

Local-Based Adaptive Innovation As A Survival Strategy For Lumajang Batik MSMEs

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Abstract

This study aims to explain how locally-based adaptive innovation has become a survival strategy for Usman Batik Lumajang (UBL) in facing competition from the modern batik industry. Batik MSMEs are required to develop innovations that are rooted in cultural values while also being responsive to market changes. To explore this process in depth, this study uses a qualitative grounded theory method with data collection techniques in the form of in-depth interviews, participatory observation, and documentation. Informants include business owners, craftsmen, marketing staff, consumers, and community leaders. The results of the analysis through open coding, axial coding, and selective coding show that UBL's adaptive innovation is formed from a combination of local cultural values, design creativity, marketing strategy adjustments, and community support. Distinctive motifs such as Pisang Agung and Kuda Kencah are unique resources that are difficult to imitate, in line with the Resource-Based View (RBV) theory. Meanwhile, design development, quality improvement, and product diversification reflect innovation as defined in the OECD (Oslo Manual). The resulting substantive theory concludes that the sustainability of batik MSMEs is largely determined by the ability to integrate local cultural values with modern product innovation in a sustainable manner. Local-based adaptive innovation not only enhances competitiveness but also plays a role in preserving regional cultural identity.

Keywords: adaptive Innovation, Local Wisdom, Grounded Theory

INTRODUCTION

Micro, small, and medium enterprises (MSMEs) contribute significantly to supporting the national economy, particularly through employment, increased community income,

and strengthening the regional economy (Dahliah et al., 2020). In the context of the creative economy, MSMEs also play a strategic role in preserving local culture through products that embody artistic value, tradition, and regional identity (Aladin et al., 2021). One of the prominent creative economy sectors in East Java is the traditional batik industry (Gunawan et al., 2022), including in Lumajang Regency, which has a wealth of local culture and resources.

An interesting phenomenon in the development of batik MSMEs in Lumajang is their ability to maintain their existence amid modernization and competition from the mass textile industry. Usman Batik Lumajang (UBL) is one example of an MSME that has not only survived but also thrived through adaptive innovation based on local resources. Distinctive motifs such as Pisang Agung and Kuda Kencak have become sources of cultural value that have been transformed into strong product differentiation. From a Resource-Based View (RBV) perspective, these distinctive motifs, traditional batik techniques, and local cultural knowledge constitute valuable, rare, and difficult-to-imitate internal resources, thereby providing sustainable competitive advantages for Lumajang batik businesses.

The phenomenon of innovation at UBL also shows that innovation is not always related to the adoption of high technology, but can arise from the ability to process local potential into competitive economic value (Raya et al., 2021). This is in line with the OECD framework (Oslo Manual), which emphasizes that product innovation can take the form of quality improvements, new design developments, color adjustments, and production process updates. These innovations are reflected in UBL's exploration of local motifs, use of natural dyes, and product form diversification. Thus, local-based innovation is not only a creative element but also a product innovation strategy relevant to the dynamics of modern consumer needs.

However, not all batik MSMEs are able to develop locally-based innovations. Many businesses face challenges such as limited capital, poor digital literacy, limited market access, and low ability to maintain product quality and originality (Rumanti et al., 2021). From an RBV perspective, these challenges indicate that some MSMEs are not yet able to optimally utilize their internal resources. Similarly, when viewed from the OECD innovation theory, the lack of product renewal processes and minimal interaction with the market are obstacles to the innovation needed to survive amid more competitive manufactured textile products.

Lumajang Batik faces changes in consumer tastes, market dynamics, and rapid developments in fashion trends. Therefore, the ability to carry out adaptive innovation that remains rooted in local culture is key to business sustainability (Sunarjo et al., 2022). UBL is an example of an SME that has successfully combined valuable internal resources (RBV)

such as distinctive motifs and artisan skills with sustainable product innovation (OECD), thereby balancing tradition with market demands.

This adaptive strategy can be seen in the development of new locally-based designs, the exploration of cultural values as brand identity, product diversification, and the use of digital platforms for marketing. These efforts show that product innovation is a strategic response to market pressures as well as a survival strategy. From a theoretical perspective, the innovation carried out by UBL is not only a creative act, but also the result of interactions between cultural values, the organization's ability to manage unique resources (RBV), and a process of continuous product renewal (OECD).

Based on this phenomenon, this research is important to explore how locally-based adaptive innovations are formed, developed, and applied by Lumajang Batik MSMEs in facing market dynamics. This study not only identifies product innovation models but also analyzes how local resources become key factors in competitive advantage based on RBV and how the innovation process aligns with the OECD's product innovation concept. Through a grounded theory approach, this study seeks to develop a substantive theory regarding patterns of locally-based adaptive innovation as a strategy for traditional batik MSMEs to survive and thrive.

LITERATURE REVIEW

Resource-Based View (RBV)

The Resource-Based View (RBV) theory explains that an organization's competitive advantage does not solely originate from external environmental conditions, but primarily from the organization's internal capabilities in managing resources that are unique, valuable, scarce, difficult to imitate, and not easily replaced (Lukovszki et al., 2021; El Nemar et al., 2025). These internal resources can take the form of physical assets, human capabilities, cultural knowledge, technology, or social relationships that have been built over the long term (Adan & Alarifi, 2021). RBV emphasizes that in order to survive and thrive in competition, organizations must be able to explore and exploit their inherent potential (Asad et al., 2024).

RBV is relevant to MSMEs because their main resources are not only physical capital, but also cultural capital in the form of distinctive regional motifs, batik techniques passed down from generation to generation, artisan skills, and local identity values embedded in each product (Naila et al., 2025). Tangible resources such as batik tools or fabric materials can indeed be owned by many businesses, but the distinguishing value (valuable and rare) lies in the creative ability to combine local motifs, traditional techniques, and modern aesthetics (Kaur & Kumar, 2024). When these resources are difficult for competitors to

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imitate, either due to cultural uniqueness or specific production processes, the organization has a sustainable competitive advantage (Kassab et al., 2023).

RBV also explains that competitive advantage will only be achieved if organizations are able to integrate, coordinate, and develop these resources into sustainable capabilities (Jayanto et al., 2025). In batik MSMEs such as Batik Lumajang, these capabilities are evident in their ability to develop distinctive Pisang Agung or Kuda Kencak motifs, modify techniques for producing natural colors, and utilize cultural narratives as a branding strength. When local resources are processed with high- e creativity, the resulting products function not only as economic commodities but also as representations of cultural identity. This is why RBV is crucial in understanding the survival strategies of SMEs rooted in local traditions (Ahmed et al., 2024).

Product Innovation According to the OECD (Oslo Manual)

The Organisation for Economic Co-operation and Development (OECD), through the Oslo Manual, defines innovation as the introduction or application of new or significantly improved products, processes, marketing methods, or organizational methods (Oduro, 2024). In the context of product innovation, the OECD emphasizes that innovation does not always mean the creation of a completely new product, but can also take the form of quality improvements, new feature development, design changes, or aesthetic differentiation that can provide added value to consumers (Pérez-Orozco et al., 2024).

According to the OECD, product innovation encompasses two main forms, namely new product innovation and improved product innovation. New product innovation is reflected in the creation of products that have never existed before, both in form and function. Meanwhile, improved innovation can take the form of improvements in material quality, refinements in production techniques, additions to design elements, or adjustments to colors in line with market trends (Baumane-Vītoliņa et al., 2022). This approach positions innovation as an ongoing activity that organizations must undertake to meet the ever-changing needs and preferences of consumers.

The OECD also emphasizes that innovation cannot be separated from the organizational learning process. Every product change requires new knowledge, experimentation, and interaction with consumers (Castillo-Vergara & Garcia-Perez-de-Lema, 2021). In batik MSMEs, interaction with customers, communities, and digital markets provides important input for motif development and design strategies. Thus, the OECD's innovation theory helps explain how MSMEs continue to update their products in response to market dynamics while maintaining their cultural identity.

METHOD

This study uses a qualitative approach with the grounded theory method. This approach was chosen because the main objective of the study is to produce substantive theories that emerge from empirical data in the field. Grounded theory allows researchers to explore in depth the experiences, perceptions, and actions of MSME actors in developing locally-based adaptive innovations. This approach is inductive, in which the theory is not predetermined at the outset, but rather developed from patterns and relationships discovered through a systematic data analysis process.

The research was conducted at Usman Batik Lumajang (UBL), located in Lumajang Regency, East Java. This location was chosen because UBL is known as one of the businesses that has successfully maintained its existence by promoting innovation based on local culture. The research subjects included: (1) UBL owners and managers; (2) Batik artisans; (3) Marketing department; (4) Main consumers; (5) Community leaders or parties who understand the development of Lumajang batik. Informants were selected using purposive sampling and snowball sampling techniques, based on their level of involvement in the innovation process and business strategy.

Data was obtained through three main techniques, namely: (1) In-depth interviews. These were conducted in a semi-structured manner to explore the meanings, experiences, and innovation strategies of key informants; (2) Participatory observation. The researcher directly observed the batik production process, motif design, and interactions between business actors and consumers and their social environment; (3) Documentation. Collecting supporting data in the form of photos of production activities, product catalogs, motif design archives, sales data, and UBL promotional documents or social media.

Data analysis was conducted following the grounded theory stages according to Glaser & Strauss (1998), namely:

1. Open Coding. Examining raw data (interview results, observations, documents) to identify initial concepts and categories that emerge from the field. Examples of initial categories: local motif innovation, market adaptation, cultural values, survival strategies.
2. Axial Coding. Connecting categories and subcategories to find cause-and-effect relationships and contexts between concepts, such as the relationship between "local cultural values" and "market adaptive strategies."
3. Selective Coding. Determining the core categories that are the main focus of the research, then developing a substantive model or theory that describes the process of local-based adaptive innovation as a survival strategy for Lumajang Batik MSMEs.

Then, to ensure the validity of the findings, this study uses the criteria of Lincoln and Guba (1985), namely:

1. Credibility: achieved through triangulation of sources and methods, as well as member checking with informants.
2. Transferability: providing detailed contextual descriptions so that research results can be applied in similar contexts.
3. Dependability: achieved through audit trails and transparent recording of the data analysis process.

Confirmability: ensuring that research results are free from researcher bias and supported by clear data evidence.

RESULT AND DISCUSSION

Data analysis in this study was conducted inductively by following the grounded theory procedure according to Glaser & Strauss (1998). Each stage of analysis was carried out systematically to find categories, relationship patterns, and substantive theories that describe the process of local-based adaptive innovation in Lumajang Batik MSMEs (UBL).

Open Coding

At this stage, researchers examined raw data from interviews, field observations, and documentation related to the production process and business strategies of Batik UBL. The data obtained was broken down into meaning units that represented the main phenomena in the field. From this process, several initial categories emerged, namely: (3) Local Motif Innovation: arising from the creativity of craftsmen who adapt regional symbols such as Pisang Agung, Mount Semeru, and Kuda Kencak into modern batik designs. (2) Market Adaptation: seen in from changes in marketing strategies from a door-to-door system to the use of social media and marketplaces. (3) Local Cultural Values: the concept of preserving the tradition of batik as a form of pride in the identity of the Lumajang region. (4) Business Survival Strategies: the use of a combination of hand-drawn and stamped batik techniques, as well as natural dyes for efficiency and competitiveness. (5) Community Empowerment: the involvement of the local community, schools, and government in training and regenerating young craftsmen. The open coding process produced a basic understanding that innovation in UBL Batik is not merely technical, but also social and cultural, because it is rooted in local values that have been passed down from generation to generation.

Axial Coding

This stage connects categories and subcategories to find cause-and-effect relationships, conditions, and contexts between concepts. This analysis shows that every aspect of innovation in Batik UBL is interrelated and forms a complex adaptation system. Some of the main relationships found are: (1) Local cultural values: the basis for local motif innovation; (2) Local wisdom (symbols of bananas, mountains, and unique fauna) as a source of design inspiration that distinguishes UBL products from batik from other regions; (3) Creativity and market adaptation resulting in survival strategies; (4) Design changes, the use of natural materials, and digital marketing are responses to competition from cheaper stamped and printed batik. (5) Community empowerment supports the sustainability of innovation; (6) Collaboration with schools and the government creates a regeneration of craftsmen while strengthening regional cultural identity; (7) External pressures (competition, capital, fashion trends) accelerate the process of adaptive innovation; (8) Market challenges become a catalyst for business actors to seek innovative solutions based on local resources. From these relationships, it is evident that UBL's adaptive innovation is shaped by both internal drivers (cultural preservation and family economics) and external factors (market competition and modern consumer demands). This innovation process is not linear but occurs cyclically and continuously as the business environment evolves.

Selective Coding

This final stage aims to determine the core category that is the main focus of the research and to compile all findings into a single conceptual model. This core category is based on substantive theory, namely that the sustainability of traditional batik MSMEs depends on the ability of business actors to integrate local cultural values with modern market needs through a process of continuous and participatory innovation. The resulting conceptual model shows that: (1) Local cultural values form the foundation for creative ideas and product differentiation; (2) Market adaptation is the operational mechanism for innovation; (3) Community empowerment and government support are factors that strengthen sustainability. Thus, UBL adaptive innovation not only creates competitive advantages, but also functions as a mechanism for cultural preservation in the era of industrial modernization.

Furthermore, to ensure the validity of the research results, four criteria of naturalistic validity according to Lincoln and Guba (1985) were used, as follows: (1) Credibility. Credibility was maintained through triangulation of sources (business owners, craftsmen, consumers, and local government) and triangulation of methods (interviews, observation, documentation). In addition, member checking was conducted with informants to ensure that the interpretation of data was in accordance with the reality in the field; (2) Transferability.

This study presents a detailed contextual description of the social, economic, and cultural conditions of UBL Batik in Lumajang. Thus, the research results can be applied to the context of traditional batik MSMEs in other regions with similar characteristics; (3) Dependability. Dependability is ensured through the creation of an audit trail, which is the recording of the data analysis process from collection and coding to the formation of core categories. The entire process is recorded transparently to ensure consistency of results; (4) Confirmability. The research results are ensured to be free from researcher bias by comparing the findings with empirical evidence (interview recordings, production documents, and photos of activities). The interpretation of the results is based on field data that can be verified by other parties.

Synthesis Analysis

The above analysis and validation process reinforces the conclusion that local-based adaptive innovation in Batik UBL is the result of socio-cultural dynamics that are internalized in everyday business practices. The interrelationship between cultural values, creativity, market adaptation, and community empowerment forms a unique and sustainable innovation ecosystem.

DISCUSSION

The results of the research obtained through the processes of open coding, axial coding, and selective coding show that local-based adaptive innovation at Usman Batik Lumajang (UBL) is not only a technical phenomenon in batik product development, but also the result of socio-cultural dynamics, internal business capabilities, and modern market demands. All of these findings are in line with the initial focus of the research, which is to understand how batik MSMEs are able to survive and thrive amid competition from the mass textile industry through innovations rooted in local cultural values.

Local-Based Innovation as a Reflection of Internal Resource Utilization

The grounded theory method allows researchers to explore key concepts that emerge from the experiences of MSME actors, so that empirical findings regarding local cultural values, artisan creativity, batik skills, and distinctive motifs become important categories in the open coding stage. These findings are very much in line with the Resource-Based View (RBV) theory, which emphasizes that competitive advantage comes from unique, rare, and difficult-to-imitate internal resources.

The Agung Banana, Kencak Horse, and Mount Semeru motifs, which appear as the main categories, are tangible forms of valuable and rare resources, giving Lumajang batik a

strong differentiation from batik from other regions. The creativity of the artisans in adapting cultural symbols into modern designs demonstrates internal capabilities formed from a long learning process. This process was identified through in-depth interviews and participatory observation as defined in the research method.

At the axial coding stage, the relationship between local cultural values, creativity, and survival strategies shows how these resources are processed into adaptive capabilities. This condition is fully in line with RBV, which explains that organizations capable of integrating their unique resources will have a sustainable competitive advantage. Thus, empirical findings support the theory that UBL's adaptive innovation is rooted in culture-based internal business capacity.

Product Innovation as an Adaptive Response to the Market

The inductive grounded theory method enables the identification of patterns of product innovation carried out by UBL. Open coding findings regarding the development of new motifs, the use of natural dyes, product diversification, and the use of social media show that UBL's innovations are in line with the OECD's (Oslo Manual) definition of product innovation, namely: (1) New Product Innovation: the creation of new motifs based on local icons; (2) Improved Product Innovation: improvement in material quality, dual production techniques (writing-stamping), and color adjustments in line with market trends.

Axial coding findings show that this innovation is a direct response to external pressures such as competition from batik printing, changes in consumer preferences, and fashion trends. This is entirely consistent with the OECD approach, which emphasizes that innovation is a continuous process influenced by market needs and interactions with consumers.

Through interviews and observations, researchers found that interactions between UBL and customers, both directly and through social media, became a source of organizational learning that accelerated innovation. This shows that product innovation is driven not only by internal creativity, but also by social learning, as emphasized by the OECD.

The selective coding stage produced a core category that the sustainability of traditional batik MSMEs depends on the ability to integrate local cultural values with modern market needs through sustainable and participatory innovation.

Survival Strategies Through Adaptive Innovation

This discussion also reinforces the argument that the adaptive innovation found in the research is an effective survival strategy for traditional batik MSMEs. Axial coding findings on digital marketing adaptation, production technique combinations, and community collaboration show that survival strategies are born as creative responses to external threats.

The cyclical and continuous innovation process as described in grounded theory shows that UBL continues to adapt to the business environment without losing its cultural identity. This is consistent with RBV theory, which states that dynamic capabilities are an important factor in maintaining business sustainability, as well as OECD theory, which emphasizes that continuous innovation is the key to remaining relevant in the market.

CONCLUSION AND SUGGESTION

The results of this study indicate that locally-based adaptive innovation is the main strategy for the sustainability of Usman Batik Lumajang (UBL) in facing the challenges of competition in the modern batik industry. The innovation process is not only aimed at maintaining the existence of the business, but also serves as a means of preserving regional cultural values that are integrated into creative economic products. The innovations that have emerged at Batik UBL are rooted in the local wisdom of Lumajang's community (), which is reflected in distinctive symbols such as Pisang Agung, Mount Semeru, and Kuda Kencak. These symbols have been developed into modern batik motifs that are relevant to market tastes, without losing their philosophical meaning and cultural identity.

Through a grounded theory approach, the innovation process at Batik UBL can be understood as the result of dynamic interactions between cultural values, social creativity, and economic needs. Innovation is not only born from individual ideas, but also from community participation, collaboration with local governments, and support from consumers and educational institutions. The analysis shows that the innovations carried out cover four main dimensions, namely product innovation, production process innovation, marketing innovation, and social partnership innovation. Product innovation is evident in the creation of local motifs using environmentally friendly natural dyes; process innovation is achieved through a combination of hand-drawn and stamped batik techniques for time efficiency; marketing innovation is realized through the use of social media and marketplaces; while partnership innovation is manifested through educational collaborations with schools and local communities to foster interest in batik among the younger generation.

UBL's success in developing these innovations has had a tangible impact on increasing economic value, product image, and market expansion beyond the region. Batik sales increase significantly during certain periods such as National Batik Day and ahead of Eid al-Fitr, while the use of natural dyes gives UBL products higher added value. However, this study also found a number of obstacles that still need to be overcome, including limited capital, a lack of young artisan regeneration, and low digital literacy among MSME players. These

factors indicate the need for collaborative intervention from various parties to strengthen the foundations of locally-based adaptive innovation to make it more sustainable.

Conceptually, local-based adaptive innovation in UBL Batik is not merely an economic strategy to survive in a competitive market, but also a cultural mechanism that preserves tradition amid modernization. UBL Batik has successfully proven that cultural preservation can go hand in hand with creative economic development. This success shows that innovations born from local values have high resilience because they originate from the collective identity of the community itself. Thus, the substantive theory generated from this research confirms that the sustainability of traditional MSMEs is largely determined by the ability of business actors to integrate cultural values with market needs through a participatory, contextual, and sustainable innovation process.

Based on these findings, several practical implications can be suggested. For batik MSME players such as UBL, improving digital literacy and utilizing information technology are important steps in strengthening modern marketing strategies. Business players also need to develop diversified derivative products such as ready-to-wear clothing or batik-based souvenirs in order to reach a wider market segment. In addition, strengthening a culture-based brand identity needs to be continuously pursued so that Lumajang batik has a strong differentiation amid the dominance of batik from other regions.

Local governments have a strategic role in supporting the sustainability of this innovation by providing access to capital, subsidies for natural raw materials, and organizing national and international exhibitions. Batik training for students and young people should be integrated into the local education curriculum to ensure the regeneration of craftsmen and preserve cultural heritage. On the other hand, collaboration between the government, academics, designers, and local communities needs to be strengthened in order to create an inclusive and productive innovation ecosystem.

For academics and researchers, the results of this study open up opportunities to develop local-based adaptive innovation theoretical models that can be applied to other creative economy sectors. Further research could also explore the relationship between green innovation, social sustainability, and the economic performance of MSMEs in the digital age. Meanwhile, for the local community, the results of this study are expected to foster a sense of pride in local cultural products and encourage active participation in efforts to preserve batik as a symbol of Lumajang's identity.

Overall, this study confirms that Batik UBL's success in creating locally-based adaptive innovations reflects the power of synergy between tradition and modernity. Innovation rooted in culture not only generates economic value but also preserves the meaning and identity of the community. Therefore, the development of innovations based on local

wisdom, as practiced by Batik UBL, can serve as a model for building a sustainable creative economy that is rooted in culture and competitive at the global level.

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