

KNOWLEDGE TRANSFER AND INNOVATION IN THE BATIK INDUSTRY

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Abstract

This study is an in-depth study of the previous year's research which aims to explain in detail about: (i) The process of knowledge creation in the typical batik business in East Java, namely in Jember Regency; (ii) The relationship between knowledge creation and innovation in the typical batik business of East Java, in Jember Regency, which is unique compared to other regions; (iii) Formulating a strategic architecture for the creation of knowledge and company innovation that occurs in the typical batik business of Jember, East Java, Jember from the perspective of knowledge management theory. Data were obtained using observation and in-depth interviews, then analyzed using a descriptive analytical approach. The results of the study found. The process of making batik is generally not carried out in one business unit, but almost every process is separate from one another. The source of innovation comes more from outside because the knowledge creation process in the organization is less than optimal. The knowledge creation that takes place in the Jember batik business is therefore more driven by external factors.

Keywords: *Transfer Knowledge, Innovation, Batik*

1. INTRODUCTION

Organizational (company) knowledge creation has a very important and strategic meaning associated with innovation (Mellita & Erlansyah, 2014). Because knowledge provides the basis for every action that will be taken by the company (Ibidunni et al., 2020). As a very important resource, knowledge must be managed properly in order to improve the company's performance (Cahyani et al., 2021; Setyawati & Rosiana, 2015).

The strategic meaning of knowledge for the company can also be seen from the increasing recognition of academics and practitioners of the role of knowledge in organizations in recent times (Taufiqurokman, 2016). They frankly say that knowledge is a very valuable resource for developing a company's competitive advantage (Nonaka, I. and Takeuchi, 1995).

In such conditions, creativity, intelligence, and ideas become the main skills that a company must have to maintain its survival and competitiveness. The focus of knowledge development that companies must carry out is knowledge that is very valuable, difficult to imitate, and can produce sustainable competitive advantages (Ibidunni et al., 2020). This development is a sign that humans with their intellect are at their most powerful point. This is marked by increasingly sophisticated forms of economic production and increasingly dependent on human intelligence, not on back muscles (Mukhyi, 2004). The era of manufacturing is shifting towards the era of mento-facturing (Hosseini et al., 2018). All of these shifts are in line with the arrival of a new era of the knowledge-based information economy (Ozkan-Canbolat & Beraha, 2019).

These changes in the business environment in turn also have an impact on the basis of economic growth from being based on industry (manufacturing) to being based on knowledge. Likewise, the triggers of economic growth have shifted from the availability of raw materials as input or input-driven growth to innovation or innovation-driven growth (Asna Ashari et al., 2023).

Unfortunately, if we look at the history of the development of organizational theory, the existing paradigm, organizations are treated as information managers ('information processors' or 'problem solvers') efficiently for decision making. This paradigm is no longer sufficient because companies must now be able to create information and knowledge, because the creation of corporate knowledge is the key to innovation and competitive advantage of companies (Nurcahyo & Sensuse, 2019)

Although the importance of this corporate knowledge is no longer indisputable, the lack of empirical studies on the creation of this corporate knowledge has resulted in a lack of understanding of this very important phenomenon for the company. The reason is because there are still not many theories developed related to the creation of this knowledge (Nonaka, I. and Takeuchi, 1995; Nurcahyo & Sensuse, 2019).

Based on the above facts, the focus of this research is on the process of creating knowledge in the batik business in Jember Regency (with typical tobacco leaf motif batik). As stated by the leading fashion designer and batik conservationist Iwan Tirta, there are many riches of East Javanese batik art in various regions that are now extinct or almost extinct. Related to the background of the problem above, the problem of this research is formulated as follows: 'How is the creation of knowledge (knowledge creation) and innovation in the East Javanese batik business in the creative batik industry center of Jember Regency so that it is able to innovate and survive in competition with the batik industry outside Jember and East Java?

2. LITERATUR REVIEW

Creative Industry

The creative industry is part of the creative economy. The creative economy is a concept based on "creative assets" to generate socio-economic growth and development (Pertanian, 2020). Furthermore, the definition of the creative economy in Law No. 24 of 2019 concerning the Creative Economy is the embodiment of added value from intellectual property that comes from human creativity based on cultural heritage, science, and/or technology. Meanwhile, as part of the creative economy, the creative industry is a combination of art, culture, business and technology, and utilizes intellectual capital as the main input (Utomo, 2017). The creative industry as an industry with new ideas has creative human resources with developing abilities and talents. This shows that the creative industry is a creative, talented and skilled human idea that distinguishes it from the physical raw material industry (Mellita & Erlansyah, 2014)

Innovation

Innovation can be conceptualized in various ways, but according to (Valmohammadi, 2017) many scientists define innovation as the adoption of a new idea or behavior - which can include systems, policies, programs, tactics, processes, products or services - into an organization. (Hossain & Kauranen, 2016) as noted by Valencia and colleagues, distinguishes innovation into technical innovation and administrative innovation. Technical innovation includes new technologies, new products and services, while administrative innovation refers to

new procedures, policies and new forms of organization. Innovation is a specific tool of entrepreneurs, a tool to take advantage of change as an opportunity for a different business or different service. It is not easy to take advantage of change as a business opportunity because it takes extraordinary precision or insight for a person or company to realize it.

Therefore, according to (Drucker, 1985) good innovation is knowledge-based innovation. Furthermore, Drucker stated that knowledge-based innovation requires a number of requirements, namely: 1) Knowledge-based innovation requires careful analysis of all factors, both knowledge itself and social, economic or perceptual factors; 2) Knowledge-based innovation focuses on strategic positions, therefore it cannot be done by trial and error but rather done in a planned and systematic manner. The strategic focus in question is focusing on the market, preparing a comprehensive system that can dominate the market, and occupying a strategic position.

(McLaren & Kattel, 2025) stated that there is a lot of literature discussing the concept of innovation in various ways. Innovation is defined as the use of levels of change, radical or incremental or enhancing competence or destroying competence, other researchers emphasize the type of change such as in products or processes. Innovation is also defined as the use of different levels in analysis, discussing innovation as the introduction of new methods of production, which do not need to be discovered scientifically.

(Hadi & Ali, 2025) noted the construct that was built that innovation is considered as the ability to create core company value and is one of the most important as a competitive weapon not only for medium and large companies but also small companies. Therefore, innovation can be seen as a driver of competitive advantage by combining knowledge to create a higher order of competence to realize the desired business performance. innovation is defined as things that include gradual or radical changes, processes or products, which may appear suddenly in the world or a more local environment (Rosli Mahmood et al., 2013) This construct illustrates that product innovation means the emergence of new products.

Knowledge

Organizational personnel knowledge is related to business performance (financial and non-financial). Knowledge is everything that is known that can be used to complete work. Knowledge is one element of intangible knowledge because its existence cannot be held but can be felt (Barney & Hesterly, 2015).

Characteristics of knowledge: measurable, transferable, and cumulative (Kerste et al., 2002). Knowledge can be divided into two, namely tacit knowledge and explicit knowledge (Nonaka, I. and Takeuchi, 1995). Tacit knowledge is everything that is stored in people's brains. Explicit knowledge is everything that is contained in documents or other forms of storage outside the human brain. Explicit knowledge can be stored or attached to facilities, products, processes, services and systems (Butenko & Albers, 2018). Examples of knowledge assets are resources, entrepreneurial orientation and products (Ouyang et al., 2023)

In the context of business or enterprise, knowledge can be interpreted as sufficient information about customers, products, failure processes or successes which are then used to build competitiveness (Ibidunni et al., 2020). Knowledge is the ability to utilize the competitive advantages of individuals or organizations. This competitive advantage is realized through the use of information and data owned by utilizing the expertise and ideas of people such as their commitment and motivation.

3. RESEARCH METHOD

Based on the objectives to be achieved in this study, the research that seeks to uncover the process of knowledge creation is included in the category of qualitative descriptive research. The data and information needed in this study are primary and secondary data obtained through direct observation and in-depth interviews with actors in the Jember Regency batik center to obtain direct information from business actors regarding the process of knowledge creation and innovation that they do.

The informants of this study are batik business actors in the Jember Regency batik center who produce typical East Javanese batik. Informants were selectively taken from business actors who were selected based on criteria developed by researchers, namely: (i) the uniqueness of the products produced, (ii) the size of production and market share and company turnover per month; (iii) the vitality of the company as measured by the age of the company.

The unit of analysis in this study is on the knowledge itself, namely how it is created, managed and utilized to form the competitiveness of the East Javanese batik business in Jember. The analysis will dive deep into the dynamic phenomenon of the development of Jember batik itself. The relationship between internal and external factors that support and inhibit will be revealed to get a complete picture.

The focus of this study is on the process of creating knowledge in the East Javanese batik business in Jember. The emphasis of the discussion and analysis of the research results is focused on the disclosure and analysis of the process and mechanism of knowledge creation that takes place in the Jember Regency batik business which is unique to then be formulated as a strategic architecture for creating knowledge in the East Javanese batik industry.

4. RESEARCH RESULTS AND DISCUSSION

Knowledge is a very valuable resource for developing a company's competitive advantage. In such conditions, creativity, intelligence, and ideas become the main skills that a company must have to maintain its survival and competitiveness. The focus of knowledge development that must be carried out by the company is knowledge that is very valuable, difficult to imitate, and can produce sustainable competitive advantages.

Based on the batik organization pattern as explained above, the question that is certainly interesting to answer is related to how knowledge is created or created in the batik business in Jember? Because Nonaka and Takeuchi emphasize more on the creation of knowledge at the company or organizational level, while what happens in the Jember batik business is very different where the organization of the batik business is not integrated and is in one business entity but the manufacture of batik products is a collaboration of autonomous units from a series or nodes of the batik production process that generally occurs in one company.

Based on the organizational pattern of batik businesses in Jember, there are technical differences with the pattern proposed by Nonaka and Takeuchi. According to these two experts, the knowledge creation process occurs when knowledge acquired from outside is distributed throughout the organization, stored as part of the organization's knowledge, then used and developed as new technologies and systems. The process of converting from outside to inside and then out again in the form of new products, services, and new systems is the key to knowledge creation because it encourages continuous innovation and produces competitive advantage.

Meanwhile, for batik businesses in Jember, the process of knowledge creation or creation does not occur within the business unit because there is no organization that accommodates it as explained in the previous section. Batik makers consist of individuals who independently create and create their own works, either based on their own creations, based on orders received from consumers, or from entrepreneurs. Their sources of inspiration are mostly from outside and rarely come from their own imagination. Batik makers learn from the existing environment, both from the surrounding nature and plants, as well as from previously existing motifs, whether in the form of old batik cloth or new ones created by other people, which are then modified into their own motif.

Batik techniques are generally also obtained from learning from parents from generation to generation or when they learned batik from others in the past when they became batik makers in other businesses. There are also those who learn autodidactically. Such conditions cause knowledge creation to not run optimally. Knowledge conversion does continue but with a different pattern from the knowledge creation process in the company. As a result, knowledge creation only becomes the individual domain of each batik maker. Furthermore, the shared community that should be a place to discuss and exchange ideas and criticize each other does not occur, and even if there is, it does not focus on producing knowledge of the same product but only on exchanging ideas. Batik craftsmen generally also hone their own batik skills based on their respective desires and opportunities. Rarely do they have the vision and desire to create something new and truly different from what they had before.

Imitating batik motifs that are currently selling is a common tendency among batik makers, because it is considered easier to sell or find a market. There are also batik makers who prefer to wait for orders either from entrepreneurs or from their customers and this is usually a motif that already exists and is at the request of prospective buyers, so there is no pure creativity from the batik makers themselves. The reason for such actions is very simple because they want to quickly complete the motifs that they are used to working on and thus they will quickly get money rather than having to think of new motifs that are not necessarily marketable.

Indeed, not all batik makers do the same thing as explained above, for example, Mrs. Zubaidah seriously pursues batik with natural dyes. This family has been working on natural dyed batik for generations and they are committed to continuously concentrating on developing this natural dye even though it is not easy to get the raw materials. The reason is because natural factors are not always friendly, for example the lack of raw materials from certain trees, or rainy weather which causes the drying process to be slower. Even so, this family remains determined not to switch to stamped batik or batik with chemical dyes. They are determined to continue their ancestral heritage related to the batik methods they use. Indeed, not much can be produced in one year because each batik can take three months to a year, but all that does not discourage this family.

Zubaidah's family can develop knowledge well because all processes in batik making are done in the same place so that the creation of knowledge can take place well in this family. Discussions between them are quite intense including in correcting mistakes in the motifs made. They also do the coloring themselves in this family and even try to fulfill almost all their needs themselves, for example looking for raw materials in the forest for certain trees that produce natural colors. They are also proud of the products they produce because besides being good, they are also expensive, so it is worth the struggle in producing batik sheets. Buyers of the batik produced have also been queuing and even many orders have not been worked on due to limited time and manpower.

Zubaidah's family is indeed only a small part of the pattern of knowledge creation in the Jember batik business. Because most of them actually follow separate patterns between batik makers, input providers, coloring service providers, and also traders or entrepreneurs. Lee and Cole call this type of case community-based. Lee and Cole explain the Linux Kernel Development case and this must be recognized as different from the pattern of organizing the batik business in Jember. Because Linux in any case has the same object and also has a center even though it is worked on or corrected by everyone all over the world. On the other hand, batik in Jember is more individual and does not have coordination with other batik makers. Criticism and suggestions come more from consumers and maybe traders. Therefore, the source of innovation is very dependent on consumer demand and does not come from within themselves as a result of the development of the knowledge they have. Knowledge creation is thus mostly still limited to the individual level and maybe also the community but not in the organization, as a result there is no organization that consistently produces innovation continuously and has strong competitiveness in order to compete with other batik businesses outside Jember.

Based on a little theory about knowledge creation associated with conditions in the field, the implication of the work pattern in the process of making batik in Jember Regency is that the making of batik is not organized in one business unit or organization that is vertically integrated from input to output. On the contrary, the processes in making batik are carried out individually or separately in organizations that stand autonomously or equally, although between them there is a working relationship that is interrelated in producing a piece of cloth or batik product. This is certainly different from the process of making batik outside Jember Regency, which is generally carried out in an integrated manner in one business unit. While in Jember Regency, the organization is more horizontal and autonomous, one and the other are not bound by one ownership. This pattern is a general pattern, because in practice there are several organizational models that are the same as batik businesses in Java in general, namely vertical integration, which carries out all the batik processes from the initial stage to the end, becoming batik cloth in the same business unit.

The implications for knowledge creation in the batik business with a horizontal organizational model in Jember Regency are: First, that the knowledge creation process in the batik process does not occur continuously, but is at the nodes of the batik making process. Second, the process of exchanging knowledge, both explicit and tacit, occurs more externally, namely with parties outside the organization, this is especially true for batik craftsmen who generally work individually.

Meanwhile, for service providers, the knowledge creation process about one of the nodes of the batik process, namely coloring and rolling, occurs both inside and outside the organization, because these service providers are generally organized groups or groups of people and are organized by someone who becomes the group leader. For knowledge of making hand-drawn batik, of course, this does not occur at the service provider level. At the level of capital owners or entrepreneurs, knowledge creation in terms of capital management is closer to the pattern of batik craftsmen who are individual and within a family environment.

However, in terms of organizing the pattern of capital owners, this is closer to the pattern of service providers, because there is more than one member of the organization in it. Meanwhile, knowledge in terms of making hand-drawn batik is disconnected and still individual, not organization-based as desired by Nonaka and Takeuchi.

5. CONCLUSION

The process of knowledge creation which is the main source of business competitiveness in batik businesses in the creative industry center of East Java batik, Jember Regency, takes place in less than optimal conditions as a result of the existence of a batik business organization system that is mostly not integrated in one business entity but instead scattered between batik makers, coloring service providers, and also production input providers. Organizational management thus cannot be carried out optimally to acquire knowledge from outside and combine it with knowledge within the organization in order to develop new product and system innovations and organizational competitiveness.

The implications of the knowledge creation model as occurs in most batik businesses in Jember have fundamental weaknesses because knowledge is controlled individually and cannot be developed in a larger organization in order to produce new knowledge and innovation continuously which will ultimately become a source of competitive advantage for batik businesses in the creative industry center of batik in Jember Regency.

The strategic architecture of knowledge creation and innovation in batik businesses in the creative industry center of East Javanese batik, Jember Regency, Madura, is characterized by the weakness of the absence of integration in the knowledge creation process and also the disconnection of the flow of knowledge conversion, both mastered by individuals and those in society. As a result, it does not provide many positive benefits in order to spur innovation and the formation of competitive resources for batik businesses in Jember itself. Based on the conditions and conclusions that have been made from the results of this research in Jember, there is an opportunity for further research, especially related to the batik business organization system in Jember, especially when viewed from the transaction cost structure or also the culture of the community in the batik business environment so that it can be known why such an organizational pattern can occur and how efficient it is compared to integrated organizational patterns as is generally the case in batik businesses on the island of Java.

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