

Pattern of Production Operation in the Creative Industry: A Study in Bandung Creative City

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ABSTRACT

Production strategy is one of the important keys for many businesses, especially in creative industries that have high level of competition. A suitable production strategy supports business development through cost efficiency, good response to customers and product differentiation. Production strategy is selected by considering the characteristics of products, processes and customer order patterns. This study aims to identify the pattern of production operations in the creative industry sectors using a case study on Bandung Creative City, which was selected to be a part of the Creative City Network by the UNESCO in 2015. The subjects of this study are 44 creative industry businesses representing the sub-sectors established by the Ministry of Trade. The data collected through a structured interview process are generally nominal. Results show that the advantages and impacts of creative industry sectors are remarkable when the production operation patterns present (1) a high service content, (2) a make-to-order consumer pattern, (3) dynamic product–process changes, (4) and project system management. Empirically, the design sector is the most advantageous and has a high impact because it meets the aforementioned requirements. Generally, the creative industry in Bandung City comprises small- and medium-sized enterprises. Most of their products are goods rather than services and have a balance of customer order pattern between make-to-stock and make-to-order, an assembly production flow system, and stable product–process changes.

Keywords: creative industry, production operation pattern, advantage and impact.

1. INTRODUCTION

Production strategy is one of the important keys for many businesses, especially in creative industries that have high level of competition. A suitable production strategy supports business development through cost efficiency, good response to customers and product differentiation. Production strategy is selected by considering the characteristics of products, processes and customer order patterns.

This study aims to identify the pattern of production operations in the creative industry sectors using a case study on Bandung Creative City. The result can be a reference for policy and theoretical development for other creative cities. Bandung is a city in Indonesia. It was selected to be part of the Creative City Network (CCN), which consists of 47 cities in 33 countries, by the UNESCO in 2015 as a City of Design (<https://en.unesco.org>).

2. THEORETICAL REVIEW

2.1. Creative Industry and Economy

The creative economy is an effort to explore important factors for economic growth. Essential milestones related to creative economy are from Schumpeter. In 1942, Joseph Schumpeter mentioned creative destruction as a source of economic growth in his book, 'Capitalism, Socialism and Democracy'. Creative destruction is a process of industrial mutation that incessantly revolutionises the economic structure from within, in which the old structure is destroyed and a new one is created continually. Van den Berg (2001) described Schumpeter's thought as follows:

Joseph Schumpeter's concept of creative destruction captures an important characteristics of economic growth. Central to Schumpeter's process of creative destruction is the entrepreneur, the person who initiates the process of innovation. The creation of something new usually requires that something old be eliminated. Schumpeter also attached great importance to the social climate within which the entrepreneur has to operate.

Creative destruction or innovation by entrepreneurs is the key for improving competitiveness and is supported by social climate. During the development, the creative characteristics of entrepreneurs becomes an important foundation for the economy, which is known as the creative economy. The creative economy then relates to the creative industry, as referred by UNCTAD when introducing it in the world economic and development agenda (<http://unctad.org>):

The creative economy is an emerging concept dealing with the interface between creativity, culture, economics and technology in a contemporary world dominated by images, sounds, texts and symbols. Today, the creative industries are among the most dynamic sectors in the world economy providing new opportunities for developing countries to leapfrog into emerging high-growth areas of the world economy.

The creative economy is analysed from many sides, such as sector types, its impacts and company scale, as drivers of growth. UNCTAD describes the creative economy as follows:

Creative economy leverages creativity, technology, culture and innovation in fostering inclusive and sustained economic growth and development. Creative economy sectors include arts and craft, books, films, paintings, festivals, songs, designs, digital animation and video games. They generate income through trade (exports) and intellectual property rights, and create new jobs in higher occupational skills, particularly for small and medium sized enterprises. With advancement in technology especially the digital revolution, education and innovation, creative and knowledge-based industries have emerged as among the dynamics sectors of the global economy.

As a production machine, the creative industry is an important sector in the creative economy. The term creative industry emerged in late 1997 at Britain's Department of Culture, Media and Sport (DCMS) in the time of Prime Minister Tony Blair. Cunningham (2002) describes the creative industries as follows:

Creative Industries is a term that suits the political, cultural and technological landscape of these times. It focuses on the twin truths that (i) the core of 'culture' is still creativity, but (ii) creativity is produced, deployed, consumed and enjoyed quite differently in postindustrialised societies.

Roodhouse explains the creative industry further in his writings, referring to the DCMS, Task Force Report and Mapping Document 1998 (Roodhouse, 2006):

Activities which have their origin in individual creativity, skill and talent, and which have a potential for wealth and job creation through the generation and exploitation of intellectual property. The industrial activity sub sectors within which this activity primarily takes place are: 'advertising, architecture, the art and antiques market, crafts, design, designer fashion, film, interactive leisure software, music, the performing arts, publishing, software, television and radio'.

Moreover, the creative economy seeks to be developed and implemented. In some cases, it still faces some problems, limitation, processes and measurements. In such a case, Kim (1990) mentions:

Creativity is neither the offspring of a particular domain nor the embodiment of a special process; rather it is the result of attaining special goals. In other words, it is defined solely by the product of a purposive endeavour: Creative thinking is not an extraordinary form of thinking. Creative thinking becomes extraordinary because of what the thinker produces, not because of the way in which the thinker produces it. Hence creativity is not a characteristic of a particular person or a special process, but the outcome of a noteworthy goal and its resolution.

Smith (1998) describes another problem in relation to public policy to support the creative industry:

One of the problems in this whole area is that the precise figures (for the creative industries) are hard to come by. Many of these areas of activity are of course dominated by small and medium sized companies almost working on a cottage industry basis, with a handful of big players striding amongst them; it is a pattern that makes definition and accurate counting very difficult but even more essential if public policy is to be maintained.

The development of understanding the creative economy continues, as studied by Potts et al. (2008).

Most interesting from the economic perspective is that these markets coordinate as complex social networks. It offers... studies of how people socially create adopt novelty for retention as knowledge. They are novel and of uncertain value in the creation of new opportunities, a value that is, literally, socially determined by complex networks of individual interactions. ...Future creative strategies will require a more sophisticated and realistic consideration of the role of the creative industries within the knowledge economy, including a deeper understanding of the innovation and production linkages between the creative industries and other sectors of the (not-so-new) knowledge economy. Creativity may be found everywhere, but perhaps not all localities can become 'creative places' with the competitive advantages that this implies.

In relation to the explanation of the importance of social climate that supports the creative industry, as explained by Schumpeter, the context of environmental influences is also a concern of other research. Scott (1999) explains the role of city as a builder of creative economy.

The city as a whole functions as a sort of creative field in which multiple bits of information flow with special intensity between the diverse units of economic and social activity contained in the urban space. The integration of these local nodes is closely related to, and indeed driven by, their integration in the world economy as places of cultural creation, production, distribution dissemination and consumption.

The descriptions above imply that the research on the creative industry still faces difficulties in terms of clarity of sector constraints. Creative positions can substantially be in any sector. Therefore, for practical needs, the focus of the creative sector is determined, although the sector is crossing ISIC Sector Classification. Subsequent studies or public policies also directly mention the types of sector in the creative industry. Although this classification is sufficiently helpful, ambiguity is still found, especially if two firms with the same product exist, in which the first firm operates innovatively whereas the other still operates traditionally. The factors that encourage creativity, such as the history of a creative city, are also examined to determine the roots of creativity in a city.

In terms of determining the creative industry in Indonesia for public policy formulation, the creative industry sectors established by the Ministry of Trade of the Republic of Indonesia (2008) are advertising, architecture, art markets, crafts, design, fashion, video, interactive games, music, publishing and printing, computer services, television and radio, research and development, culinary and interactive games. The present study investigates the creative industry sectors based on the Ministry of Trade's category.

2.2. Operation Production in the Creative Industry

The various competencies of entrepreneurs are needed in creative industries, as indicated by Man and Chan (2002) as cited by Jones and Tilley (2003: 18–19):

Those competencies are namely opportunity competencies, relationship competencies, conceptual competencies, organisational competencies, strategic competencies and commitment competencies. Creative business product characteristics is the basis of important decisions for a business's operation strategy.

In the present study, the function of operation production is part of the competencies required by entrepreneurs as organisational competencies, namely, technical capabilities and business of product developers, obtaining and managing knowledge and product development process. These components belong to the operation management area. As a source of competitive advantage, operation strategy will affect the optimisation of resources. Therefore, as mentioned by Mintzberg et al. (2003: 334–369), product characteristics in terms of the stability of product changes and its production process (product–process change matrix) can be described as follows:

Product change rate: a product can rapidly changing (dynamic) or constantly changing in the short term and some are barely changing even in the long run (stable). (2) Process change rate: a product can be a rapid change in production process or stable process. Combination of those two characteristics can form the basic concept of a business's production strategy. Production Strategy based on level of Product and Process Change are (1) mass customisation for dynamic product with stable process (2) invention for dynamic product with dynamic process (3) mass production for stable product-process and, (4) continuous improvement for stable product with dynamic process.

The analysis of product–process changes allows the understanding of operation strategy. In creative industries that generally have a high service content in their production, the approach for understanding the product must be seen in relation to its services. Schroeder (2008: 54–94) describes the product–process as follows;

Service–product bundle, consist of three elements (1) tangible service (2) implicit service (3) physical goods. Process characteristics: Various types of processes that can be selected and the corresponding situations where one process or another is preferred. Two types of process classification (1) classified by product flow (2) type of customer order.

In the present study, creative industry sectors will be examined on the aspect of product–service composition, customer order pattern, stability of product–process change, process flow system and the number of business actors in relation with its advantage and impact on the economy or creative industries.

3. METHOD

This study was conducted in Bandung City. This city has been designated as a creative city by UNESCO in terms of design, and the creative culture has been formed in this city a long time ago. The subjects of this study are 44 creative industry businesses representing the sub-sectors established by the Ministry of Trade. The data collected through a structured interview process are generally nominal. The stages of this study are as follows: (1) identification of creative industry location based on the 2016 research database of Universitas Padjadjaran, (2) creation of instruments and measurements, (3) collection of data and information through a field survey, (4) classification, coding and transformation into distribution frequency and (5) identification of production operation pattern. The relationship of theories and concepts are constructed in framework shown in Figure 1.

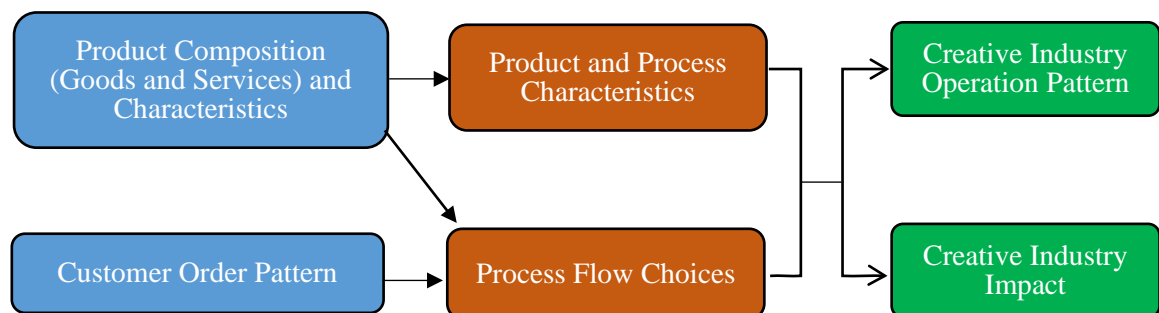


Figure 1. Conceptual Framework

4. ANALYSIS

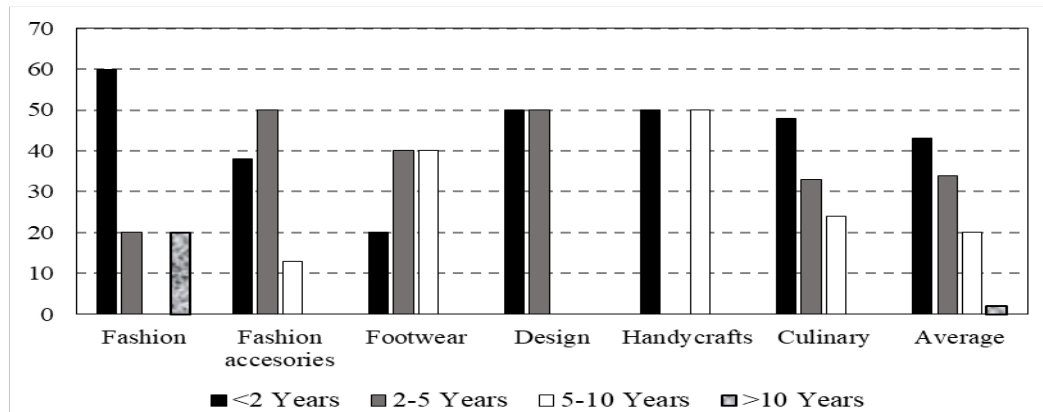
4.1. Creative Products of Bandung City

Bandung City is one of the leading creative cities in Indonesia. Indonesia itself has basically not developed its creative sector when compared with its neighbour country Malaysia. The UNCTAD Report on Creative Economy Outlook and Country Profiles (2016) states that in the foreign trade of Indonesia's creative economic sector, the total exports (USD 3.26 billion) exceeded total imports (USD 1.83 billion) in 2012. Exports of creative goods (USD 3.06 billion) is higher than imports (USD 1.55 billion). Exports of creative services (USD 0.21 billion) and imports (USD 0.28 billion). In total, Indonesia still yields surplus on creative economy trade (USD 1.43 billion) but incurs deficit for services (USD 0.07 billion).

The primary creative industries surveyed in this study are leather bags, leather accessories (e.g., wallets, key chains, matchboxes, strap clocks, bracelets and belts),

pants and jackets, shoes, travelling equipment, fashion, culinary, painting, processed food and beverages, graphic design, cafe and handcraft. These creative businesses can be grouped into (1) fashion, (2) fashion accessories, (3) footwear, (4) design (5) handcraft and (6) culinary.

These industries are mostly established for less than two years (43%), between 2–5 years (34%) or is still at the infancy stage (78%). Hence, the creative industries are still open to fluctuations or prone to survive and develop themselves.



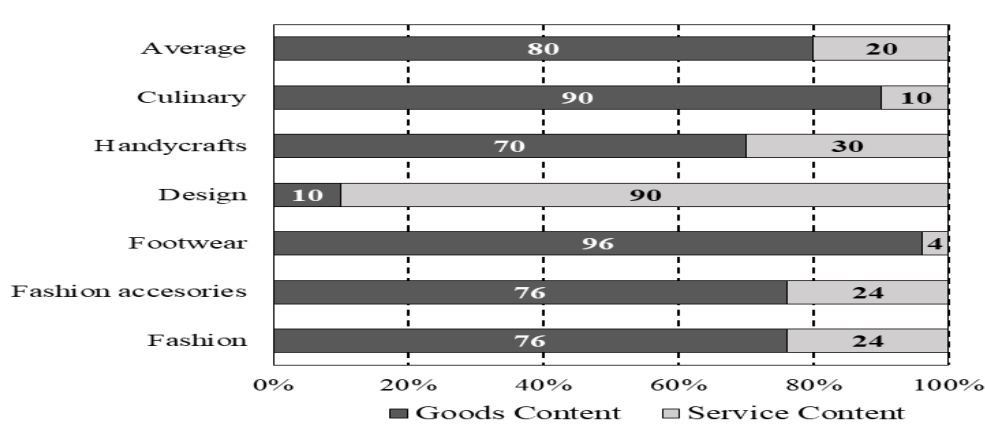
Source: Primary survey

Figure 2. Establishment of Creative Business Sample (%)

4.2. Product Composition

In the delivery of services to customers, creative industry products are analysed based on the composition of goods and services. This difference in composition determines the pattern of operation management because it requires different financial and human resources, including marketing. Creative industries' operation must be managed efficiently for growth and sustainability.

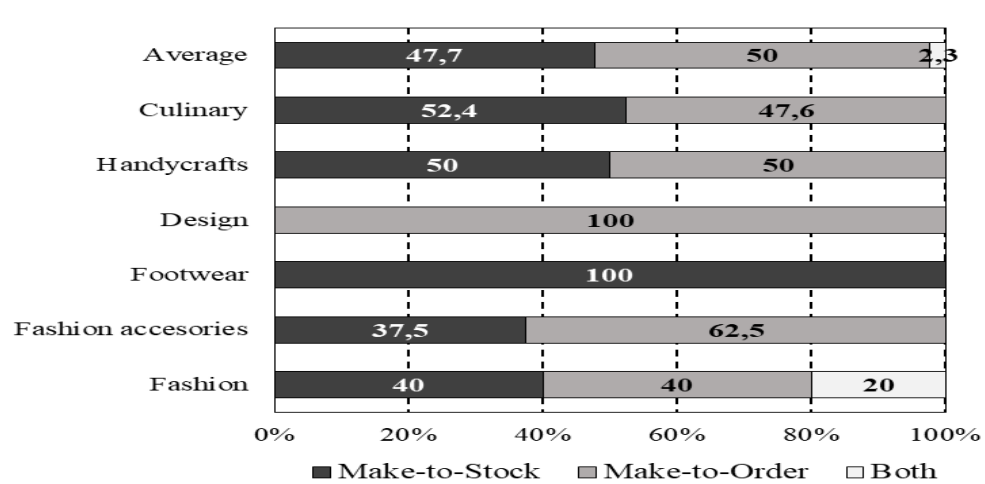
Most of the creative products (80%) are goods rather than services. This composition is nearly evenly distributed on all creative products, although the design sector's products are highly services-oriented. Low content of services indicates that creative products in Bandung City have not been sufficiently strong to explore the opportunities for adding service content. Service content on a product can increase added value. The products of handcraft, fashion and fashion accessories have a relatively large service content compared with the others, except for design products. Footwear products, such as shoes and sandals, are extremely small in service content. Footwear products basically has long been a superior product in Bandung City; however, this industry is currently in distress.



Source: Primary survey
 Figure 3. Composition of Goods and Services of Creative Products (%)

4.3. Customer Order Pattern and Process Flow

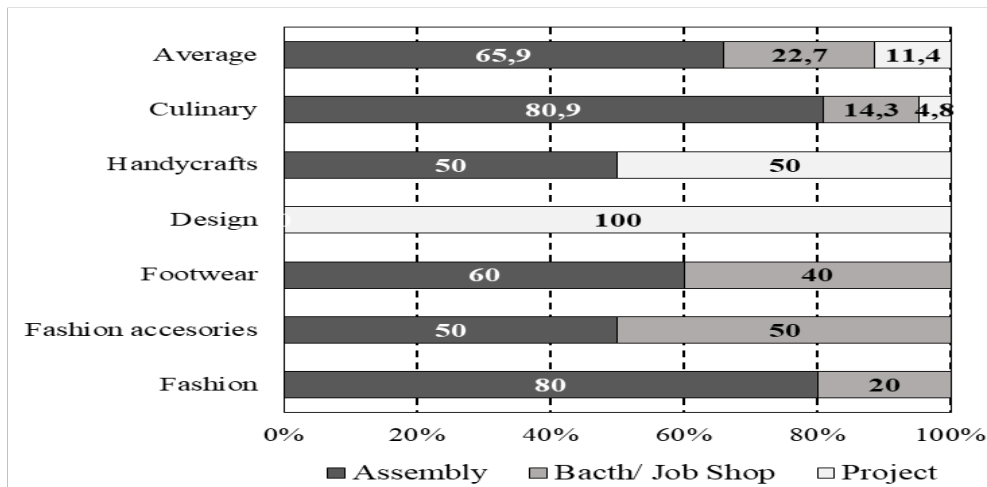
The customer order patterns are key for operation process selection. The patterns of customer order are make-to-stock, make-to-order and assemble-to-order patterns. Most of the order of creative products is a balance between make-to-stock and make-to-order patterns. Fashion products are make-to-stock, make-to-order and small parts are a combination of both. Fashion accessory products are mostly made to order, others are made to stock for further sale. Footwear products are produced in a certain amount of stock and then marketed. Design products are entirely made to order. Handicraft and culinary products are balanced between make-to-stock and make-to-order.



Source: Primary survey
 Figure 4. Customer Order Pattern (%)

The order pattern requires the design of different product flow systems. Characteristics of product flow in the creative industry in Bandung City are assembly (65.9%), batch or production based on a certain number of standards (22.7%) and the rest is project-based (11.4%). The product flow pattern is dominantly assembly on the production of fashion, footwear and culinary. Design products are all project-based. Handicraft products are a balance between assembly or project. The assembly process of product flow on this business scale indicates that business actors generally conduct an entire production process from start to finish, with flexible production amounts to be self-managed. Some products that are made with batch patterns usually already have a

certain market. Therefore, some products have limited combination of production flow to respond to market demand and manage the production process.



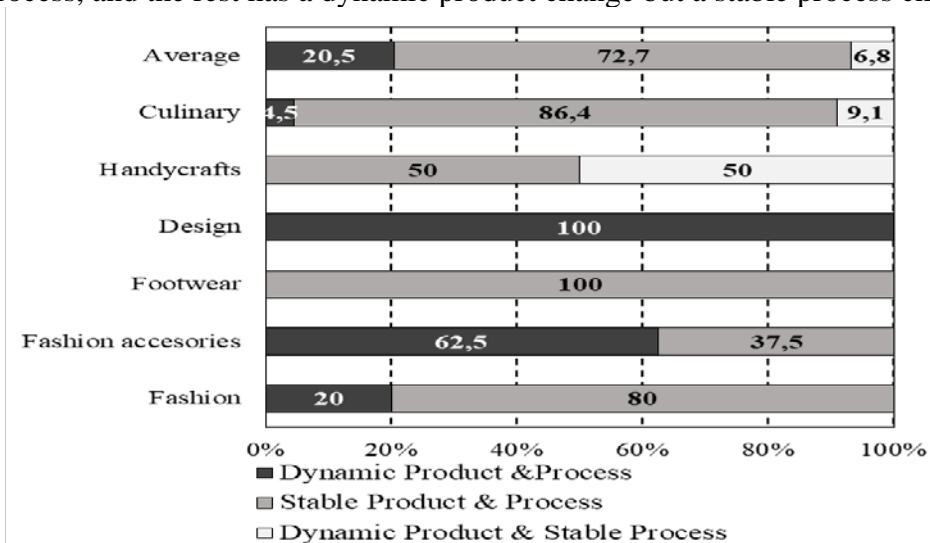
Source: Primary survey

Figure 5. Product Flow Characteristics (%)

4.4. Product–Process Stability

The characteristics of product–process stability on the creative industry are the basis for selecting a production system. Products and process changes are reviewed on the level of stability in medium term. Stable products can be produced in a high volume depending on the market opportunity, whereas dynamic products are usually produced in low volume. A stable process can be performed in a standardised and speedy process, whereas a dynamic process is usually limited due to its speciality. Stable product and process are appropriate for mass production, whereas dynamic product and process are appropriate for the invention of each product.

Most of the product and process changes in the creative industry, such as culinary, footwear and fashion, are stable. Design and fashion accesories have a dynamic product–process change. Half of the handicraft products has a stable product and process, and the rest has a dynamic product change but a stable process change.



Source: Primary survey

Figure 6. Product–Process Characteristics (%)

4.5. Production Operation Pattern

The creative industry in Bandung City consists of small- and medium-sized enterprises. Therefore, most of its products are local, and only a small portion of which is exported. Handicraft, especially wooden craft products are already exported. Non-perishable products reach a large market outside Bandung City, whereas culinary products tend to be purchased locally. However, some culinary products open branches in the other locations. Generally, creative industry products of Bandung City do not have strong differentiation, although as an important tourist destination, the position of Bandung City and its image as a creative city also provide advantages in market development. The characteristics of the creative products of Bandung are relatively easy to be imitated and can thus face threats from imported mass products and higher variation products, as well as lower selling prices, that meet the market demand. The reduction of differentiation level is a threat on the sustainability of the creative industry.

In terms of the number of producers, the business mapping of the creative industry conducted by the Department of Business Administration of Universitas Padjadjaran in 2016 indicates that the number of businesses in the fashion industry is the most dominant (52.8%), followed by handicraft (16.8%), culinary (16.2%), footwear (7.2%) and design (6.4%).

The advantages and impacts on economy and other creative industries of fashion, fashion accessories and design sectors are high, those of handicraft and culinary sectors are medium, and footwear sector is the lowest. Therefore, the creative industry sectors, in addition to their own development, also help encourage the development of other sectors. The summary of the number, age and advantage and impact level of the creative businesses are shown in Table 1.

Table 1. Number, Age and Advantage and Impact Level of Creative Businesses

Product	Number of Producers (%)	Age Category	Advantage and Impact Level
Fashion	52,8	Infant to old	High
Fashion accessories		Infant	High
Footwear	7,2	Medium	Low
Design	6,4	Infant	High
Handicraft	16,8	Medium	Medium
Culinary	16,8	Infant	Medium

Source: Research Survey

Bandung City was declared a creative city by UNESCO. Accordingly, this study seeks the underlying pattern of production operations that shape the development and existence of the creative industry. The creative industry sectors, such as fashion, fashion accessories, design and culinary sectors, are generally new (at infancy stage) or are less than 5 years old, whereas the other sectors have been running for more than 5 years. Fashion and fashion accessory sectors are the most numerous, whereas the design sector is the fewest. These three sectors influence the development of the other creative industries and economy. Handicraft and culinary producers are medium in number but have lower impact on the other creative industries. The number of footwear producers is relatively small and has decreased compared to the previous times.

Table 2. General Production Characteristics in the Creative Industry

Product	Product Composition	Product Change	Process Change	Product Process Flow	Customer Order
Fashion	More goods	Stable	Stable	Assembly	Combination
Fashion accessories	More goods	Dynamic	Dynamic	Batch	Make-to-order
Footwear	More goods	Stable	Stable	Assembly	Make-to-stock
Design	More services	Dynamic	Dynamic	Project	Make-to-order
Handicraft	More goods	Dynamic	Stable	Assembly	Combination
Culinary	More goods	Stable	Stable	Assembly	Make-to-stock

Source: Research Survey

The design sector consists of more services than goods than the other creative sectors. Creative sectors of culinary, footwear, and fashion are stable in product and process changes, whereas design and fashion accessory sectors have a dynamic product–process changes. Half of the handicraft products is stable product and process, whereas the rest is dynamic. The operation flow of fashion, footwear, handicraft and culinary sectors are assembly process, fashion accessories is batch process and design sector is project process. The customer order pattern of creative industries are highly varied. Fashion and handicraft sectors are generally a combination of make-to-order and make-to-stock, whereas fashion accessories and design sectors are make-to-order. Footwear and culinary sectors generally have a make-to-stock pattern.

The advantage and impact level of the creative industry is related to the operation production pattern, such as product composition, customer order patterns, product–process stability and process flow. The advantage and impact level of the creative industry is high when the production operation patterns present (1) more services than goods, (2) make-to-order purchase pattern, (3) dynamic product–process changes, and (4) project system management. The creative industry sectors in Bandung that meet these criteria are design, fashion accessories, fashion and handicraft. Meanwhile, culinary and footwear sectors face a number of limitations as creative industry sectors.

Design sectors in this study has a high service composition, dynamic product–process changes, make-to-order customer order pattern, project system management and direct, indirect or online delivery, such that a broader market can be reached compared with the other creative products. The large composition of services is the result of experts involved in the project; thus, this sector has a promising high added value or better revenue. The decision of UNESCO to include Bandung City in the CCN in 2015 based on the design Sector is appropriate. UNESCO mentions that with many initiatives driven by the city's young demographic, Bandung hosts various workshops, conferences and festivals, all of which encourage the development of creativity, prototypes and product design. In fact, 56% of Bandung's economic activities are design-related, with fashion, graphic design and digital media being the top three sub-sectors in the local creative economy.

The other creative sectors with more goods than services face duplicative limitations and delivery problems, thereby making them less efficient than the design sector. Therefore, the market coverage of the creative sector is also more limited and lower added value. To earn further income, an increase in sales or market expansion is required.

5. CONCLUSION

The advantages and impacts of creative sectors on economy and other sectors are related to production operation aspects, such as product composition of goods and services, customer order pattern, stability of product–process changes and system of production flow.

The creative industry in Bandung City consists of small- and medium-sized enterprises. Most of their products are goods rather than services and present a balance of customer order pattern between make-to-stock and make-to-order, assembly production flow system and stable product–process changes. The design sector is the most advantageous and has a high impact. Its products are more of services than goods and present dynamic product–process changes, make-to-order customer order pattern, and project system management. The sector of fashion and fashion accessories are below the advantage level and impact of the design sector, with difference in the pattern of production operation.

The advantages and impacts of the creative sector are high when the production operation patterns present a (1) high service content, (2) make-to-order consumer pattern order, (3) dynamic product–process changes, (4) project system management. The creative industry sectors in Bandung that meet these criteria are the design sector, followed by fashion accessories, fashion, and handicraft. Meanwhile, culinary and footwear have a different production operation pattern; thus, their competitiveness is low.

Creative sectors with higher content of goods than services face duplicative limitations and delivery problems, thereby making them less efficient than the design sector. Therefore, the market coverage of the creative sector is also more limited and have lower added value. To earn further income, an increase in sales or market expansion is required.

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