

# The Concept of Transformation Capability for MSMEs Batik Craftsmen in Indonesia

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**Abstract:** - Transformation capability is a crucial success factor in the fashion sector, especially in batik craftsmen facing the changes and challenges of Industry 4.0. However, there has yet to be a concept of transformation capability in batik craftsmen at various micro, small, and medium enterprises (MSMEs) levels. This study aims to explore the concept of transformation capability in batik craftsmen in Kulonprogo, Indonesia. A case study was chosen as the research method approach by looking at different cases at different levels of MSMEs. The research involved six batik craftsmen of six owners and eleven workers who were selected using purposive sampling. Data collection used interview techniques, observation, and social media review in marketing. Data analysis used Nvivo 12 with an inductive and thematic approach. It was found that the concept of transformation includes (1) innovation and technology in the fields of design, dyeing, and marketing, (2) specific knowledge and skills in new motifs and dyeing through continuous experimentation, (3) strengthening and expanding management, and (4) actualizing the mission in economic, sustainability, and cultural aspects. Transformation capability is defined from mission to capability, covering economic, sustainability, and cultural aspects.

**Key-Words:** - Batik craftsmen, batik motifs, coloring, innovation and technology, mission, MSMEs, transformation capability.

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## 1 Introduction

In the era of globalization and rapid technological development, the micro, small, and medium enterprises (MSMEs) sector plays a significant role in a country's economy, [1]. In Indonesia, as in many other developing countries, MSMEs have become the backbone of the economy, providing employment and supporting overall economic growth, [2], [3]. The MSME sector with great potential is the batik handicraft industry, which has high cultural and artistic value and promising export opportunities, [4].

Despite its great potential, MSMEs in the batik handicraft sector face various challenges. Changes in global market trends, shifting consumer preferences, and developments in production

technology are some factors that can affect MSMEs' business continuity. In the face of these challenges, transformation capability has emerged as an essential foundation for MSMEs to adapt and thrive in a dynamic environment.

A key issue faced by batik MSMEs in Indonesia is how they can develop transformation capabilities to respond to the demands of a changing environment. In this context, this study aims to uncover how batik MSMEs can apply the concept of transformation capability in practice and identify critical factors that influence the process.

In scientific studies regarding the transformation capabilities of Micro, Small, and Medium Enterprises (MSMEs) in the batik industry in Indonesia, existing research, [5], [6], [7], [8], [9], mainly focuses on transformation capabilities.

However, this search found several gaps that require further explanation, especially regarding the application of the concept of transformation capabilities to batik craftsmen operating in the MSME sector. This gap can be described as follows: First, there is ambiguity surrounding the concept of transformation capability in the specific context of MSMEs specializing in batik production, [10], [11].

Although there is much literature regarding transformation capabilities and their application within the framework of batik MSMEs in Indonesia, a more exploratory approach is required. There is a need to carefully outline how this conceptual framework relates to the batik industry and describe the practical manifestations of the transformation mechanisms. Second, there is a lack of examination of factors influencing transformation ability, [12], [13]. Although certain studies have identified factors that influence transformation capabilities, the unique environment of batik MSMEs in Indonesia requires a more comprehensive exploration of the specific factors that have an important influence. This research complements previous studies, namely exploring the concept of capability transformation in batik craftsmen MSMEs, including aspects of vision, innovation, technology, knowledge skills, and management. These findings are the strategy of choice for MSME batik craftsmen at the micro, small, and medium levels to increase productivity.

This research aims to explore the process of transformation capabilities in batik MSMEs. From changes in production practices to adaptation to market changes, this research will map the transformation journey from the beginning to the end of the production process. The objectives of this research are: (Q1) What aspects of vision affect the ability of batik craftsmen? (Q2) How do MSMEs implement transformation capabilities? What are the transformations at each level of batik craftsmen?

## 2 Literature Review

### 2.1 Capabilities and Transformation

The term capability began to be used in the 19th century, where it was then used as a concept related to productivity, a shared awareness to direct individuals in a productive direction, [10]. Capabilities must transform in line with the challenges of Industry 4.0, especially among batik craftsmen. Transformation is a key element in the sustainability and competitiveness of batik craftsmen. The intended capability transformation includes developing the capacity of workers and employers, skills and knowledge, and the ability to

adapt and develop. MSME batik craftsmen must be able to improve production quality by changes in market dynamics and the role of technology in the production process. Nevertheless, noble values and culture are still maintained as the country's heritage.

### 2.2 Capability of MSMEs Batik Craftmen

MSMEs (Micro, Small, and Medium Enterprises) batik craftsmen are a group of micro, small, and medium-sized enterprises operating in the batik craft industry, [1]. These businesses include manufacturing, developing, and selling batik products that represent the value of Indonesian culture, art, and tradition. SME batik craftsmen generally operate locally and contribute to preserving cultural heritage and job creation at the community level.

Capabilities are oriented towards the organization's mission and production processes to manage change effectively and efficiently, [14], while maintaining the identity and core values of the culture. There are contrasting gaps at the MSME level, including limited knowledge and skills of batik craftsmen in market access, financial management, and marketing management, [15], [16]. Second, MSMEs carry out little product diversity and innovation, and even the ability to analyze consumer needs still needs to be improved, [17]. Third, the unstable resilience of batik craftsmen MSMEs in facing challenges due to market changes, [18], [19]. The transformation of batik craftsmen MSMEs is declared successful if they master (1) market analysis and consumer trends; (2) technology and innovation; (3) access to resources and training; (4) leadership and organizational culture; (5) industry networks and partnerships with suppliers, distributors, and institutions; and (6) government regulations and policies that support MSMEs and creative industries. The biggest challenge for MSME batik craftsmen is at the micro and small levels due to limited resources and digital skills.

## 3 Research Methods

### 3.1 Desain Research

This research uses qualitative research with a case study approach, [20]. Case studies are studies involving subjects in the form of people and communities, [21]. Case studies can describe a case in depth and comprehensively, [22]. This research impacts improving production quality in micro and small batik craftsmen in Kulonprogo, Indonesia.

### 3.2 Informants

The informants in this study were seventeen people consisting of six as owners and eleven as workers represented in each division. Informants were selected and determined using a purposive sampling technique based on the research objective of finding capability transformation at different levels of batik craftsmen, [23].

The determination criteria are as follows: (1) having three years of experience at the micro level, five years at the small level, and more than five years at the medium level; (2) diverse motifs; (3) doing conventional and digital marketing. The three levels are used as data sources to obtain quality data and describe phenomena at each level. The following is the demographic data of informants based on status (as) and work experience (Table 1).

Table 1. Informants data

Levels	Psydonym	Status (as)	Work experience
Mikro	I1-BA-Mi	Owner	13 years
Mikro	I1-BSL-Mi	Owner	12 years
Small	I1-BR-Sm	Owner	5 years
Small	I1-BS-Sm	Owner	15 years
Medium	I1-BSA-Me	Owner	15 years
	I1-BSA-Me-PA	admin worker	1 year
	I1-BSA-Me-PN1	'Yanting' worker	6 years
	I1-BSA-Me-PN2	'Yanting' worker	13 years
	I1-BSA-Me-PP1	Color worker	5 years
Medium	I1-BSA-Me-PP2	Color worker	10 years
	I1-BBS-Me	Owner	9 years
	I1-BBS-Me-PC	Stamp worker	1 year
	I1-BBS-Me-PD	Desain worker	1 year
	I1-BBS-Me-PN	'Yanting' worker	6 years
	I1-BBS-Me-PP1	Color worker	1 year
	I1-BBS-Me-PP2	Color worker	2 years
	I1-BBS-Me-PP3	Color worker	5 years

### 3.3 Collection Data

Data were collected using interviews, observation, and social media analysis. Interviews were conducted to reveal capability transformation to owners and workers. Observations were made to see the design, production, and marketing process. Meanwhile, social media analysis supports data used in online marketing with available platforms. The research was conducted from April to July 2023.

### 3.4 Analysis Data

The data obtained were analyzed using qualitative software, namely Nvivo 12. Data were analyzed with an inductive approach based on themes. The stages used include coding, axial coding, generic coding, and withdrawal analysis, [24], [25]. In the first stage, interview data in the form of translated recordings were coded based on pseudonyms (e.g.,

I1-BA-Mi). Other data sources, such as images and social media, were described and entered into Nvivo software. The second stage created codes and nodes based on themes. The third stage conducted cases and case classification based on the entities of batik workers and craftsmen. Data is explored through project maps and main maps to describe the findings. The following is the conceptual framework of this research (Figure 1).

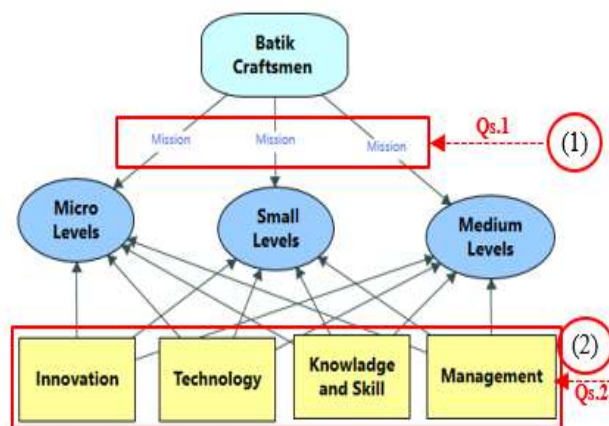


Fig. 1: Conceptual Framework

## 4 Findings

### 4.1 Mission Capabilities

The mission-to-capability decomposition is the first and critical step of the transformation. Mission capabilities are the views of batik owners on why it is necessary to establish and pursue entrepreneurship in the batik sector. Three mission capabilities were revealed in Batik craftsmen, namely: (1) Useful in personal life and society at large, (2) Drive the economy to be sustainable, and (3) Preserving cultural heritage at the micro, small, and medium levels.

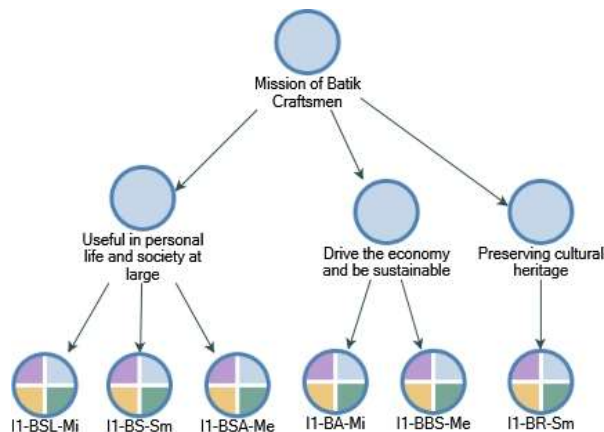


Fig. 2: Mission Capabilities

Figure 2 shows a background that influences mission capability in entrepreneurship in the batik sector, educational background, and experience in setting up batik. Overall, the three levels have varied mission capabilities.

At the micro level, the mission of developing batik business is as follows:

*“Sustainable income and become part of the cultural heritage in Indonesia.” [I1-BSL-Mi]*

*“Creating an environment for batik craftsmen.” [I1-BA-Mi]*

At the small level, the mission of developing batik business is as follows:

*“Support yourself and be a job for others.” [I1-BS-Sm]*

*“I want this batik to be used by all groups with the millennial batik concept. Batik is one of the cultural derivatives, yes, one of its goals is to preserve it, especially since batik has been recognized by UNESCO as a cultural heritage in Indonesia. Apart from that, Yogyakarta is one of the batik cities in the world.” [I1-BR-Sm]*

At the medium level, the mission of developing batik business is as follows:

*“Provide the benefits of batik for personal life and the life of the wider community. [I1-BSA-Me]*

*Preserving and growing the batik tradition as an effort to improve community welfare and grow the batik craft industry in Indonesia by becoming a batik producing and processing company that can compete fairly and be known by the public at home and abroad.” [I1-BBS-Me]*

It was found that the vision is oriented towards three elements: economy, sustainability, and cultural heritage. There is no difference in each level of batik craftsmen, which shows that the three elements become related orientations towards self, environment, and culture.

#### 4.2 Innovation and Creativity Design Capabilities

The ability to innovate and creative design found two types of batik, namely hand-drawn batik (original batik) and stamp batik (Figure 3). The design process revealed eight motifs, namely contemporary motif, classic motif, geek motif, combination motifs (geek and classic), combination motifs (abstract and contemporary), abstract motif, and natural motif. I have seen differently at different levels. Furthermore, a ‘yanting’ process in the

design capabilities uses the material as ‘malam’ by heating. The heating process is carried out with the help of alternative technologies, including kerosene stoves, gas stoves, and electric stoves.

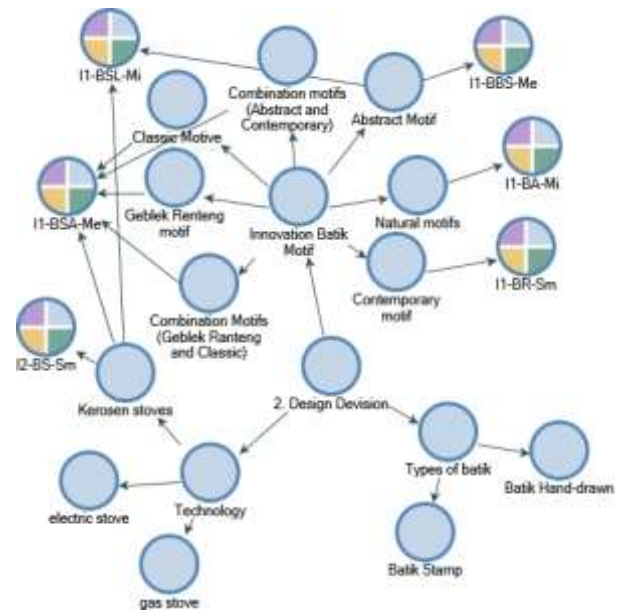


Fig. 3: Innovation and Creativity Design Capabilities

Batik craftsmen must be able to design batik with hand-drawn and stamped batik.

*“.../in the field of hand-drawn or stamped batik, yes, the term can be slanted or stamped.” [I1-BSA-Me]*

Both types of batik have different processes. Not all batik craftsmen produce hand-drawn batik. Workers of this type must have an understanding and be able to innovate. Some of the processes in hand-drawn batik are making motif designs, ‘knowing’, ‘isen-isen’, ‘ngeblok’ or ‘nutup’ and the coloring process. Meanwhile, stamping batik includes making auxiliary lines, stamping the motif, and coloring.

*“It took about a year or so before I understood that this was white batik, ‘mbironi’ batik, ‘nemlbok’ batik, I only knew about it for 1 year.” [I1-BBS-Me-PN]*

*“if ‘yanting’ something goes wrong, it’s wrong ‘isen-isen’ should ‘isen’ or ‘isen’ or something, but it can be removed, ma’am, using that method in ‘ngejos’ use a spoon to heat it up and add water to the cloth and then rub it and it will disappear, later can batik again.” [I1-BBS-Me-PN]*

The batik motifs produced by batik craftsmen in Kulonprogo in Indonesia are varied. The reason is to adjust to consumer needs and look for new

opportunities. As produced by [I1-BBS-Me] and [I1-BSL-Mi] are abstract motifs. The following are the types of batik motifs produced (Figure 4).



Fig. 4: Types of Batik Motifs

Innovation in the form of motifs in abstract batik is the technique and shape of the splashes. Every batik craftsman and even the design workers are never the same.

*“Here we make batik, ranging from abstract to all types of batik, be it in the form of scarves, jarik, prayer rugs, sarongs, and others, but only original batik, not printing.” [I1-BBS-Me]*  
*“The characteristic is that it is abstract, because if you want to patent the motif, you can't, you can't patent abstract motifs. The thing is, the splashes don't have to be the same, sis, there are lots of people here who make abstracts because it's easy. Each craftsman has a different technique and form of splash. My father and I have different splashes. The innovations that are carried out are always making abstract motifs with various splashes.” [I1-BSL-Mi]*

In addition, workers must be able to use technology in the design process, especially in melting the "malam" used in the "yanting" process. There are three types of technology in the form of stoves: kerosene, gas, and electric.

*“Since 2010, the oil stove has been converted to a gas stove. The training uses an oil stove,*

*there are no electric stoves. Many of the electric stoves were damaged. This uses a gas stove. There is an effect, if you use a gas stove you can reduce it for a day and keep running. If you use electricity, you can turn it off if it gets too hot. The damage is because it turns on and off if the gas stays on, it stays on.” [I1-BSA-Me-PN2]*

The transformation of skills in design workers is the innovation of batik motifs in each type of batik produced. Other innovations are the "mbironi" and "isen-isen" techniques, as well as the existence of errors in dicing. It is necessary to use the "ngejost" technique using a spoon to remove spots that do not match the design. Furthermore, the technological transformation is melting the "malam" used in the "yanting" material to thicken the pattern.

### 4.3 Innovation and Technology Color Capabilities

The ability to color is a particular skill that must be experimented with continuously. The following is the ability to color in the aspects of types of coloring, coloring techniques, and skills in coloring (Figure 5).

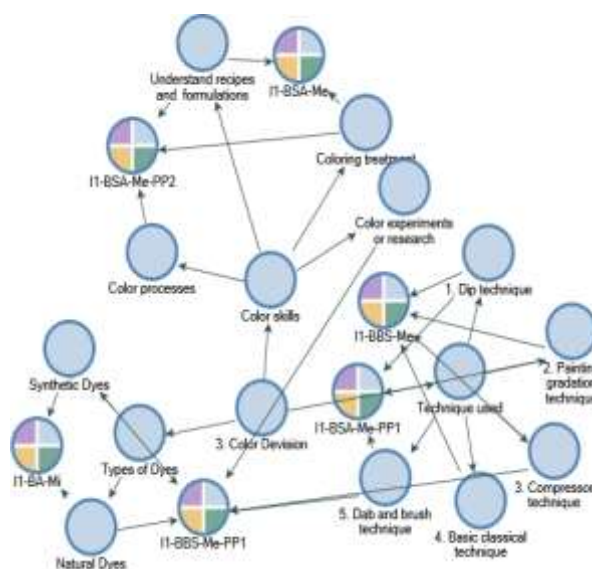


Fig. 5: Innovation and Technology Color Capabilities

Based on the type of coloring, there are two types of batik craftsmen in Kulonprogo in Indonesia: synthetic and natural.

*“I'm one of those who has been around for a long time since 1984, but when synthetics were first promoted there was a lot of waste and problems. I immediately switched because I*

*had training in Japan. Starting from 2010 until now, environmentally friendly natural colors.” [I1-BA-Mi]*

Based on the coloring technique there are five ways, namely: (1) dip technique, (2) panting gradation technique, (3) compressor technique, (4) basic classical technique, and (5) dab and brush technique. The coloring process is generally done by combining several techniques, with the basic technique being the dipping technique. A technique that is different and not done by other batik workers is the coloring technique using a compressor delivered by the owner [I1-BBS-Me] and the coloring field worker [I1-BBS-Me-PP1].

*“We use compressor techniques so the gradations and results are better and faster. We also researched the coloring and finishing techniques. [I1-BBS-Me]. The compressor sprays other places, maybe the car body, but the context here is to use fabric dye for the actual fabric color. The workers spray the same, but in other places, they use iron paint, but here they use fabric paint to color the fabric.” [I1-BBS-Me-PP1]*

Furthermore, the dab and brush technique is a technique that does not apply coloring workers, as [I1-BSA-Me-PP1].

*“Dab coloring using cottonwood, then using a manual spoon, then you can dip it, dyeing the base color can be the color of one cloth of one color, you can then use the compressor to make gradation colors, the gradient colors are for example yellow and blue so that the yellow and blue are not that bad The gradation of colors is made from thick and thin colors, so if you mix yellow and blue you will find the dark green. but here it's dark blue, here it's dark yellow, then it's light here, it's light here, then the green can be good, the middle is forming green, then it's light blue, dark blue is good, there's a concept of color shape.” [I1-BBS-Me-PP1]*

Dyeing workers must understand the dyeing process, recipes, formulas, treatments, and dyeing experiments or research [I1-BSA-Me] and [I1-BSA-Me-PP2]. As expressed by [I1-BBS-Me-PP1], dyeing workers must conduct experiments and treatment according to the changes and needs of buyers' interests.

*“We'll do an experiment first, then put the experimental results in stock, but then it'll become stuck, right? We already have a record*

*of the experiment. It's just that you have the recipe if there's a lot of production. But dare to try, I don't know what the results will be, right? You need to try it. Then, when we are in the industry or company, we have to experiment with everything, including experiments later on the placement of proportion experiments, color experiments, HR experiments must be updated, and motifs must also be updated because these markets must follow the conditions of the era. For example, in the past, what about now, there are always changes.” [I1-BBS-Me-PP1]*

The transformation of skills in coloring workers includes thick and thin color gradations and mixing and combining one color with another. Another innovation is mixing colors by experimentation and making them into stock. Furthermore, innovation produces colors that do not quickly fade. The technology needed is coloring using compressor techniques to get quality color results.

#### 4.4 Innovation and Technology Marketing Capabilities

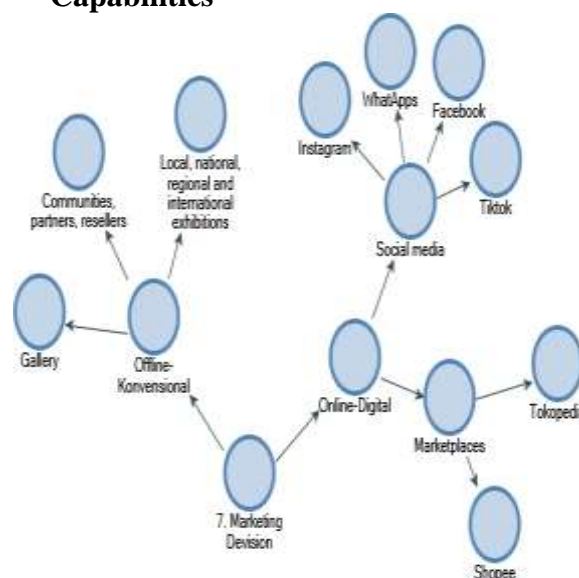


Fig. 6: Technology Marketing Capabilities

There are two ways of marketing batik products: offline or conventional and online or digital. Conventional marketing strategies include sales using (1) galleries, (2) communities, partners, and resellers, and (3) local, national, regional, and international exhibitions. Meanwhile, online marketing strategies include social media and marketplaces.

Social media includes (1) Instagram, (2) WhatsApp, (3) Facebook, and (4) TikTok. Marketing through marketplaces is a buying and selling platform provided by third parties, including

Shopee and Tokopedia (Figure 6). Batik craftsmen at the micro and small levels prioritize marketing strategies in a conventional way, namely local and national level seminars. Meanwhile, at the medium level, the marketing strategies used are galleries, communities, partners, resellers, and exhibitions at the international level.

*“Through exhibitions, it goes straight to the point.” [I1-Ba-Mi]*

*“Every time I bring it to an exhibition, many people take business cards because they see how much they like the batik.” [I2-BA-Mi]*

*“We have participated in exhibitions at the local, regional, national, and international levels. Locally, in Kulon Progo, we are always active when there are exhibitions, then at the national level, we often have exhibitions in Jakarta, and overseas as well. Internationally, in 2018 I will go to Moscow, Russia for exhibitions as well as marketing.” [I1-BSA-Me]*

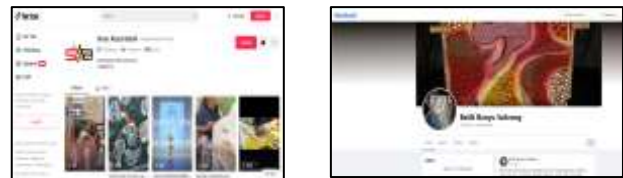
They started using social media at a small level, even though most buyers are resellers.

*“Yes, up to now, we are still trying to spread our wings, namely marketing strategies to the community, then social media, also from Instagram, Tik Tok, Shopee, and Facebook. So some of the customers found out from Instagram. So yes, but my big marketing is at resellers, several resellers order the most.” [I1-BR-Sm]*

The medium level has implemented various strategies, including the marketplace, Tokopedia, which has been used since 2015.

*“Since 2015, the digital world in Indonesia has started to grow, and Tokopedia has continued to grow until now, its development is very fast.” [I1-BSA-Me]*

The skill transformation for marketing workers is the ability to use various platforms, social media, and network expansion. The innovation is to analyze the buyer's background, such as gender, region, motif and color, and sales in months. To be used as a basis for developing and producing the next batik. The following are the types and platforms used in marketing (Figure 7).



TiTok [I1-BSA-Me]

Facebook [I1-BBS-Me]



Exhibitions [I1-BSA-Me]



Gallery [I1-BBS-Me]

Fig. 7: Batik Marketing Strategy

### 4.5 Transformation Capability of Batik Processes

The transformation capabilities of batik craftsmen in Kulon Progo, Indonesia, have been identified. The following are key transformations for ideal batik craftsmen in improving production quality and following changes in market competitiveness. The following is a transformation based on the production process from process (1) to (7) and back to the initial process as an evaluation of continuous improvement (Figure 8).

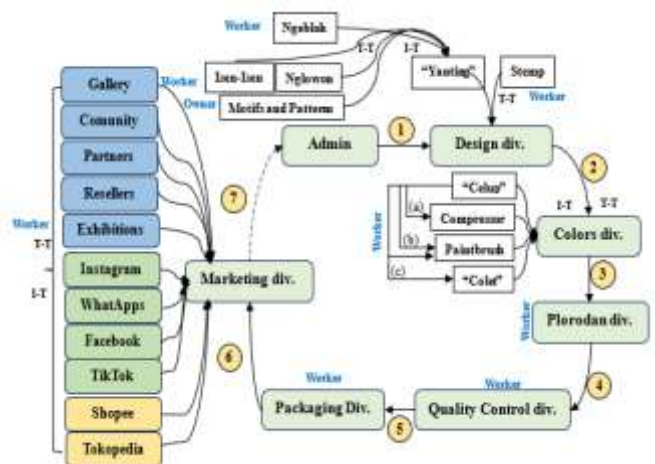


Fig. 8: Transformation Capability Processes

The flow of the batik production process in MSMEs is as follows: (1) product sales admin has the role of analyzing sales and coordinating with the design division to produce new motifs and patterns; (2) the design division produces stamped and written batik; (3) the coloring division, as workers, requires specialist skills (for example, dyes, compressors, paintbrushes, and dabs, as well as a combination of coloring techniques); (4) “Plorodan” division; (5) the quality control division ensures that the product conforms to the original order or design; (6) packaging division, namely ensuring product

safety; and (7) marketing division, namely marketing products traditionally and in marketplaces. From the batik production process in MSMEs, transformation capabilities were found in four aspects, including innovation in the design division; technology in the coloring and marketing division; specialist knowledge and skills in the "plorodan" division; and management, namely analysis of the owner's role based on purchasing data and improving worker skills.

The design division requires innovation transformation (IT) and technology transformation (TT). The TT transformation is a "Stemp" skill for workers in stamped batik while canting or written batik requires a high level of skill and the character of workers who are disciplined, thorough, and patient. MSME workers and owners must be able to innovate in producing new products according to market desires. The coloring division requires IT (for example, dyeing, dabbing, paintbrush, or combination techniques) and TT (compressor). Workers must master design thinking skills in the form of coloring techniques with high artistic value. The "plorodan" division requires transformation abilities in the form of special knowledge and skills such as making color strokes, accurate color mixing, and formulating color mixtures through experimentation to avoid failure in the coloring process. The marketing division requires digital and traditional sales expertise. The platform used must be analyzed for promotional effectiveness and accuracy in determining consumers. Moreover, the success of MSME batik craftsmen cannot be avoided by the ability of the owner (management) to evaluate, create innovation, and improve workers' skills.

Finally, the difference between each level of MSME batik craftsmen is that the division's skills are limited, and the capabilities of workers and owners could be more active. At the same time, consumers or the market want varied and high-quality products. Thus, management training and upgrading worker skills are the keys to transformational capabilities for batik craftsmen.

## 5 Discussion

Three aspects of the mission of batik craftsmen in Kulon Progo in Indonesia were found: economy, sustainable welfare, and culture. These three aspects are the basis for improving the ability of batik owners and workers in the production process. The following finding is that the transformation ability occurs in design, coloring, and marketing. The

difference in the level of batik craftsmen lies in the workers who carry out the production process, [20]. The owner carries out the entire production process at the micro level batik craftsmen. At the small level, the production process involves family members between 3-5 people.

Meanwhile, at the medium level, the production process is carried out professionally by involving workers of more than 18-40 people and even freelancers in each field. The owner has a vital role in the production process, such as exceptional motif work (colet and brush), new motifs, and color formulations. Meanwhile, workers have received various training from the owner and the local office to improve production capabilities.

Capability transformation in batik craftsmen must be adapted to the changes and challenges of Industry 4.0 in increasing their capability. Capability transformation includes (1) design innovation and creativity; (2) technology in design, dyeing, and marketing; (3) skills and knowledge in dyeing; and (4) organizational management to achieve level improvement.

The transformation capability of the owner, namely making new motifs and using brush techniques, is only carried out because he has high artistic creativity skills and treatment techniques that are always new (up-to-date). In addition, batik craftsmen owners require effective management. In line with studies conducted, [26], [27] in making batik designs must be attentive to consider the characteristics and global competition without leaving sustainable community development. Workers must have skills worth creativity and art that the public can accept as buyers, [28].

Transformation capability in the form of innovation is needed by workers in the field of design and coloring, [29]. The ability to design is the core of the batik process. Workers must be able to produce innovations that can be accepted and used by consumers. The biggest challenge is that batik still needs to be in great demand among millennials, [30], [31]. Batik craftsmen in Kulon Progo in Indonesia produce batik in the form of hand-draw batik and stamp batik. Not all batik craftsmen produce hand-drawn batik.

Furthermore, the ability to innovate in design workers includes creativity in constructing motifs that can be accepted by all circles of society or high buying interest, [31]. Based on the findings, it can be explained that each level of batik craftsmen has a different superior motif. The goal is to ease sales competitiveness and become the identity of batik craftsmen. In addition, the motif is influenced by the databases that the owner has from the number of



sales. The data is used as a parameter in determining new motifs and new colors.

The ability to transform innovation in workers in the field of coloring includes thick and thin color gradations and mixing, [1], [32]. Another innovation is the mixing of colors by experimentation and made into stock. Furthermore, innovation produces colors that are not quickly faded or faded. The technology needed is coloring using compressor techniques to get quality color results. The study conducted, [33], states that good batik coloring increases the value of fading and stains on the fabric.

The ability of technological transformation in the marketing field is a strategy for making sales, expanding the selling area, and making sellers return, [34], [35]. There are two ways to sell batik products: offline or conventional and online or digital. Both have a percentage of 50:50. The micro level prioritizes conventional methods and, at the small level, starts partly with social media but not optimally. In contrast, the medium level uses all strategies to get more consumers.

Capability transformation in batik craftsmen is essential in improving the quality of batik. Owners and workers must be able to increase capability through various research in the form of color experiments and marketing surveys, human resource training from various educational and training institutions and agency programs, and expansion in marketing through various media sources, platforms, galleries, and exhibitions.

There are differences in findings regarding the concept of capability transformation; in particular, the number of workers at the medium-level MSMEs is more stable, whereas, at the micro and small levels, multiple capabilities are needed for MSME owners to be able to meet market challenges and needs. They upgrade their skills through various programs organized by the government due to budget constraints but must persevere and want to increase productivity. The concept of capability transformation is an important orientation for MSME batik craftsmen in Indonesia. The sustainability of batik craftsmen must be connected to the ability to innovate and use technology in the wider production and marketing process.

## 6 Conclusion

Capability transformation begins with the mission of each batik craftsman, namely economy, sustainability, and culture. Batik craftsmen carry out the production process by increasing capability, including pattern, motif, and design innovation; coloring innovation and coloring experiments;

marketing innovation; technology in design, coloring, and marketing; transformation of knowledge and skills through various trainings and transformation of organizational management with the expansion and addition of the workforce. Cultural values have been maintained through particular motifs on each batik craftsmen as a production identity and the regional motif of geblek. All batik craftsmen at their level must be able to increase capability through innovation, technology, management, knowledge, and skills relevant to Industry 4.0 and consumer needs.

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- Nur Kholifah, Study framework development, and instrument development.
- Triyanto, Data collection, and manuscript writing
- Putu Sudira, Data analysis, and manuscript sumitting.
- Pardjono, Manuscript writing, and data analysis.
- Herminarto Sofyan, Data input and visualization/presentation of data in the text.

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