business is tightly connected with social and traditional culture, thus providing rural development, employment opportunities and generating household income, as well as employment and leadership opportunities for women.

However, community-based handloom weavers independently operate and are thus less advantaged in terms of training, development opportunities and other support services, which provisional council and private business-based weavers are offered. Their strength comes from being a part of a weaving village where their identity and product ownership are secured. Developing entrepreneurial skills among community weavers would facilitate the self-development of the community and create new job opportunities. Community-based entrepreneurship is a social enterprise model (such as co-operative forms of business) geared towards achieving a community’s economic and social goals (Peredo & Chrisman, 2004).

<p>Local Communities Handloom Weaving Communities</p>	<p>Governance Community members Private businessmen Provincial councils</p>	<p>Social Value Ethically made sustainable products</p>	<p>Societal Culture Tightly interconnected with social culture and region</p> <p>Scale of Outreach Locally spread Island wide</p>	<p>End User Who value; Personalized Sustainable Ethically made Local products</p>
<p>Employees Local weavers without gender and ethnicity or some disabilities</p>				
<p>Social Impacts <i>Impact for cotton farming</i></p>			<p>Social Benefits Women empowerment Rural livelihood development</p>	

Figure 6.3 – Social Layer

As noted above, several issues identified in the BM could be addressed if weavers were organized into more effective business units. Furthermore, there are structural barriers and socio-cultural issues to overcome. Weavers are accustomed to autonomy even where they can see that there might be a route to efficiency and profit from working differently. One possible solution is for the government to intervene in developing the entrepreneurship skills of the community-based weavers by providing both financial support and human

resources expertise. Because most community-based weavers have inherited craft skills as opposed to the externally trained weaves in private businesses, developing those craft communities would help to preserve the traditional identity and cultural aspects of the business, thus ensuring the survival of both tangible and intangible cultural heritage for future generations. Moreover, this approach would enable more efficient procurement and provide a means for design innovations to be efficiently introduced.

6.3 Objective 2: Explore the possible integration of sustainability into the handloom business by incorporating sustainable DI and sustainable CBE practices.

6.3.1 Sustainable DI incorporation

The economic value of the business is largely governed by consumer trends towards a long-lasting, customized and unique product range; however, this relies on consumers being aware of the availability of the handloom product range. Equally consumer tastes vary, the study reported that handloom communities were not well placed to identify or respond to differing tastes across markets even within Sri Lanka and certainly not in the export market. To gain a competitive position in the market, several elements likely to support sustainability and innovation within the sector need to be developed. Enhancing the design capabilities to cater for contemporary customer requirements is one of the key factors. However, this study was limited to the consideration of customers as consumers in reflecting their design and innovative requirements. Therefore, the study neglect of the consumer in the design intervention which prevents the required design and innovation in market perspectives. Yet, this can be achieved by providing design inputs by intervening with professional designers and enabling innovation reflecting current market trends without losing the traditional touch. Support for effective collaborations between craft persons and designers could facilitate the DI process. DI is a possible process to merge designers and craft persons through a direct interaction and co-creation process that would possibly stimulate the growth of the business (Sanders & Stappers, 2008). This process can involve innovative re-designing of existing products, designing entirely new products,

exploring new markets and using traditional skills to match the requirements of contemporary fashion markets. The co-creation process explained in Chapter 4, 4.4 employed DIs into community products revealing the possibility of merging designers and weavers via a direct interaction. The co-creation prototyping process allowed designers to gain a deep understanding of the crafting process and the weaver to distinguish a traditional product range, and skills, identifying possible innovations within handloom craft and recognizing market opportunities through the interaction and co-creation process. All parties of the collaborative team benefitted through this DI collaborative process sharing learning effort to exchange knowledge (Sanders & Stappers, 2008). Though fashionable clothing and accessories were new to the handloom communities, they rapidly realized the market opportunities they can tap with design innovation. This was a hands-on experience for designers to work with a community to understand crafts persons' skills and practical difficulties. The response from the consumers and retailers was motivating to continue the process and product improvement, enabling innovation alongside the maintenance of more traditional lines. Development of partnering relationships with designers, handloom craft persons, small-scale apparel manufacturers and retailers would enable continuing a collaborative effort for sustainability and growth of the community business. Thus, the co-creation model (Sanders & Stappers, 2008) is regarded as a valuable tool to support collaboration, enabling sharing of knowledge as well as providing opportunities to disseminate the process outcomes among the handloom craft communities. Thus, DI banks on reusing existing traditional craft knowledge and recombining innovative design ideas to create a novel product to fulfil the market demand (Pannozzo, 2007).

This process relies on reusing existing knowledge and recombining this in an innovative way to create a novel product range. However, there are structural barriers to implementation; firstly, investment in design innovation will be required. The current structure of the industry makes this difficult. There are many small groups or individuals; therefore, to make investment cost-effective, new models of organization are required,

such as setting up co-operative businesses as community-based enterprises. Secondly, many craft persons have a strong attachment to their traditional practices, and new design innovations will need to ensure and promote the maintenance and celebration of traditional design practices alongside innovations. Thirdly, innovation in end products to create novel items for new markets will require routes for collaboration within and beyond Sri Lanka to be developed; thus, weavers and producers can share knowledge with product design teams to ensure the weaving communities retain the ownership of their traditional processes and practices while building new markets.

6.3.1.1 Design intervention through a co-creation process

Community participation is also vital, for a design intervention to be successful there must be a genuine co-creation process. In this community craft persons were willing to learn, and to share their lived experience with designers for the development of the community business. Currently, community crafts skills are largely restricted to fabric manufacturing and the community handloom apparel product range is limited with restricted designs. Craft community people face a significant challenge in understanding the processes of new product design and development. The working gap between the craft persons and designers was identified during the collaborative process. Craft people may find it difficult to grasp the concept of developing new product ranges, initially showing an imbalance in their contribution to the collaboration process. Therefore, the process was dominated by designers in the initial stage of the process due to poor design development familiarity among the craft community (UNESCO 2005). However, for a healthy progression of the collaboration effort power needs to be gradually balanced between all involved parties. The task of ensuring equitable co-creation was managed here by adopting an iterative process of sketching, discussing, and prototyping to connect community craft members more closely to the design process and enable the interpretation of their ideas during the co-creation process. Therefore, there is a vital requirement in creating design awareness among community members involved in this design process, including methods, tools use,

and trends and providing knowledge of potential customer bases to enable equity of contribution in the development process.

Cross-sector collaborations are found to be significant here in improving product range and product utility. This handloom design intervention process proposes cross-collaborations in product extension with apparel product manufacturing and byproduct manufacturing. As Zhan et al. (2017) illustrated, appropriately adopting technologies and the renewal of techniques can improve the productivity of traditional crafting processes without compromising their craftsmanship. If a revival of current crafting methods, techniques and production processes could be instigated it would further boost production involving basic technology sustaining craftsmanship (UNIDO Report 2014).

The local handloom market is focused on local consumption and the tourist market. As Handan (2017) pointed out handloom products are considered ‘everyday life products’ and this can be sustained by widening the product and utility range through thoughtful intervention creating products that consider contemporary culture, lifestyle and market and relate them to traditional production techniques and materials. Customers increasingly demand products that express their desire for a more environmentally friendly lifestyle and this need can be fulfilled by applying sustainable concepts such as product modification and redesigning, designing for longevity and repairs (Paras and Curteza 2018; Armstrong et al. 2015) which link with cultural heritage through traditional techniques (Jung et al. 2015).

Handloom textiles are one of the unique representatives of the culture. They preserve the heritage and culture of a country by employing traditional knowledge and skills as well as traditional equipment and production techniques. These crafts tell a story and represent the culture and the identity of the person who made them. With the development of technology, culture can deliver positive insights with more active participation in the creation and distribution of these handloom products. Building handloom product

awareness and popularity can be developed by exploiting the enterprise's cultural heritage of the sector, via storytelling around craftsmen, community, traditional designs and techniques and visualizing the craftsmanship on social media. The embedded culture of Sri Lanka is hierarchical, with rural people more likely to accept the traditional social status quo, and highly collectivist. Loyalty to family and close community is extremely important, and in the weaving communities studied here family and community were central to the survival of the communities (Hofstede, 2011). These socio-cultural aspects are both a strength and weakness for the weaving communities. As rural communities they are cut off from urban social change and may find it difficult to challenge the dominance of intermediaries who facilitate the trade in their products, reducing the opportunities for greater direct interaction with the market. However, the strength of family and community ties built over centuries of shared culture and tradition offers the potential for community-based enterprise which could significantly improve the status, income and long-term sustainability of the sector.

The market and opportunities for wider commercialization are key influences in a thoughtful design intervention process. The traditional handloom crafts need to aim for contemporary transformation targeting appropriate markets (Kapur & Mittar 2014). Wider implementation of the collaboration process would require determining each market level and appropriate items that can combine traditional craftsmanship with modern innovation. Targeting the luxury market may be an effective strategy in the design intervention process for handloom products, which is a mode of production ideal for conveying originality and self-expression. Effective product marketing, to reduce the use of intermediaries, relies on community families having the ability to use online tools. Mobile phone penetration in Sri Lanka is very high, with a penetration rate of 144 subscriptions per 100 people (Statista, 2021), suggesting that support with digital marketing skills development may reduce reliance on middlemen.

Product design, development and marketing knowledge enhancement are vital requirements to enable community craft persons to revive the handloom craft sector. However, current craft education in the country is not in line with the needs of the sector. We propose collaborations between appropriate educational institutes and the craft sector to encourage the growth of the sector. Knowledge sharing through the provision of regular forums and workshops is a viable option. However, the study also notes the requirement of national educational policy development in establishing design education, supporting student creativity and fostering innovation and improving proficiency across traditional craftsmanship and contemporary design through apprenticeship development.

The rise in local interest fueled by the promotion of local industry development, apparel import restrictions, trends towards cultural, rustic, earthy Sri Lankan styles and increasing national pride may all encourage sector development. However, government-level involvement with national policy in local clothing promotion and the introduction of financial support schemes will offer significant support in implementing the initial stages of a design intervention program. These opportunities will further encourage future generations to learn the craft by providing opportunities for learning and development within a financially viable sector.

6.3.2 Incorporating sustainable CBE

CBE potentially offers a route to achieving community sustainable livelihood development as a promising policy (Peredo & Chrisman, 2006). In isolation, neither social nor human capital can fully describe how entrepreneurs spot opportunities in craft industries. As study results indicated, incorporating the new model of CBE discussed in Chapter 5, 5.5 would support the development of handloom CBE, enabling consolidation via networking, perception of the family web, enlightening social status of communities and supportive innovation (design, manufacturing and marketing innovations and entrepreneurial supports).

6.3.2.1 Network incorporation with CBE

Entrepreneurs' intentions can influence social network activation and hence encourage decisions to increase, decrease, or replace associates from their network (Shea & Fitzsimons, 2016). This study too recognized opportunities for improving network engagement and activation. Therefore, the study looked at the network's function as another contingency factor, distinguishing between resource mobilization and opportunity identification in the textile handloom industry. By identifying these causes, the study tackled Stuart and Sorenson's (2003) challenge of distinguishing network effects on opportunity identification from network consequences on resource mobilization (Coleman, 1988). The study emphasized that the related institutional support and networks with the supply chain would be the most effective mediator for this purpose. Hence, these distinctions may enable improvements in the consideration of primary mechanisms of network properties and network characteristics relating to community entrepreneurial practices. Therefore, networks in craft-based CBE need to be comprised of diverse networking functional characteristics, spare network settings and structural and relational embeddedness to function within different community entrepreneurial circumstances. Entrepreneurs in craft businesses could gain an advantage by exploiting structural holes (Daraganova et al., 2012; Downs, 2017). Since these opportunities are often encountered outside of the local community, structural holes may assist in connecting designers, local and international raw material suppliers, and potential buyers. Yet, the study indicates that information regarding opportunities, innovation and resources for craft entrepreneurship are not freely available in these societies and community entrepreneurs need to realize their importance of them and actively seek them out.

Networking with entrepreneurial supports (government, financial and educational institutions) and directly with customers in the textile handloom industry is limited. We have noted recent government action aiming to support handloom and craft development which aims to stimulate networks of handloom craft businesses; however, the study findings that the top-down initiatives are rarely successful in improving network

development (Paul, 1987; Mansuri & Rao, 2013). The study results emphasized the need for community members understanding in creating networks of weak ties which offer new information, new acquaintances, and access to new resources in combination with their existing sparse, entrepreneurs may use networks to expand their reach beyond their immediate network. and beyond for opportunities and resources. As Coleman (1988) found, this study too confirmed that the community that has better networking interaction benefits more in terms of business gain through access to information and these networks need to be flexible, varied, amendable and adaptable to varying situations. Therefore, the study recommends disentangling the network effects regarding identifying possible openings from the network significances for resources mobilization among the community and the combinations of strong and weak ties must be positively utilized in CBE development in craft business in discovering opportunities, securing resources, and gaining legitimacy.

6.3.2.2 Family web perception towards CEB

The study identified unity and mutual support within the family and the family web businesses. Family businesses may have comparative advantages such as businesses begin with synergies due to trusting relationships, task-specific knowledge (Chrisman et al., 2005) and family offering such as financial and skill to the business (Sharma, 2004), longer time horizons for investment payoffs and access to family capital (Sirmon & Hitt, 2003). Family webs mostly sustain themselves through strong ties in community culture characterized by deep family affinity Granovetter (1983). The strong tie keeps the family web together creating strong networks of relational support for the CBE family business. These family webs create opportunities for open discussion and allow a diverse range of views, which can foster innovation and creative ideas. However, there are disadvantages such as clashes due to different viewpoints of the business direction, role of individuals in the business, personal feelings of bitterness and emotions, and the close-knit family may be inward facing, and less able to build the networks of weak ties (Granovetter, 1983) needed to ensure business sustainability and innovation. However,

our study reports that well-performing craft family webs dare to admit such barriers and through this are enabled to address shortcomings for the betterment of the community-based business.

The research also found that there is a possible connection between family culture, family business culture, and current culture in influencing the goal, strategy, structure, and output of a family web of community businesses. Overall, we conclude communities are proud of their family webs, the good name of the family and the community they are a part of. They express their intention to continue to develop a rich cultural life, supporting their intangible cultural heritage for the wellbeing of generations to come so future generations may gain prestige and a good reputation in the community.

Generally, in developing countries social structures are based on cultural aspects which closely link to the social status of people. Thus, we find socio-cultural barriers act to prevent effective CBE among the younger generation. However, the positive impacts of the current tendency in the growth of creative industries across the developing world may boost the craft industry status attracting the young generation, especially alongside proposed government policy for the CBE efforts to support the growth of the sector.

6.3.2.3 Social status influences communities

Sri Lanka sees significant rural-to-urban migration, with early migration profiles, meaning younger people are those most likely to migrate out in search of work (Perera et al., 2020) out of the community, reducing the pool of potential craft persons, removing the age group most likely to use the internet as a tool for innovation. Because handloom craft persons in Sri Lanka are largely reliant on intermediaries to access raw materials and to get their finished goods to market, this puts craft persons in the position of sub-contractors, reducing their agency and income, which in turn lowers the status of those engaged in this highly skilled sector; urban dwellers are not aware of the skill involved in this ancient craft but recognize that the craft persons are relatively poor and powerless, leading the

craft persons to seek to improve the social and economic status of their children. Thus, the perceived and actual low status of the craft is threatening the survival of these ancient traditions, despite the potential of the sector as a low-carbon, high-value element of the economy. The study shows social and cultural influences from community members also limited the sustainable growth of the sector, although social and cultural factors could also potentially be a strength in fostering CBE. Handloom communities wanted to maintain traditional practices and ensure the cultural heritage of weaving continued; this is a strong motivator for promoting handloom CBE, despite the difficulties.

6.3.2.4 Innovative support for CBE

Innovation is an essential aspect of entrepreneurship. Sustainability innovation for products and process improvement are the keys to sustainable development for the CBE leading to a sustainable marketplace (Schaltegger & Wagner, 2011). The study findings reveal that sustainable entrepreneurship development in craft communities requires an innovative approach to new products, processes and marketing. The research identified the four areas for innovation support are, product designing, improved manufacturing techniques, marketing strategy and infrastructure support to encourage new CBE opportunities.

Product Design: Design is considered as a cross-functional and multidisciplinary innovation activity (WESGRO, 2000). Most handloom products are similar across community craft producers. These products are mainly associated with traditional designs and development methods and need a radical change to enable sustainable and innovative design approaches (Tung, 2012; Fletcher, 2013) to be successful in a high-end competitive fashion market. The study results reveal the significance of blending traditional handloom craft with contemporary designing in offering a range of innovative products for market demand, but design innovation is limited in the handloom communities of Sri Lanka. Traditional crafts rely on knowledge handed down through generations, but adapting, reusing and recombining existing craft knowledge with innovative design will enable

innovative products and broaden markets. Handloom in Sri Lanka is a tacit expression of intangible cultural heritage, and these expert skills are rooted in someone or within a local community (Dissanayake, et al., 2017), but these factors can be retained alongside sustainable innovative design, respecting traditional craft practices.

Marketing: Marketing strategy is one of the key aspects to gaining competitive business benefits in expanding business performance (Sharma, 2004; Cotterill & Putsis, 2000). However, the study revealed that marketing challenges are one of the dominant issues encountered by the handloom CBE. They do not have clearly defined target markets and are poorly equipped to innovate in marketing. Most community producers trade their products using informal channels such as weekly fairs, seasonal fairs or most commonly through intermediate persons. They have few direct customers, minimizing the producer's profit and leading to the community businesses being uneconomic. Intermediaries' involvement is a vital challenge for the current handloom business process as intermediaries largely benefit from the products of the community members and have a significant interest in maintaining the status quo, rather than in encouraging innovation and broadening community-based enterprise. The role of intermediaries results in a major share of community products going to market through various retailer brands without indicating community identity, breaking the link between the producer and consumer.

Furthermore, they cannot engage external marketing agencies to support them, due to the cost (Van Scheers, 2011). Very limited practices of social media-based marketing and social media networking take place within community businesses, and where this does occur it is always with the involvement of community youth. Our research indicated that simple strategies such as providing distance learning resources to develop marketing skills among the younger, more digitally literate members of the handloom communities could potentially improve marketing innovation.

6.4 Objective 3 - Develop a new BM that represents sustainable DI strategies and sustainable community entrepreneurship strategies by developing a new bottom-up innovation-based entrepreneurial model

Textile, apparel and fashion are one of the most unsustainable businesses in the world. This certainly encounters economic, environment and social sustainability emphasizing the requirement of improved intervention by aiming for sustainable development. As Bocken et al. (2014) clarified, SBM delivers and captures economic value or changes its value propositions, minimizing harmful effects on the environment and society, and changing the enterprise and its value-network. TLBMC by Joyce (2016) turns ahead providing not just financial benefits but generating explanations for environmental and social beliefs too. This study searched for solutions for handloom textile businesses aiming to achieve economic, environment and social sustainability with growing CBE development. Hence the study proposed a newly developed SEEE model discussed in Chapter 5, that is incorporated with the sustainable DI strategies and sustainable community entrepreneurship strategies.

6.4.1 Design intervention incorporation to SEEE BM

DIs in traditional craft businesses would potentially support the regeneration of the craft business (Oyekunle & Sirayi, 2018). The proposed SEEE model suggests DI integration discussed in 6.3.1 for the development of a handloom craft business. This BM proposes to bring designers to improve the value proposition of handloom products establishing designer-manufacturer partnership (Handan, 2017) through DI. DI mostly focuses here as a means for financial consequences of the craft sector and supports craft incomes, mostly while working in marketing models which are temporally secure (Mamidipudi, 2018). The intention of the proposed SEEE model in the intervention is not to understand designer activities robotically and connect to predetermined outcomes, but to explicate the multifaceted interactions between handloom craft industry collaborators. The collaborative effort of designers with craftspersons directly benefits improving the economic, environmental and social success of the handloom craft sector motivating

handloom CBE. The designers perform their role in improving the business, uplifting the market value of the craft products and enhancing the effectiveness of collaborations among participants through developing new relationships. This collaborative process ensures cultural transformation and passionate craft persons play a role in the dynamic cultural shaping of the sector rather than just joining as an exogenous input.

This study explores possible collaborations among craft persons and expert designers for the revitalization of handloom crafts. The analysis shows a positive drive for the co-creation process in design collaboration with expert designers and craft persons. The results indicate that the incorporation of DI with traditional handloom craft offers a promising path for innovative contemporary handloom products. However, handloom community craft people face barriers to developing such innovations due to weak product design knowledge. However, traditional handloom crafts should strive for contemporary change through innovative design and viable collaboration within appropriate market segments. Contemporary consumers become more conscious of their consumption patterns and their impact on the society and environment. Thus, consumer preferences can be directed more to handmade, local and eco products focusing on sustainable trends, which links to the need to innovate in marketing in the handloom sector. Further, handloom products bear the local identity, cultural value, and sustainable manufacturing process and hence react to contemporary market trends. This is a growing market of handloom business if DIs were adopted. The implementation of DI is recommended to sustain the growth and expansion of the handloom business with viable market expansions, employment opportunities, and social and economic development.

This DI process primarily proposes cross-collaborations in product extension with apparel product manufacturing and byproducts manufacturing. Cross-sector collaborations with material suppliers, apparel manufacturers, retailers and customers are found to be significant here in the SEEE model improving handloom business and promoting the CBE. As Zhan et al. (2017) illustrated, appropriately adopting technologies and the

renewal of techniques can improve the productivity of traditional crafting processes without compromising their craftsmanship. If a revival of current crafting methods, techniques and production processes could be instigated it would further boost production involving basic technology sustaining craftsmanship (Rosen & Kishawy, 2012: UNIDO Report 2014). Textile handloom industry basic technology upgrading is feasible and essential for the SEEE model.

Innovation is an essential aspect of entrepreneurship. Sustainability innovation for products and process improvement are the keys to sustainable development leading to a sustainable marketplace (Mortati, 2015). The SEEE model proposes to employ innovative design strategies that involve concepts such as culturally inspired products, eco-design principles, lean and clean production approaches and waste minimizations. Product design and development perform an important task in defining the environmental influence of textiles during various lifecycle phases (Gbolarumi, 2021). Application of eco-design standards incorporates not only the selection of the raw material but also the functionality of the product during the lifecycle concerning water and energy consumption pertinent to the environment. It promotes the idea of generating benefits from waste away with the concept of renovation instead of dispose by creating many cycles of dismantling and reuse. Such closed material and energy loops suggest in the SEEE model propose to reuse leftover raw materials, products or components through processes like restoration or recycling, hence promoting the circular BMs along the closed loops that focus on remanufacturing, reuse, repair (Wanniarachchi et al., 2020). Mono-materiality and modular design can create circularity Gwilt (2014) and mono-material utilization aims for recycling strategies. Therefore, the handloom DI process expected products to be designed and developed considering materials blending and product finishing techniques. This benefits by levels of modularity of the product that is helpful for simple separation and recycling. Such conditional product design and development strategies help lessen environmental influence, as an analytical path ahead to circularity. In terms of environmental aspects handloom production already benefits from limited use of energy,

less carbon dioxide emissions, and minimized harmful environmental impact in terms of energy focus (De Groene, 2015). The proposed BM enables handloom manufacturing processes to be aligned with the lean and green manufacturing strategies which seek to reduce waste and emissions through product-process design.

The local handloom market is mainly focused on local consumption and the tourist market. As Handan (2017) pointed out handloom products are considered ‘everyday life products’ and this can be sustained by widening the product and utility range through thoughtful intervention creating products that consider contemporary culture, lifestyle and market and relate them to traditional production techniques and materials. Customers increasingly demand products that express their desire for a more environmentally friendly lifestyle and this need can be fulfilled by applying sustainable concepts such as product modification and redesigning, designing for longevity and repairs (Paras & Curteza 2018; Armstrong et al., 2015) which link with cultural heritage through traditional techniques (Jung et al., 2015). As the SEEE model proposes market and opportunities for wider commercialization of supply for current customer demand are key influences in a thoughtful DI process. Wider implementation of the collaboration process would require determining each market level and appropriate items that can combine traditional craftsmanship with innovation. As this model proposes, targeting the premium market may be an effective strategy in the DI process for handloom products, which is a mode of production ideal for conveying originality and self-expression. Also, building handloom product awareness and popularity can be developed by exploiting the enterprise's cultural heritage of the sector, via storytelling of craftsmen, community, traditional designs and techniques and visualizing the craftsmanship on social media. Effective product marketing, to reduce the use of intermediaries, relies on community families having the ability to use online tools. As evidenced by Statista (2021), mobile phone penetration in Sri Lanka is very high, with a penetration rate of 144 subscriptions per 100 people and this suggests that support with digital marketing skills development may reduce reliance on intermediaries.

DI process makes the relational and mutual characteristic of design practice for the development of communities. Further, it is vital the designer focuses on the social development and cultural relevance of the craft and craft communities and understands the processes involved, to respond appropriately to the circumstances, and recognize the value of the community's cultural heritage (Guo & Ahn, 2021; Mamidipudi, 2018). Thus, the intervention purely ropes with the social and cultural significances of the handloom communities uplifting the social aspects of the BM. However, current craft education in the country is not in line with the needs of the sector. The SEEE model proposes collaborations between appropriate educational institutes as one of the innovative elements in infrastructures.

6.4.2 CBE strategy incorporation into SEEE BM

There is an emerging market for exclusive, hand-made products with cultural integrity and provenance as opposed to mass-manufactured, cheap, throwaway products. Consumers are increasingly beginning to respect and value ethical, fair and green products because they become more conscious of the influence of their consumption patterns on the environment and society. Thus, many more consumers direct their choices to handmade, local and eco products following the trend for sustainability, and this is a growing market. Handloom products carry the local identity, cultural value, and sustainable manufacturing process; thus, they are in a strong position to react to this current market trend but there remain structural barriers to progress. This should be addressed by changes in government policy and practice. Such changes could encourage growth in the industry by developing a community-based enterprise, closed-loop manufacturing, use of sustainable raw materials and innovations in design and marketing.

The study investigated how the handloom community can perform as community-based entrepreneurs, collaboratively generate, or recognize market opportunities, and establish themselves to respond to them using the existing social structure. Yet, most existing

approaches, supported by governments or other external agencies have ended up as support or aid for livelihood rather than serving to build communities or developing their business confidence as independent, cooperative entrepreneurs. In large part existing approaches have failed due to misaddressing or misunderstanding the cultural identity of the community, which is personified by its cooperative ethic and would be a driving force of successful CBE. Policy interventions are needed to promote CBE among craft communities, as well as to encourage catalytic participation through professional supervision. The current conditions of resources and infrastructure in craft-based sectors in developing regions are not effectively captured with existing models of entrepreneurship, and this is in part why top-down efforts at expanding these sectors to provide sustainable livelihoods tend to have limited success. Therefore, these findings span the gap in current models of CBE business within the craft sector for community development efforts.

The newly introduced CBE layer shown in Figure 5.14 highlighted eight interrelated elements (discussed in Chapter 5, 5.6) which hinder the development of community-based enterprise in the textile handloom sector together with economic, environmental and social aspects. As discussed in Chapter 5, 5.8 SEEE model provides an integrative approach and innovatively realizes possible sustainability-oriented BM innovations for the textile handloom sector.

The CBE layer of the SEEE model highlighted social capital; Networks play a significant role in CBE development in the handloom craft sector. Within the networks, communities develop beneficial associations, that over time allow trust, cooperation, and a sense of joint achievement to grow amongst stakeholders of the sector. As Hite (2008) explains, the study found networks are not static, and that they can change in response to entrepreneurial needs in any given situation promoting business development. Therefore, the SEEE model proposes to build needed networks through relevant suppliers, retailers, consumers, and competitors for information and knowledge, refinement of ideas, and

enabling better recognition of entrepreneurial opportunities. As Granovetter (1983) and many subsequent entrepreneurial and network studies (Burt, 2002; Hite, 2008) confirm, the blending of strong and weak ties is vital to confirm the success of the social network of an entrepreneur. The study found that handloom communities are very closely connected and the intermediary and are somewhat resistant to working with interlopers for fear of giving away valuable information. However, as Granovetter (1983) and Burt (2002) argue an ideal entrepreneurial network must have a mix of strong and weak links because the essence of these ties affects how networks operate and structure, this insight is useful in setting out how to further develop CBE within the Sri Lankan and other craft-based communities (Burt, 2002; Downs, 2017). Most of the craft persons' efficacy and skill for entrepreneurship have not reached a sustainable level. Therefore, the entrepreneurial initiative is a challenge to the community. However, communities are keen to develop such skills and if training programmes were made available these could help improve the situation.

Cultural identity function as a tool for entrepreneurial activity (Light & Rosenstein, 1995) notes cultural effects are significant for entrepreneurial activity influencing and facilitating cooperation and social cohesion (Pessar, 1995). The SEEE model recognized the cultural elements in the handloom sector as vital seeing the family web and the traditional skills passed down from generations and supporting CBE development. Most entrepreneurial activities involving a craft person's family are a group effort, and they tend to support financially and emotionally (Lumpkin et al., 2011). The involvement and commitment of the members of the handloom communities and their interaction with the business itself produce a unique pack of resources for the business (Habbershon et al., 2003). The founders' entrepreneurial spirit, community identity and trustworthiness (Chrisman et al., 2005) were recognized as vital factors for the progression of the craft business. Community family businesses are driven not only to generate economic benefits but also to provide socioemotional benefits (Lumpkin et al., 2011) within the handloom communities. Craft persons who have been involved with family businesses from

childhood have an exclusive form of human capital in terms of craft-specific experience acquired from comprehensive experience to the sector and can contribute more with the potential they already have (Lumpkin al., 2011; Sirmon & Hitt, 2003). Also, they may have a well committed to the business and close ties with family members who are key decision-makers (Horton, 1986). Further, the family web enhances the business with the involvement of extended members enhancing their entrepreneurial action in developing sustainable community entrepreneurship within the families of communities.

6.4.3 SEEE model coherence

As discussed above the SEEE Model provides an integrative approach to the development of the handloom craft sector while supporting horizontal and vertical coherence as shown in Figure 7.5. Respectively layers assist a horizontal coherence and a cohesive approach to discovering community economic, environmental and social influence and CBE approach, by stressing important activities and interrelations of the eight elements of the respective layer. Interconnected four layers offer vertical coherence by linking the elements of the respective layer to their similarities in the other layers. This further clarifies the significant actions and influences and effects across layers. Amalgamating the economic, environmental, social and CBE layers provides a strong and holistic opinion of a community BM over its activities and associations. Hence this can assist a systems-level perspective of sustainability-oriented innovation (Zott & Amit, 2010).

6.4.3.1 Horizontal coherence

Each layer permits to a certain extent to generate of obvious variations of value creation that facilitate wider systems rational to a further complete evaluation of the whole BM (Joyce & Paquin, 2016). For handloom craft, its BM is based on handloom product manufacturing in economic prospects. At the environmental level, this model illustrates the influence between environmental impact and environmental benefits of the handloom craft sector. At the social level, consider the social impact of creation from the handloom business and the social benefits from the handloom craft sector. The CBE level reflect the

entrepreneurial inventive and livelihood growth of the craft persons. A basic analysis of these layers determines prospects for refining social and environmental inadequacies and CBE initiatives of the BM.

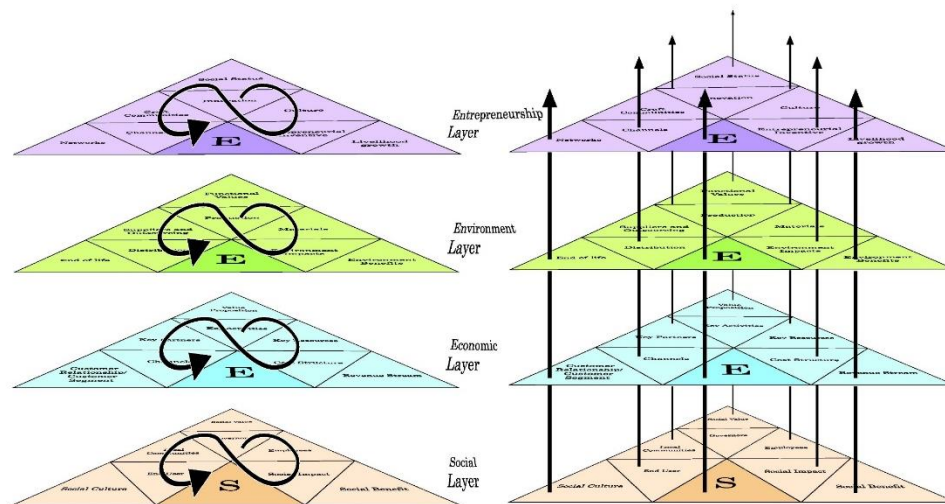


Fig 6.4 Horizontal and vertical coherence of the SEEE model

6.4.3.2 Vertical coherence

The orientation of individual layer elements across the layers offers a vertical coherence. This helps discover the position of activities and interrelationships across the various types of opportunities. With the handloom sector BM, orientation laps within the canvas layers can be recognized in terms of the linking between certain elements among economic, environment and social layers and few deviations from the CBE layer. There are some misalignments between societal culture and end-of-life with customer-related elements (customer segment and customer relationship) and networks. However, halfway alignment can be found among the economic and CEB layers. Also, there is a misalignment between material elements with the other three layers. However, employees, key resources and culture are well aligned considering the interrelationships of the

elements. Yet, there are cross alignments which can be recognized among these few alignments enhancing vertical coherence between layers.

6.5 Proposed conceptual framework and suggested sustainable business model

The factors suggested in the conceptual framework in Chapter 2 for the sustainable BM, and SEEE model elements in Chapter 5 evident the direct relationship. The economic layer adopted from TLBMC was evidenced and discussed the factors proposed in the framework such as sustainable manufacturing considering supply chain, production process, material used and waste material utilization in the economic layer of the SEEE model. Sustainable designing predicted in the framework was discussed in economic and environment layers considering the product designing development process, contemporary fashion trends and considering product diversification through the design intervention.

The proposed CBE development process within the handloom community presented in the newly developed CBE layer was discussed aligning with elements suggested by the factors of the framework such as entrepreneurial barriers, efficacy, education, infrastructural support expected as well as the social capital networks. Also marketing aspects such as customer relationships and customer segments and customer approaching channels were well thought out through the economic layer. All those elements in the CBE layer of the SEEE model were proven by the empirical data through the research study in the development of sustainable CBE in handloom communities.

6.6 Recommendations

The textile handloom industry in the country needs to be streamlined by facilitating the required infrastructure to adopt DI and CBE models suggested in this study. Key recommendations based on the outcome of the study are listed below.

(a) Provide training and coaching for the adaptation of DI and CBE models

Training and coaching are essential requirements for the adaptation of DI and CEB proposed in the SEEE model. Currently, the progression of the industry is mainly taking place through skill transformation by the generations of the community. Though government training programs are offered on an ah-hoc basis, well-planned training programs that address the emerging needs identified in this study are necessary. Additionally, developing the existing textile handloom training institutes across the country with innovative design skills and technology enhancement is recommended to facilitate design intervention. Since CBE is a novel concept for the textile handloom community, it is required to guide them to achieve the necessary skills to become entrepreneurs. Therefore, the study highly recommends a well-planned training program and closely monitored coaching sessions for a selected group, especially targeting community youth.

(b) Linking expertise knowledge and technology to execute the DI process

The study reveals that the application of the design intervention in handloom products adds remarkable value to the final products. The craftsmanship of the textile handloom products could enhance consumer preference towards the products. Therefore, it is highly recommended to develop an appropriate mechanism to include contemporary design inputs to the textile handloom by allocating suitable resource persons such as professional designers. Craftsmanship is a vital factor in any craft product. It enhances the product's implausible value. Therefore, the study recommends improvement in craftsmanship with simple technology enhancement. Simultaneously, an amalgamation of simple technology applications in the production process boosts productivity. Consequently, it is vital to facilitate appropriate design and product development collaboration processes. As this study reflected, these collaborations may operationalize through educational institutes such as universities, vocational education institutes, provincial level centres and major entrepreneurs of the existing market.

(c) Introducing textile handloom education in the formal educational programs

Youth entrance to the sector is vital for the development of the industry. Therefore, government support should be extended by including and promoting textile handloom education within the vocational level education programs. Upon the completion of the course, start-up grants can be provided to encourage the youth to become entrepreneurs in the textile handloom industry. As the study understood, the interest of the youth is partly dependent on the innovative and technological advancements of the sector, and therefore, formal education programs should be designed to incorporate innovation and the application of technology in this sector.

(d) Facilitating appropriate market channels

Lack of market access for textile handloom products is identified as a key challenge to developing the textile handloom business. Therefore, it is recommended to provide government support to approach market channels and facilitate collaborative workshops among the retailers and weavers to understand the market needs. Formulation of a business expansion plan at the national level is essential in promoting textile handloom products. It is recommended to approach various market segments such as high-end, mainstream and overseas markets. Product marketing through facilitating an e-commerce platform to increase the visibility of the products can enable market expansion. The use of storytelling techniques such as craftsmen and community stories is highly recommended. As tested by the study, the establishment of an e-commerce platform may facilitate more access to community products by diverse market segments. Furthermore, the study discovered the importance of networking among the handloom business partners. This is suggested through provincial, national and international level forums, trade shows and e-commerce platforms.

6.7 Research implications

6.7.1 Theoretical implications

In particular, the various steps involved in adapting the business model developed in this study could serve as a valuable blueprint for business model realignment in the textile handloom craft sector. First, our study emphasized the importance of starting by gaining a detailed understanding of all relevant facets of economic, environmental and social aspects of craft business in the current scenario and hence the consequence of entrepreneurial aspects and hence the study outcome of the SEEE model with the pertinent theoretical prospects. The SEEE model development for the sustainable progress of the textile handloom industry presents a useful framework for the growth of the handloom sector. A significant element of the business model outline lies in the relative dominance of SEEE's four canvases of the BM, whether purposeful or emergent, with implications for economic, environment, social and entrepreneurship facets. Domination of CBE development among handloom craft people or similar craft segments occurs within the community configuration of the theoretical factors of social capital (networks), social status, family web (family-involved businesses) and innovative use of design, manufacturing, marketing and infrastructure support.

SEEE BM is aimed at building an integrated and holistic perspective of the entire business model for the handloom sector. However, it needs to be done more focused and deeper analysis for effective use. Even though the SEEE offers a new approach for evaluating and conceptualizing sustainability-oriented inventions and sustainable BM for handloom craft, there are some clear limitations to take into consideration. The SEEE is a tool. It does not do the discovering and reviewing of prospective innovations. Therefore, users of SEEE BM need to be concerned about starting with sample cases of their businesses, and more focused on probing questions of their business setups. Drawing comparisons with other businesses is another way to disseminate themselves with the SEEE model and business model analysis process. Yet, the SEEE offers an integration of the specific analyses back into the high-level viewpoint of the sustainable BM.

The SEEE tool encourages users seeking to creatively invent more sustainable BMs in several ways. This is built directly from the widely adopted business model canvas (Osterwalder and Pigneur, 2011; Joyce and Paquin, 2016). The model provides an easy-to-use, enhanced canvas to explore and innovate towards economic, environmental, and social value creation and entrepreneurial attempts in an integrated manner. Also, this SEEE model's inside-out approach encourages users to leverage their understanding of the craft business's existing BM for improvement opportunities to develop rather than attempting to translate or justify external ideals or archetypes for their business. The SEEE model also delivers a perceptive visualization of the craft business and value creation which may be used to provoke exchanges around modifications in business. As such, it may be worth considering a few questions such as how different conceptualizations of business models influence, how users perceive and communicate sustainability-oriented innovations in making change. Also, how such tools be used to support more sustainable action and how would such tools intensify the deep-level changes needed for businesses to adapt to more globally sustainable outcomes.

Further, the SEEE model is offered across creative commons to encourage those interested in developing sustainability-oriented changes through this BM in the craft sector. Also, the SEEE model may be a useful tool for generating collaborative discussions often vital to support the change process. Similarly, the model encourages the collaborative development of craft businesses and validation of own businesses. Thus, the model allows for reflecting the business impacts in terms of economic, environmental, social and entrepreneurial aspects align with the anticipated changes in impacts conceptualized through business model changes.

The SEEE model suggests making more specific the often implied and informal dynamics within the business through vertical and horizontal coherence. The four layers of the SEEE appear to help reveal opportunities for improving deeper and more combined opinions of the economic, environmental, social and entrepreneurial value of an enterprise's business

model. Yet, this is supported by workshop participant feedback. Future research work may consider exploring how the SEEE model and other tools may best help users conceptualize, understand, and communicate business impacts through its BM to support meaningful sustainability-oriented innovations more clearly with provable impacts.

6.7.2 Practical implications

The study's main outcome, the SEEE model could be used by the textile handloom industry in the development of the industry. From practitioners' perspective, this study is important as it provides a means to understand the strategies and resources that are required for the survival and growth of the industry. Especially the key stakeholders can recognise their capabilities and weaknesses and the areas of improvement relating to the proposed business model. The communities need to concentrate on two main elements of the entrepreneurial canvas, which are networking and innovation, for the growth of their business. This study also provides insights for the policymakers and the government in formulating the required policies based on the SEEE model considering all 4 aspects economic, environmental, social and entrepreneurship. The findings of this study can be used by the government to identify and facilitate various levels of training and development programs for textile handloom communities as well as for educational and vocational training institutions.

Additionally, this study provides a guideline for the textile handloom communities to incorporate DI and innovation, which emphasizes the benefits of openness as a means of expanding value creation for the textile handloom business. Authorized parties such as the government and provincial councils can use the findings of this study to further develop and integrate DI into handloom manufacturing. DI implementation and challenges can be incorporated into future action plans that interfere with the relevant expertise.

6.8 Conclusion

The Sri Lankan textile handloom industry is known as a highly labour-intensive and rural based industry. Even though the sector has declined over the years, it has significant employment generating potential and export earning opportunities if the industry can be supported to take a major shift from a low-priced commodity manufacturer to a market oriented high end-product manufacturer. This study explored the Sri Lankan textile handloom industry from a triple bottom line perspective. The results from the study indicate that the industry offers a promising approach towards a sustainable BM. The analysis provides useful insights to drive sustainability-oriented business innovation. Growing consumer awareness and demand for sustainable products could accelerate the market expansion of the handloom business if the interventions proposed here were adopted. This BM is aimed at formulating a strategy: DI and CBE for revival and sustainable growth of the handloom sector in Sri Lanka with a focus on the expansion of the handloom business.

Implementation of DI explores possible collaborations among craft persons and expert designers for the revitalization of handloom crafts. The analysis provides a positive drive for the co-creation process in the design collaboration of expert designers and craft persons. The results indicate that the incorporation of DI with traditional handloom craft offers a promising path for innovative contemporary handloom products. However, handloom community craft people face barriers in developing such innovations due to product design knowledge. Yet, traditional handloom crafts should strive for contemporary change through innovative design and viable collaboration within appropriate market segments. Contemporary consumers become more conscious of their consumption patterns and their impact on the society and environment. Thus, consumer preferences direct more toward handmade, local and eco products focusing on sustainable trends. Further handloom products bear the local identity, cultural value, and sustainable manufacturing process and hence react to contemporary market trends. This is a growing market of handloom business if DIs were adopted. Thus, the implementation of DI is

recommended to sustain the growth and expansion of the handloom business with viable market expansions, employment opportunities, and social and economic development.

The study proposed BM from the currently in place community-based production to sustainable CBE which will support economic gain and non-economic benefits to communities. This proposed model has an explanatory framework for the development of CBE in the local craft communities. This study suggests that CBE has the potential to assume a critical role in improving the livelihoods of craft communities and encouraging local development from the concept offered. Reflections from the study findings suggest four key aspects of CBE: social networks, family business efforts (family-web), improving the social status of the community members and support for innovation in technology, marketing, and design. This new model of CBE focuses on the bottom-up development of indigenous communities to facilitate network building alongside focused interventions. Further, the creation of an education infrastructure fostering entrepreneurship (developing skills in marketing, pricing, network building and supply chains) plus the provision of a legal framework for CBE would assist in developing the four key aspects and improve opportunities for CBE to be developed into a sustainable BM so related government institutions and external institutions can offer mutually beneficial partnerships in maintaining CBE's autonomy as craft communities in goal setting and decision making without intermediary party intervention.

This study contributes to the existing research on sustainable BMs by providing a framework in the form of the four-layer BM canvas (SEEE) to enable a triple bottom line perspective to sustainability that of economic, environmental, and social impact and CBE notions applied to a BM. The SEEE model expands the economic-centred approach to a standard BM by developing and integrating environmental and social canvas layers (TLBMC) built from the lifecycle and stakeholder perspectives of crafts into an extended BM canvas. Further, the model integrated with the CBE perspectives of craft communities, and this expanded canvas supports developing more robust and holistic

perspectives on sustainability-oriented BM innovation. As such, the SEEE model has the potential to encourage community craft persons to transform into community entrepreneurs for sustainable community businesses.

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APPENDICES

Appendix A - Ethical approval



University Ethics Review Committee

To: W.K.D. Thushari

From: Chairman, University Ethics Review Committee

Subject: Review of Ethics Committee Application No- EDN/ 2018/006

Title: A sustainable business model to uphold Sri Lankan Handloom Industry

Decision: Ethics approval is granted

Date: 23 November 2018

Thank you for submitting revisions to the Ethics Application Form A in relation to the research project referred to above. The project has been reconsidered as complying with the General Guidelines on Ethical Conduct in Human Research of UOM. I am pleased to advise that your project has been granted the ethics approval. Your Ethics Declaration Number (EDN) is EDN/ 2018/006.

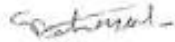
The following standard conditions apply to your project:

- **Limit of Approval.** Approval is limited strictly to the research proposal as submitted in your application while taking into account any additional conditions advised by the UERC.
- **Variation to Project.** Any subsequent variations or modifications you wish to make to your project must be formally notified to the UERC for approval in advance of these modifications being introduced into the project. In order to do this, you are advised to send a revised application.
If the UERC considers that the proposed changes are significant, you may be required to submit a new application form A or B for approval of the revised project.
- **Withdrawal of Project.** If you decide to discontinue your research before its planned completion, you must advise the UERC and clarify the circumstances.
- **Monitoring.** All projects are subject to monitoring at any time by the University Ethics Review Committee.

If you have any queries on the information above or require further clarification, please email: arfgs@uom.lk or contact me by phone.

On behalf of the University Ethics Review Committee, best wishes with your research!

Kind regards,



Dr. Rangajeewa Ratnayake
Chairman, University Ethics Review Committee
PhD (La Trobe University, Australia)
Head, Department of Town and Country Planning
Faculty of Architecture
University of Moratuwa, Katubedda, Moratuwa, Sri Lanka
T: +94 112 650921 E: rangajeewar@gmail.com | rangajeewar@uom.lk

Appendix B – Participant informed consent form

Participant Consent

Researcher : Thushari Wanniarachchi
Program of study : PhD Degree
Institute : University of Moratuwa
Project title : Sustainable business model to uphold Sri Lankan handloom industry

Information for participants

This study aims to develop sustainable business model to uphold Sri Lankan handloom industry contributing to stimulate the development and preservation of local handloom craft, and provide a sustainable and commercially viable way of escalating rural livelihood.

This aspect of data collection involves face to face semi structured interviews and participatory action research with handloom manufactures, community craftspeople and entrepreneurs.

Participants have the right to withdraw their participation in any point without given reasons. Interviews are and workshops are audio or video recorded with the consent of the participants. Confidentiality, anonymity and security of the data are assured.

Participant consent form

1. I understood and agree to take part and provide data in the above research project.
2. I have read and understood the information sheet for the above project and had opportunity to clarify the data collection procedures.
3. I understood my responses will remain anonymous.
4. I give my permission to response recording to be stored and used as part of this research.

Name of participant Date Signature

Name of researcher Date Signature

සහභාගිච්ඡන්තන්ගේ කැමැත්ත ප්‍රකාශ කිරීමේ පත්‍රය

පර්යේෂක : තුෂාරී චන්තිආරච්චි
 පාඨමාලාව : පශ්චාත් උපාධි පාඨමාලාව
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 පර්යේෂණයේ නම : අත්යන්ත්‍ර රෙදිපිළි කර්මාන්තය සඳහා තිරසාර වෙළඳ ආකෘතියක් ගොඩනැගීම

සහභාගිච්ඡන්තන් සඳහා දැනුවත් කිරීම

- අත්යන්ත්‍ර රෙදිපිළි කර්මාන්තයේ දියුණුව සඳහා තිරසාර වෙළඳ ආකෘතියක් ගොඩනගා ගැනීම මෙම අධ්‍යයනයේ මූලික පරමාර්ථය වේ.
- මෙම ව්‍යාපෘතිය සඳහා දත්ත ලබා ගැනීමට සම්මුඛ සාකච්ඡා සහ ක්‍රියාකාරී වැඩමුළු ක්‍රම යොදා ගැනේ. ඒ සඳහා මෙම ක්‍ෂේත්‍රයේ නියැලෙන්නන්ගේ පීඩන අත්දැකීම් සහ දැනුම ලබා ගැනීමට කටයුතු කෙරේ.
- සහභාගිච්ඡන්තන්ගේ කැමැත්ත සහ අනුදැනුම මත, සම්මුඛ පරීක්ෂණ සහ වැඩමුළු පටිගත කිරීම සහ ඡායාරූප ගත කිරීම සිදු කෙරේ.
- ලබා ගන්නා සියළුම දත්තයන්ගේ රහස්‍යභාවය රැකීමට එකඟ වන අතර, සහභාගිච්ඡන්තන්ගේ අනන්‍යතාවය රැකෙන පරිදි එම දත්ත පර්යේෂණය සඳහා යොදා ගැනීමට සහතික වෙමි.

සහභාගිච්ඡන්තන්ගේ කැමැත්ත / අනුමැතිය

01. ඉහත පර්යේෂණය සඳහා සහභාගිත්වය අවබෝධ කරගත් අතර එයට සහභාගි වීමට සහ දත්ත සැපයීමට එකඟ වෙමි.
02. මෙම පර්යේෂණය සම්බන්ධ කරුණු කියවා අවබෝධ කරගත් අතර සම්මුඛ පරීක්ෂණ සහ වැඩමුළු කරන ආකාරය පැහැදිලි කර ගතිමි.
03. මාගේ අනන්‍යතාවය පුරුදුකෙත බව අවබෝධ කර ගතිමි
04. මාගේ දත්ත සැපයීමේ ක්‍රියාවලිය පටිගත කිරීම සහ ඡායාරූපගත කිරීම සඳහා මාගේ අනුමැතිය ලබා දෙමි.

සහභාගිච්ඡන්තාගේ නම :

දිනය: අත්සන:.....

පර්යේෂකයාගේ නම :

දිනය:..... අත්සන:.....

பங்கேற்பாளர் ஒப்புதல்

ஆராய்ச்சியாளர் : துஷாரி வள்ளியாராச்சி
 ஆய்வு திட்டம் : PhD பட்டம்
 கல்வி நிறுவனம்: மொறட்டுவை பல்கலைக்கழகம்
 ஆய்வுத்தலைப்பு: இலங்கை கைத்தறித் தொழிலை நிலைநிறுத்துவதற்கான நிலையான வணிக மாதிரி

கைத்தறித் தொழிலின் மேம்பாட்டிற்கும் உள்ளூர் கைத்தறி கைவினைப் பாதுகாப்பிற்கும் பங்களிப்பதற்கும், கிராமப்புற வாழ்வாதாரத்தை மேம்படுத்தவும்மற்றும் வர்த்தக ரீதியாக சாத்தியமான வழியை வழங்குவதற்கும் பங்களிப்பு செய்வதற்காக நிலையான வணிக மாதிரியை அபிவிருத்தி செய்வதையே இந்த ஆய்வு நோக்கமாகக் கொண்டுள்ளது.

தரவு சேகரிப்பின் அம்சமானதுகைத்தறி உற்பத்தியாளர்கள், கைவினை மக்கள்சமூகம்மற்றும் தொழிலைஎதிர்கொள்ள முனைவோர்களுடன் அரைக் கட்டமைக்கப்பட்ட நேர்காணல்கள் மற்றும் பங்கேற்பு நடவடிக்கை ஆராய்ச்சி என்பவற்றை உள்ளடக்கியதாக அமைக்கப்பட்டுள்ளது. பங்கேற்பாளர்களுக்கு எந்தவொரு நேரத்திலும்காரணங்கள் இன்றி இந்த ஆய்விலிருந்து வெளியேற உரிமையுண்டு.நேர்காணல்கள் மற்றும் பட்டறைகள் பங்கேற்பாளர்களின் அனுமதியுடன் ஒலி மற்றும் ஒளிப் பதிவுசெய்யப்படும். இரகசியத்தன்மை மற்றும் தரவு பாதுகாப்பு உறுதி செய்யப்படும்.

பங்கேற்றப்பாளர்களின் ஒப்புதல் படிவம்

1. மேலே கூறப்பட்ட ஆய்வில் பங்கேற்பதுடன் தேவையான தரவுகளை வழங்குவேன் என சம்மதம் தெரிவிக்கின்றேன்.
2. ஆய்வுக்கான தரவுப் படிவத்தை வாசித்து விளங்கிக் கொண்டேன் என்றும் தரவு சேகரிப்பு படிமுறைகளை விளங்குவதத்திற்கான சந்தர்ப்பம் இருந்ததென்றும் உறுதி செய்கின்றேன்.
3. என் பதில்கள் அநாமதேயமாக/ பெயர் அறியப்படாமல் இருக்கும் என்பதை நான் புரிந்துகொண்டேன்.
4. என்னுடைய பதில்களைப் பதிவு செய்வதற்கும் இந்த ஆய்வின் ஒரு அங்கமாக பாவிப்பதற்கு அனுமதி அளிக்கின்றேன்.

பங்கேற்பாளர்..... திகதி..... கையொப்பம்.....

ஆராய்ச்சியாளர்..... திகதி..... கையொப்பம்.....

Appendix C1 - Case study interview guide

SEMI-STRUCTURED INTERVIEW QUESTIONNAIRE I

For Community Members/ Provincial councils (PC)/ Private Businesses (PB)

1. History

- a. What is the history of the community/PC/PB?
How did handloom weaving start/ year?
- b. If created who supported? What was the base for selecting the community/PC/PB? Skills of the community/PC/PB?
- c. What was the employment before?
- d. Success and failures over the years of community/PC/PB?

2. The current status

- a. How many households work in the community/PC/PB?
- b. How do you get orders?
- c. The age range of the workforce
- d. Gender balance
- e. How many active looms? Total? Household?

3. Production

- a. What are the product categories of the community/PC/PB?
- b. Production? Per week/ month
- c. Total income per month?

4. Government/ Other support to the business

- a. What are the support and facilities received?
- b. How did they benefit?
- c. Are those continuing?

5. Design challenges

- a. How to create a design? / Traditional design?

- b. How did designs change over time?
- c. If so, what were the influences?
- d. To what extent traditional designs use in current products?
- e. What is the product range?
- f. What are the technology challenges faces?
- g. What are the design challenges?
- h. What are the traditional designs/New developments?
- i. If not, why don't you go for novelty products?
- ii. Do you provide training programs for your weavers (technical/ design)?

6. Supply Chain and Networking

- a. What is the supply chain for raw materials?
- b. What is the supply chain for finished products?

7. Sustainability

- a. Sustainable raw material usage
- b. How sustainable is the process?
- c. Efforts for sustainable processes and product
- d. Demand for sustainable products

8. Marketing challenges

- a. How do market the product from the handloom centres?
- b. What is the market level you cater for?
- c. How is the customer relationship?
- d. What are the challenges from other handloom suppliers to the market?
- e. Is the middleman involved in marketing?
- f. Do you get any respond from your customers?
- g. Do you propose any marketing strategy for handloom products?

9. Entrepreneurship possibilities

- a. What is the wage of weavers?
- b. Do you work with small-scale handloom entrepreneurs?
- c. Do you have any plans for entrepreneurship development with your weavers?
- d. What the challenges are in attracting young people?

Appendix C2 - Case study interview guide

SEMI STRUCTURED INTERVIEW QUESTIONNAIRE II

For Weavers

1. History

- a. When did you join the community/PC/PB?
- b. When did you start working/ year?
- c. What are your skills?
- d. Is this the first job?
- e. What was the employment before?
- f. What is your success and failures over the years of community/PC/PB?

2. The current status

- a. How many households work in the family?
- b. How do you get orders?
- c. The age range of the household's workforce
- d. Gender
- e. How many active looms?

3. Production

- a. What are the product categories?
- b. How do you get work/orders?
- c. Do you get work/orders directly or via someone?
- d. Production? Per day/ week/ month
- e. Total income per month?

4. Government/ Other support to the business

- a. What are the support and facilities received?

- b. How did you benefit?
- c. Are those continuing?

5. Design challenges

- a. What is the product range?
- b. How do you get the product design?
- c. Is it traditional designs or newly created designs?
- d. How did designs change over time?
- e. To what extent traditional designs use in current products?
- f. If so, how do you manage them?

6. Technology challenges

- a. What is the type of machinery you used? Traditional looms or advanced looms?
- b. Do you like to use little advanced technology with your traditional loom?
- c. What are the technology challenges faces?
- d. Do you receive any training?

7. Entrepreneurship possibilities

- a. What is the wage of weavers?
- b. Are you earning to piece rate or for an order?
- c. Are you doing your work, or you are working for someone else?
- d. To whom you are working?
- e. Do you have any plans for your own work or entrepreneurship development?
- f. Do the younger generation of your family like to join in the same work?

Appendix C3 – PAR focus group workshop guide

PAR focus group workshop guide

Duration Plan – 4 Hrs

Workshop Theme	Sub-theme
Current business situation	Business opportunities
	Barriers to business
	Entrepreneurship opportunities
	Marketing and Networking
Barriers to entrepreneurship	Social Barriers
	Cultural Barriers
	Technological Barriers
	Marketing and Networking Barriers
Entrepreneurial education	Entrepreneurial skills
	Entrepreneurial efficacy
	Entrepreneurial education
	Confidence building

Appendix D– Feedback form the design workshop

FEED BACK FORM FOR DESIGN WORKSHOP-1 @ MADAMPELLA COMMUNITY

Request from: Thushari Wanniarachchi, PhD Candidate, University of Moratuwa

Project title Sustainable entrepreneurial business model to uphold Sri Lankan textile handloom industry

1. How does workshop 1 help you to improve your awareness of product design?
2. How do you use the knowledge gained from workshop 1 to improve your current products?
3. How important is the awareness given for new opportunities? Did you think about at least one of them?
4. Did the design and marketing awareness facts discussed in the workshop affect your business?
5. How do you feel about workshop 1 supports you to develop your business performance and profit /entrepreneurial skills?
6. Could you increase the price of your products due to new design inputs?
YES/NO
What type of products? How much?
7. What do you prefer to get to know from coming workshops?

Name

Contact number

Signature

Appendix E – Case Study Coding analysis

Table 1E – Initial cross-case analysis

Main themes	Themes	Respondents' identification
Design	Design applications	CST ¹ CST ² CSMP ¹
	Traditional/ Contemporary	CSMP ² CSMM ¹ CSMM ² CSW ¹ CSW ² CSW ³ CSW ⁴
	Locally handmade	⁴ CSS ¹ CSS ³ CSS ⁴ CSNC ¹
	Cultural sensibility	CSNC ² CSNC ³
	Uniqueness	CSPB1 ¹ CSPB2 ¹ CSPB2 ² CSPB3 ¹ CSPB3 ² CSPB3 ³
	Customized	CSPB4 ¹ CSPB5 ¹
Products and production process	Primary production facilities	CST ¹ CST ² CST ³ CST ⁴ CSMP ¹ CSMP ² CSMP ³
	Yarn dyeing	CSMP ⁴ CSMM ¹ CSMM ² CSMM ³ CSMM ⁴
	Weaving production	CSW ¹ CSW ² CSW ³
	Weaving craftsmanship	CSW ⁴ CSW ⁵ CSW ⁶
	Ethical manufacture	CSS ¹ CSS ² CSS ³ CSS ⁴
	Flexible working hours	CSS ⁵ CSS ⁶ CSNC ¹ CSNC ² CSNC ³ CSNC ⁴ CSNC ⁵ CSPB1 ¹ CSPB1 ² CSPB2 ¹ CSPB2 ² CSPB3 ¹ CSPB3 ² CSPB3 ³ CSPB3 ⁴ CSPB4 ¹ CSPB5 ¹
Supply chain	Raw material suppliers	CST ¹ CST ² CSMP ¹
	Retailing	CSMP ² CSMM ¹ CSMM ²

	Intermediary persons	CSW ¹ CSW ² CSW ³ CSW ⁴ CSS ¹ CSS ³ CSS ⁴ CSNC ¹
	Delivery (Public/private transportation) Niche market/ Segmented market	CSNC ² CSNC ³ CSPB ¹ ¹ CSPB ² ¹ CSPB ² ² CSPB ³ ¹ CSPB ³ ² CSPB ³ ³ CSPB ⁴ ¹ CSPB ⁵ ¹
Sales, Retailing and marketing	Direct sales	CST ¹ CST ² CSMP ¹
	Retailing	CSMP ² CSMM ¹ CSMM ² CSW ¹ CSW ² CSW ³ CSW ⁴
	Intermediary persons	CSS ¹ CSS ³ CSS ⁴ CSNC ¹
	Word of mouth	CSNC ² CSNC ³
	Trade fair	CSPB ¹ ¹ CSPB ² ¹ CSPB ² ² CSPB ³ ¹ CSPB ³ ² CSPB ³ ³ CSPB ⁴ ¹ CSPB ⁵ ¹
Government and Other Support	Community welfare	CST ¹ CST ² CSMP ¹
	Community associations	CSMP ² CSMM ¹ CSMM ² CSW ¹ CSW ² CSW ⁵ CSS ¹
	Basic equipment	CSS ³ CSS ⁴ CSNC ¹ CSNC ³ CSPB ¹ ¹ CSPB ² ¹ CSPB ² ² CSPB ³ ¹ CSPB ⁴ ¹ CSPB ⁵ ¹
Customer	Customer affiliation	CST ¹ CST ² CSMP ¹
	Customer segments	CSMP ² CSMM ¹ CSMM ² CSW ¹ CSW ² CSS ¹ CSS ³ CSNC ¹ CSPB ¹ ¹ CSPB ² ¹ CSPB ² ² CSPB ³ ¹ CSPB ⁴ ¹ CSPB ⁵ ¹

Table 2E - Economic aspects of handloom business analysis

Themes	Sub-themes	Respondent identification
Basic Resources	Weaving craftsmanship	CST ¹ CSMP ² CSMM ²
	Traditional design talents	CSW ³ CSW ⁴ CSS ¹ CSS ³
	Primary production facilities	CSNC ¹ CSNC ²
	Raw material suppliers	CSPB1 ¹ CSPB2 ¹ CSPB3 ¹ CSPB4 ¹ CSPB5 ¹
Partnerships/ Networking	Designers	CST ² CSMP ¹ CSMM ¹
	Suppliers	CSW ¹ CSS ¹ CSS ³ CSS ⁴
	Manufactures	CSNC ¹
	Retailers/ Intermediary persons	CSPB1 ¹ CSPB2 ¹ CSPB3 ¹ CSPB3 ² CSPB4 ¹ CSPB5 ¹
	Marketers	
Activities	Yarn dyeing	CST ³ CST ⁴ CSMP ¹
	Weaving production	CSMP ² CSMM ¹ CSMM ²
	Product manufacturing	CSW ¹ CSW ⁵ CSS ¹ CSS ⁴
	Sales, Retailing & Marketing	CSS ⁶ CSNC ² CSPB1 ² CSPB2 ² CSPB3 ² CSPB3 ³ CSPB4 ¹ CSPB5 ¹
Value proposition	Traditionally design	CST ¹ CSMP ¹ CSMP ²
	Locally handmade Cultural sensibility	CSMM ² CSW ¹ CSS ¹ CSS ² CSS ³
	Uniqueness, Sustainable	CSS ⁴ CSNC ¹
	Customized	CSPB1 ¹ CSPB2 ²
	Quality	CSPB3 ¹ CSPB4 ¹ CSPB5 ¹
	Ethical manufacture	
Customer Relationship/ affiliation	Direct relationships	CST ² CSMP ¹ CSMM ¹
	Through retailers	CSMM ²

	Through intermediary person	CSW ¹ CSS ³ CSNC ¹ CSPB1 ¹ CSPB2 ¹ CSPB2 ² CSPB3 ¹ CSPB4 ¹ CSPB5 ¹
Customer segments	Local market	CST ¹ CSMP ² CSMM ²
	Global market	CSW ¹ CSS ³ CSNC ¹
	Niche market	CSPB1 ¹ CSPB2 ¹ CSPB2 ²
	Segmented market	CSPB3 ¹ CSPB4 ¹ CSPB5 ¹
Retailing channels/Networks	Word of mouth	CST ¹ CSMP ¹ CSMP ²
	Retailer store	CSMM ²
	Trade fair	CSW ¹ CSW ² CSS ¹ CSS ³
	Web platform	CSNC ¹ CSPB1 ¹ CSPB2 ¹ CSPB2 ² CSPB3 ¹ CSPB4 ¹ CSPB5 ¹
Cost incurred	Designing	CST ¹ CSMP ¹ CSMP ²
	Raw material	CSMM ² CSW ¹ CSW ²
	Production	CSS ¹ CSS ³ CSNC ¹
	Marketing	CSPB1 ¹ CSPB2 ¹ CSPB2 ²
	Retailing	CSPB3 ¹ CSPB4 ¹ CSPB5 ¹
Revenue	Manufacturing process	CST ¹ CSMP ² CSMM ²
	Product sales	CSW ¹ CSS ³ CSNC ¹ CSPB1 ¹ CSPB2 ¹ CSPB2 ² CSPB3 ¹ CSPB4 ¹ CSPB5 ¹

Table 3E – Environment aspects of handloom business analysis

Sub-themes	Themes according to environment layer canvas elements	Respondent identification
Suppliers outsourcing	Yarn and Dyeing suppliers	CST ¹ CSMP ¹ CSMP ² CSMM ²
	Machinery supplier	CSW ¹ CSW ² CSS ¹ CSS ³
	Utility suppliers	CSNC ¹
	Water & energy for the process	CSPB1 ¹ CSPB2 ¹ CSPB2 ² CSPB3 ¹ CSPB4 ¹ CSPB5 ¹
Production	Yarn dyeing	CST ¹ CSMP ¹ CSMP ²
	Weaving Production	CSMM ²
	Product manufactures	CSW ¹ CSW ² CSS ¹ CSS ³ CSNC ¹
		CSPB1 ¹ CSPB2 ¹ CSPB2 ² CSPB3 ¹ CSPB4 ¹ CSPB5 ¹
Materials	Dyeing materials	CST ² CSMP ² CSMP ²
	Raw & dyed yarn	CSMM ²
	Packaging materials	CSW ² CSS ³ CSNC ¹ CSPB1 ¹ CSPB2 ¹ CSPB2 ² CSPB3 ¹ CSPB4 ¹ CSPB5 ¹
Functional value	Number of handloom items produced	CST ¹ CSMP ¹ CSMP ² CSMM ² CSW ¹ CSW ² CSS ¹ CSS ³ CSNC ¹ CSPB1 ¹ CSPB2 ¹ CSPB2 ² CSPB3 ¹ CSPB4 ¹ CSPB5 ¹
End of life	Re-use	CSPB1 ¹ CSPB1 ² CSPB2 ¹
	Re-manufacturing	CSPB3 ¹

	Re-cycle	
Distribution	Public transport	CST ² CSMP ² CSMM ²
	Private transports	CSW ¹ CSS ³ CSNC ¹
		CSPB1 ¹ CSPB2 ¹ CSPB2 ²
		CSPB3 ¹ CSPB4 ¹ CSPB5 ¹
User phase	Water for washing	CSPB3 ¹
	Energy for Washing/ Drying/ Pressing	
Environment impacts	Carbon footprint due to; Dyeing process	CSPB1 ¹
	Machinery used for product manufacturing	
	Distribution	
Environment benefits	Carbon footprint savings from hand weaving	CSPB1 ¹ CSPB1 ²
	Less waste	

Table 4E – Social aspects of handloom business analysis

Sub-themes	Themes according to social layer canvas elements	Respondent identification
Local communities	Handloom weaving villages	CST ¹ CST ² CST ³ CSMP ¹ CSMP ² CSMP ³ CSMM ¹ CSMM ² CSW ¹ CSS ¹ CSS ² CSNC ¹ CSPB1 ¹ CSPB2 ¹ CSPB3 ¹ CSPB4 ¹
Governance	Community members Provincial councils Private businessmen	CST ² CST ³ CSMP ¹ CSMP ² CSMP ³ CSMM ¹ CSMM ² CSW ¹ CSW ⁵ CSS ¹ CSS ⁴ CSNC ¹ CSNC ³ CSPB1 ¹ CSPB2 ¹ CSPB3 ¹ CSPB3 ² CSPB4 ¹ CSPB5 ¹
Employees	Local weavers without gender and ethnicity or some disables	CST ² CST ³ CSMP ¹ CSMP ² CSMM ¹ CSMM ² CSW ¹ CSS ¹ CSNC ¹ CSPB1 ¹ CSPB2 ¹ CSPB3 ¹ CSPB4 ¹
Social values	Offer handloom products with sustainable values through ethical manufacturing	CSPB1 ¹

	Improve the quality of life for the stakeholders	
Societal Culture	Tightly interconnected with social culture and region	CST ² CSMP ¹ CSMP ³ CSPB3 ¹
Scale of Outreach	Locally spread island wide	CSW ¹ CSS ¹ CSS ⁶ CSPB1 ¹ CSPB2 ¹ CSPB3 ¹ CSPB3 ²
End-user	A person who values; Personalized, sustainable, ethically made, traditionally inspired local products	CSPB1 ¹ CSPB2 ¹ CSPB3 ¹
Social impacts	The impact from cotton farming, child labour, unfair wages, and usage of hazardous chemicals	CSW ¹ CSS ¹ CSPB3 ¹
Social benefits	Women empowerment Young generation encouragement Rural livelihood development	CST ³ CSMP ² CSMM ¹ CSW ¹ CSS ¹ CSNC ¹ CSPB1 ¹ CSPB2 ¹ CSPB3 ¹ CSPB4 ¹

Table 5E - Open codes to selective themes – Economic layer

Open coding	Axial coding	Selective coding
Weaving craftsmanship Traditional design talents Primary production facilities Raw material suppliers	Basic Resources	Infrastructure
Designers Suppliers Manufactures Retailers/ Intermediary persons Marketers	Partnerships/ Networking	
Yarn dyeing Weaving production Product manufacturing Sales, Retailing & Marketing	Activities	
Traditionally design Locally handmade Cultural sensibility Uniqueness, Sustainable Customized Quality Ethical manufacture	Value proposition	Offer
Direct relationships Through retailers Through intermediary person	Customer Relationship/ affiliation	Customer
Local market Global market	Customer segments	

Niche market Segmented market		
Word of mouth Retailer store Trade fair Web platform	Retailing channels/Networks	
Designing Raw material Production Marketing Retailing	Cost incurred	Financial viability
Manufacturing process Product sales	Revenue	

Table 6E - Open codes to selective themes – Environment layer

Open coding	Axial coding	Selective coding
Yarn and Dyeing suppliers Machinery supplier Utility suppliers Water & energy for the process	Suppliers outsourcing	Infrastructure
Yarn dyeing Weaving Production Product manufactures	Production	
Dyeing materials		

Raw & dyed yarn Packaging materials	Materials	
Number of handloom items produced	Functional value	Offer
Re-use Re-manufacturing Re-cycle	End of life	Utilization
Public transport Private transports	Distribution	
Water for washing Energy for Washing/ Drying/ Pressing	User phase	
Carbon footprint due to; Dyeing process Machinery used for product manufacturing Distribution	Environment impacts	Environment viability
Carbon footprint savings from hand weaving Less waste	Environment benefits	

Table 7E - Open codes to selective themes – Social layer

Open coding	Axial coding	Selective coding
Handloom weaving villages	Local communities	Infrastructure
Community members Provincial councils Private businessmen	Governance	

Local weavers without gender and ethnicity or some disables	Employees	
Offer handloom products with sustainable values through ethical manufacturing Improve the quality of life the stakeholders	Social values	Offer
Tightly interconnected with social culture and region	Societal Culture	Status
Locally spread island wide	Scale of Outreach	
A person who values; Personalized, sustainable, ethically made, traditionally inspired local products	End-user	
The impact of cotton farming, child labour, unfair wages, and usage of hazardous chemicals	Social impacts	Social viability
Women empowerment Young generation encouragement Rural livelihood development	Social benefits	

Appendix F- PAR coding analysis




1. Thalagune Community



1.1 Open coding and the axial coding analysis

Theme 1:

As the initial step of grounded theory analysis (As explained in 3.2.3 Grounded Theory Analysis) open coding analytical processes were done simultaneously using the Ketso data tabulating system. Axial coding too was developed by the open coding derived relating to possible sub-categories by the Ketso tool considering the research question to be answered and presented in Table 1.

Table 1 - Open & Axial Coding Analysis – Theme 1, Thalagune community







 THEME 1: CURRENT BUSINESS SITUATION PAR - Thalagune Community	
Open & Axial Coding Analysis Business opportunities Barriers for business Entrepreneurship opportunities Marketing & Networking	
 Business opportunities	 Barriers to business
<ul style="list-style-type: none"> • Due to traditional/ unique crafts skills gained from generation to generation • From the external orders through designers and hence the opportunity for weaving skill developments and exposure to new trends 	<ul style="list-style-type: none"> • Less capacity due to less labour • No brand identity for the community • No Own retailer outlets • No technology is used even for yarn winding





<ul style="list-style-type: none"> • Due to the unique skills and product identity of every craftsman in the community • Due to the capability to cater to any customer request • Because handmade products use handlooms • Due to the prevailing fare situation in the market • Due to the ethical manufacturing process 	
 Marketing & Networking	 Entrepreneurship opportunities
<ul style="list-style-type: none"> • No properly identified marketing channel • Marketing through retailers and middlemen • Craftsmen skills market via someone else's brand name • Lack of networks • Current networking only through direct customers 	<ul style="list-style-type: none"> • Ability to cater for customer request • Opportunity to merge with a tourist industry due to the environmental attraction of craft village • Exposure and experience gained from working with current private businesses and designers • Ability to offer a diversified product range under one brand name contributing several craftsmen • Ability to use weaving skills with current design trends

Theme 2:

Data gathered under 4 sub-themes of barriers to entrepreneurship were tabulated with Ketso data tabulating format with open coding and axial coding analysis as presented in Table 2.

Table 2 - Open & Axial Coding Analysis - Theme 2, Thalagune community




 THEME 2 -BARRIERS TO ENTREPRENEURSHIP	
PAR - Thalagune Community	
 Open & Axial Coding Analysis -2	
Social Barriers Cultural Barriers Technological Barriers Marketing & Networking Barriers	
 Social Barriers	 Cultural Barriers
<ul style="list-style-type: none"> • Reluctant to work together as a group due to similarities in product occurrence • Disagreement among craftsmen in pricing and selling • Lack of mutual trust among craftsmen 	<ul style="list-style-type: none"> • Reluctant to get labour from outside the community and hence less capacity due to less number of community membership • Reluctant to share craft knowledge outside the community
 Technological Barriers	 Marketing & Networking Barriers
<ul style="list-style-type: none"> • Lack of machinery and equipment to cater for big demand • Lacking the simple technological usage to improve productivity • Lack of infrastructure facilities 	<ul style="list-style-type: none"> • No brand identity for the community • No marketing and retailing capability for the community • Marketing through middlemen • Marketing community products under different brand names • Lack of networking • Lack of direct customers • Less opportunity to make a network among international customers









 THEME 2 -BARRIERS TO ENTREPRENEURSHIP	
PAR - Thalagune Community	
	Open & Axial Coding Analysis -2
	<ul style="list-style-type: none"> • Lack of knowledge of advanced marketing such as e-marketing Lack of infrastructure to use e-marketing tools
	 Notes

Theme 3:

Data gathered under 4 sub-themes of entrepreneurial education were tabulated with Ketso data tabulating format with open coding and axial coding analysis as presented in Table 3.

Table 3 - Open & Axial Coding Analysis - Theme 3, Thalagune community

 THEME 3 - ENTREPRENEURIAL EDUCATION	
PAR - Thalagune Community	
	Open & Axial Coding Analysis - 3
	Entrepreneurial skills Entrepreneurial efficacy Entrepreneurial education Confidence building






 THEME 3 - ENTREPRENEURIAL EDUCATION	
PAR - Thalagune Community	
 Open & Axial Coding Analysis - 3	
 Entrepreneurial skills	 Entrepreneurial efficacy
<ul style="list-style-type: none"> • Lack of skills in business planning • Lack of skills in generating ideas • Lack of skills in problem-solving • Lacking creative thinking 	<ul style="list-style-type: none"> • Confidence in design with the exposure and experience gained from other designers' work and customer tailor made product request • Confidence in pricing the products by experience • Confidence in using raw materials and weaving production by experience • Confidence in delivering customer requirements •
 Entrepreneurial education	 Confidence building
<ul style="list-style-type: none"> • Lack of technological knowledge in improving machine capacity • Lack of education in marketing • Lack of education in the use of internet facility • 	<ul style="list-style-type: none"> • Need confidence in new design trends • Need confidence in technology usage • Need confidence in marketing
	 Notes

Data gathered under 3 defined themes from PAR workshops were tabulated with Ketso data tabulating format with open coding and axial coding analysis.

1.2 Selective coding analysis

Results of the selective coding analysis of the Thalagune Community were done and presented in Table.4.

Table 4 - Selective Coding Analysis - C1: Thalagune Community

 ANALYSIS - 1 PAR C1: Thalagune Community	
Selective Coding Analysis	
 Sustainable Community Entrepreneurial	
 Networks Family involved entrepreneurship Social/ Culture influences Entrepreneurial efficacy Entrepreneurial education Entrepreneurial skills Innovation (Design/ Technical/ Financial/ Marketing) Tourism	
 Comment card	 Notes






2. Data Analysis -Madampella Community





2.1 Open coding and the axial coding analysis



Theme 1:

The current business situation analysis is presented in Table 5.

Table 5 - Open & Axial coding analysis – Current business situation, Madampella community

 THEME 1 - CURRENT BUSINESS SITUATION	
PAR - Madampella Community	
 Open & Axial Coding Analysis - 1	
 Business opportunities Barriers for business Entrepreneurship opportunities Marketing & Networking	
 Business opportunities	 Barriers to business
<ul style="list-style-type: none"> • Due to crafts skills gained from generation to generation • Due to the development of infrastructure in the village • Due to majority of the families and almost all family members involved with this industry as their livelihood • Due to gaining expected income from this business • From the external orders through designers and hence the opportunity for weaving skill developments and exposure to new trends 	<ul style="list-style-type: none"> • Only very few craftsmen are doing business on a large scale due to a lack of capital investment • Market competition • Craftsmen tend to produce different quality products due to competitive pricing issues • Middlemen's involvement in selling and cheating the craftsmen • Low price expectations from middle-class level customers • No Own retailer outlets • No identified market for Madampellel handloom products






 THEME 1 - CURRENT BUSINESS SITUATION	
PAR - Madampella Community	
 Open & Axial Coding Analysis - 1	
<ul style="list-style-type: none"> • Due to the capability to cater for any customer request • Due to the prevailing fare situation in the market, there are no big issues in selling the production • Due to the ethical manufacturing process 	<ul style="list-style-type: none"> • No mutual trust and group effort due to financial issues • Current political situation • Lack of consumer awareness of the quality of the different handloom products • Cultural barriers • Lack of networking with premium-level customers • Lack of awareness of current trends and pricing
 Marketing & Networking	 Entrepreneurship opportunities
<ul style="list-style-type: none"> • No properly identified marketing channel • Marketing through retailers and middlemen • Problems due to middleman involvement such as cheating, misleading, missing business • Craftsmen skills market via someone else's brand name • Lack of networks • Lack of group cohesiveness, mutual trust and hence difficulties in maintaining networks • Lack of networking for premium-level products 	<ul style="list-style-type: none"> • Ability to cater for any customer request • Ability to go for mass production with the demand • Willingness to continue the business by generation • Knowledge gained by student designers from leading fashion institute in the country • Continuous orders receive from existing customers • Opportunity to receive leftover yarn from closed free trade zone • Exposure and experience gain from working with current entrepreneurs and designers





 THEME 1 - CURRENT BUSINESS SITUATION	
PAR - Madampella Community	
 Open & Axial Coding Analysis - 1	
	<ul style="list-style-type: none"> • Ability to use weaving skills with current design trends





Theme2:

Barriers to entrepreneurship analysis is presented in the Table.6.

Table 6 - Open & Axial coding analysis - Barriers to entrepreneurship, Madampella community

 THEME 2 - BARRIERS TO ENTREPRENEURSHIP	
Madampella Community	
 Open & Axial Coding Analysis -2	
 Social Barriers Cultural Barriers Technological Barriers Marketing & Networking Barriers	
 Social Barriers	 Cultural Barriers
<ul style="list-style-type: none"> • Reluctant to work together as a group due to financial issues • Lack of mutual trust among craftsmen 	<ul style="list-style-type: none"> • Reluctant to line up the business with tourism industry due to the impression of ruining the cultural aspects in the village.






 THEME 2 - BARRIERS TO ENTREPRENEURSHIP	
Madampella Community	
 Open & Axial Coding Analysis -2	
<ul style="list-style-type: none"> • Current political situation in the country • Only few can invest for large scale production due to financial issues • Expectation of low price range from middle class customers and as a result craftsman tend to make low quality products 	<ul style="list-style-type: none"> • Influence from religious leaders in line up with tourism industry
 Technological Barriers	 Marketing & Networking Barriers
<ul style="list-style-type: none"> • Lacking knowledge in pricing the products • Though there are orders, difficulties in purchasing raw materials due to financial issues 	<ul style="list-style-type: none"> • No brand identity for the community • No marketing and retailing capability for the community • Marketing through middlemen due to difficulties in keeping finished good stocks • Difficulties and cheating of middlemen in marketing process • Competition in the market • Community products go to the market under different brand names • Lack of market and networks for premium level market • Lack of direct customers due to shortfall of the networking • Lack of knowledge for advanced marketing such as e-marketing Lack of infrastructure to use e-marketing tools

 THEME 2 - BARRIERS TO ENTREPRENEURSHIP	
Madampella Community	
 Open & Axial Coding Analysis -2	
	 Notes

Theme3:


Entrepreneurial education analysis is presented in the Table 7.

Table 7 - Open & Axial coding analysis – Entrepreneurial education, Madampella community



 THEME 3 - ENTREPRENEURIAL EDUCATION	
Madampella Community	
 Open & Axial Coding Analysis – 3	
 <p style="text-align: center;"> Entrepreneurial skills Entrepreneurial efficacy Entrepreneurial education Confidence building </p>	
 Entrepreneurial skills	 Entrepreneurial efficacy
<ul style="list-style-type: none"> • Poor skills in business planning • Poor skills in generating ideas • Lack of skills in problem solving • Not keen in creative and quality products • Not keen in finding business opportunities 	<ul style="list-style-type: none"> • Confidence in using raw material and weaving production by experience • Confidence in deliver to customer requirement • Lack of interest in developing design skills

 **THEME 3 - ENTREPRENEURIAL EDUCATION**

Madampella Community

 **Open & Axial Coding Analysis – 3**

	<ul style="list-style-type: none"> • Lack of interest in developing own business rather than focussing on day to day income • Not keen in developing own business rather than doing subcontract • Not keen in use the experience and exposure from subcontract to own work
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 Entrepreneurial education	 Confidence building
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<ul style="list-style-type: none"> • Lack of knowledge in current trends and basic designing • Lack of education in marketing and networking • Lack of education in use of internet facility 	<ul style="list-style-type: none"> • Need confidence in new design trends • Need confidence in technology usage • Need confidence in marketing
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2.2 Selective coding analysis

Results of the selective coding analysis of Madampella community was done and presented in Table 8.

Table 8 - Selective coding analysis of C2: Madampellela Community

 ANLYSIS - 2 PAR C2: Madampella Community	
Selective Coding Analysis	
 Sustainable Community Entrepreneurship	
 Network Family involved entrepreneurship Culture Social/ Cultural influences Entrepreneurial education Innovation (Design/ Technical/ Financial/ Marketing) Tourism Keenness to eco product Empowerment	
 Comment card	 Notes






3. Data Analysis -Marathamunia Community





3.1 Open coding and the axial coding analysis



Data gathered under 3 defined themes from PAR workshops were tabulated with Ketso data tabulating format with open coding and axial coding analysis.

Theme 1: Current business situation analysis is presented in the Table 9.

Table 9 - Open & Axial coding analysis - Current business situation, Marathamunie community




 THEME 1 - CURRENT BUSINESS SITUATION	
PAR – Marathamunie Community	
 Open & Axial Coding Analysis - 1	
	
 Business opportunities	 Barriers for business
<ul style="list-style-type: none"> • Due to confidence of craft skills gained from generation to generation • Due to confidence of demand for their products, • Due to confidence of island wide orders and business • Due to fare design knowledge acquire from experience, working with designers and various brands of the local market 	<ul style="list-style-type: none"> • Lack of proper marketing channel • Poor networking with premium and direct customers • Financial difficulties in investing into the business • Middlemen involvement in sales • Low price expectation from middle level market • Current political situation of the country • Lack of consumer awareness of quality of the different handloom products • Cultural barriers







 THEME 1 - CURRENT BUSINESS SITUATION	
PAR – Marathamunie Community	
 Open & Axial Coding Analysis - 1	
<ul style="list-style-type: none"> • Due to ability of young generation to work with new communication technologies • Due to development of infrastructure in the area after war and tsunami situations • Due to majority of the families and almost all family members involve with this industry as their livelihood • Due to gaining expected income from this business • Due to the capability of cater for any customer and brand request • Due to prevailing fare situation in the market and demand for handloom products • Due to ethical manufacturing process 	<ul style="list-style-type: none"> • Poor awareness in current trends and pricing • Reluctant to join and continue the young generation with the business due to less recognition for the livelihood exercise • Difficulties in meeting market demand due to lack of weavers • Lack of awareness of current market and fashion trends to cater for different level of the market • Lack of knowledge in differentiating quality level of raw material
 Marketing & Networking	 Entrepreneurship opportunities
<ul style="list-style-type: none"> • No properly identified marketing channel • Own marketing through local brand by factory based producers and also through retailers and middleman • Artisan’s weaving skills go to market under big handloom business label • Substantial network with island wide retailers with factory based producers 	<ul style="list-style-type: none"> • Willingness to continue the business as family business. • Ability to go for mass production with the demand • Continuous orders from existing customers • Ability to cater for any customer request





 THEME 1 - CURRENT BUSINESS SITUATION	
PAR – Marathamunie Community	
 Open & Axial Coding Analysis - 1	
<ul style="list-style-type: none"> • Lack of networking for premium level products • Poor networking with direct raw material suppliers with home based producers • Young generation who involved with the business are trying to use new communication technology for marketing 	<ul style="list-style-type: none"> • Design knowledge acquired by experience and working with leading handloom bands • Already switch to direct raw material sourcing • Business exposure and experience gained from current entrepreneurs, retailers and designers • Ability to blend traditional weaving designs and skills with contemporary trends

Theme 2: Barriers to entrepreneurship analysis is presented in the Table 10.

Table 10 - Open & Axial coding analysis - Barriers to entrepreneurship, Marathamunie community




 THEME 2 - BARRIERS TO ENTREPRENEURSHIP	
Marathamunie Community	
 Open & Axial Coding Analysis - 2	
 <p style="text-align: center;"> Social Barriers Cultural Barriers Technological Barriers </p>	







 THEME 2 - BARRIERS TO ENTREPRENEURSHIP	
Marathamunie Community	
 Open & Axial Coding Analysis - 2	
Marketing & Networking Barriers	
 Social Barriers	 Cultural Barriers
<ul style="list-style-type: none"> • Decrease joining trend to the industry by new generation • Other expectations from the parents from young generation than join to the same industry • Less recognition for the livelihood method • Less opportunity to start own business due to financial difficulties • Current political situation in the country • Expectation of low price range from middle class customers and as a result craftsman tend to make low quality products • Level of trust among craftsmen and retailers in money returning 	<ul style="list-style-type: none"> • Minimum cultural barriers occur to the industry • Less women participation in factory based production due to reluctant to go out from home • First priority to home by women rather than attending to weaving
 Technological Barriers	 Marketing & Networking Barriers
<ul style="list-style-type: none"> • Rare opportunity for technical training and awareness • Home based producers use only traditional methods • Less opportunity to access technology advancement due to financial barriers 	<ul style="list-style-type: none"> • Less network for premium level market • No marketing and retailing capability for the home base producers • Only marketing through middlemen due to difficulties lack of networking with customers

 THEME 2 - BARRIERS TO ENTREPRENEURSHIP	
Marathamunie Community	
 Open & Axial Coding Analysis - 2	
	<ul style="list-style-type: none"> • Communication barriers for networking and direct feedback • Community products go to the market under different brand names • No feedback from the customers due to lack of direct customers relationship • Lack of knowledge for advanced marketing such as e-marketing Lack of infrastructure to use e-marketing tools
	 Notes

Theme 3: Entrepreneurial education analysis is presented in the Table 11.

Table 11- Open & Axial coding analysis – Entrepreneurial education






 THEME 3 - ENTREPRENEURIAL EDUCATION	
Marathamunie Community	
 Open & Axial Coding Analysis - 3	
 Entrepreneurial skills Entrepreneurial efficacy Entrepreneurial education	

 THEME 3 - ENTREPRENEURIAL EDUCATION	
Marathamunie Community	
 Open & Axial Coding Analysis - 3	
Confidence building	
 Entrepreneurial skills	 Entrepreneurial efficacy
<ul style="list-style-type: none"> • Business skills by race • Entrepreneurial ability by experience • Certain knowledge in business planning • Ability to do marketing in certain level • Enthusiasm in marketing using technology with smart phones by young generation 	<ul style="list-style-type: none"> • Knowledge gain on raw material by experience • Knowledge and experience on weaving structures and production • Enthusiasm towards development of own business • Experience in meeting the customer design and quality requirement • Experience in engaging the business
 Entrepreneurial education	 Confidence-building
<ul style="list-style-type: none"> • Lack of knowledge in current trends and basic designing • Need awareness of market level and quality requirement • Lack of education in use of new technology in marketing and production 	<ul style="list-style-type: none"> • Need confidence in new design trends • Need confidence in technology usage • Need to gain confidence in quality of raw material • Need to gain confidence in quality requirement of market levels

3.2 Selective coding analysis - Marathamunie Community

Results of the selective coding analysis of Marathamunie community was done and presented in Table 12.

Table 12- Selective coding analysis, Marathamunie community

 ANLYSIS - 3	
PAR C3: Marathamunie Community	
Selective Coding Analysis	
 Sustainable Community Entrepreneurship	
 Networks <ul style="list-style-type: none"> Family involved entrepreneurship Social/ Culture influences Innovation (Design/ Technical/ Financial/ Marketing) Entrepreneurial efficacy Entrepreneurial skills Empowerment 	
 Comment card	 Notes