DESIGN MANAGEMENT AND PRESERVATION OF JEPARA CARVED FURNITURE

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ABSTRACT
This research examines the role of design management in preserving Jepara carved furniture, which has historical and cultural value, but faces the challenge of adapting to global market dynamics. The research uses qualitative methods with a design management study approach. This study aims to explore how design management practices can be used to respond to these challenges while maintaining the richness of local culture. Through in-depth interviews, field observations, and using selected case studies, this research maps the current landscape of the Jepara carved furniture industry, identifies the main challenges faced by craftsmen and managers, and understands the opportunities that can be developed through the application of design management. The research results show that there is a gap between the traditional practice of making carved furniture and the need for design adaptations that are responsive to global market trends. In addition, this research also found that the lack of an integrated design management strategy limits the Jepara carved furniture industry's ability to innovate and compete. Based on these findings, this research proposes a design management framework that combines innovation strategies, interdisciplinary collaboration between designers and craftspeople, and effective marketing and distribution. The conclusion of this research emphasizes the importance of integrating design management in the Jepara carved furniture industry as a strategy for conservation. The implementation of effective design management is expected to inspire innovation, strengthen cultural identity, and pave the way for wider international recognition of Jepara carved furniture.

Keywords: carved furniture preservation, Jepara, design management, innovation, local wisdom.

1. INTRODUCTION

Jepara carved furniture is one of the most famous Indonesian cultural and artistic symbols, rooted in the city of Jepara, Central Java. This legacy dates to the time of the Majapahit Kingdom when the art of engraving became a part of society's life. However, the development of carving in Jepara peaked during the reign of Queen Kalinyamat in the 16th century, when carving began to be applied to furniture and buildings. The Islamic influence brought by the Songo Majesty also gives new nuances in the engraving motifs that are more dominant to this day (Chrisswantra, 2021; Gustami, 2000).

Jepara engraving furniture industry has a unique position in Indonesian cultural and historical heritage, especially in Jepara region, Central Java. The engraving skills that have been passed down from generation to generation are not only proof of cultural resilience in the face of changing times and the challenges of globalization, but also a symbol of the artistic and aesthetic wealth recognized on the world stage. The sculptures of Jepara are not just furniture; it is an artwork that sets out the history, beliefs, and philosophy of the Jepara’s people (Chrisswantra, 2021). Between 1980 and 2000, the marketing of craft craft crafts entered the international market through orders and foreign capital investors operating in Jepara (Indrahti, 2022).
Jepara's engraving tradition not only reflects aesthetic beauty, but also deep cultural, religious, and social values, which are embedded in the motifs and designs of the engravings (Kurniawan & Wiyoto, 2018). The art of relief engraving in Jepara has developed since the 16th century and has had a significant economic impact on its craftsmen (Alamsyah & Laksono, 2018). Since the establishment of the Mantingan mosque in 1559 (Jepara's Birthday Organizer Committee, 1988: 31) have been found carved ornaments. On the walls of the mosque there is an engraving on white stone with ancient art patterns (Indrahti, 2022).

However, in an era of globalization and increasingly competitive markets, the Jepara carving furniture industry faces significant challenges. These challenges come not only from changing consumer tastes but also from severe international competition and the need to integrate new technologies into the production process (Gustami, 2000; Kurniawan & Wiyoto, 2018; Widiartanti, 2016). Research by Supriyatna, Irawan, & Mutiara (2019) highlights the importance of design development in responding to the needs of the global market without losing the characteristics of local culture. They stressed the dilemma between preserving cultural identity and meeting the demands of the global market, which often does not reflect the essence of traditional Jepara wood carvings (Supriyatna-MZ et al., 2019).

The recovery crisis of craftsmen is another challenge. The younger generation's interest in the art of carving is declining, driven by the perception that this job is less profitable than other jobs in the digital age. It raises concerns about the survival of the Jepara carving tradition in the future (Alfirahmi et al., 2023).

In the face of this challenge, collaboration between designers and craftsmen is key. Innovation in design, which combines traditional elements with modern tastes, is crucial to improving product relevance in the global market. Innovation according to Drucker in Sachari (2003) is a specific tool of entrepreneurs to take advantage of business change, one of which is the work of design (Sachari, 2003). Collaboration between designers and craftsmen enables the combination of traditional skills with contemporary design approaches, creating unique and attractive products for global consumers (Best, 2006; Bruce et al., 1999). This collaboration also facilitates the transfer of knowledge and skills, which is essential for the preservation of traditional engraving techniques.

Through a harmonious collaboration, the two sides can exchange knowledge and inspiration, producing design innovations that are not only relevant to the taste of the modern market but also preserve the essence of Jepara's traditional engraving. Jepara's engraving furniture industry is closely related to the patterns and behavior of its society in shaping its cultural values (Kurniawan & Wiyoto, 2018). In looking at the design strategy applied to a country, it can be seen in the development programmes that relate to innovation. When design is a thing that is promoted as an innovation program, then design is the tip of the spear on the construction program (Sachari, 2003). Research by Bayu (2018) digs out how regional regulations and government policies can support efforts to preserve and develop Jepara's engraving furniture industry, showing that institutional support is an important factor in ensuring the survival of this industry (Candra & Suryaningisih, 2018).

Nowadays, in the organization of the commodity industry, there are three important parts that need to work together: design, technology and marketing (Lorenz, 1990). Design management is a strategic practice that blends the creative process of design with management principles to organizational goals, product innovation, and competitive advantage. In an era of globalization
and increasingly tight market competition, design management is not only a tool to create aesthetic products, but also as a comprehensive strategic approach to integrating design into all operational aspects of a business (Best, 2006). Through design management, organizations can use design as a driving force for innovation, product differentiation, and improved user experience.

Design management involves a series of coordinated activities, ranging from strategic design planning, concept development, prototyping, to design implementation in production and marketing. The key to design management is interdisciplinary collaboration, involving designers, managers, technicians, and marketers in the creative process to ensure that product design and function meets the needs and expectations of the market (Lockwood, 2010). It requires an in-depth understanding of users, markets, design trends, as well as the latest technology, which then translates into innovative and relevant design solutions.

In the context of creative industries, such as Jepara carving furniture, design management plays an important role in preserving tradition while adapting to the needs of the modern market. Jepara, the carving industry, which is rich in historical and cultural value, faces the challenge of defining the uniqueness of its products while innovating to meet the standards and tastes of the global market (Supriyatna-MZ et al., 2019).

In a previous study that has been published, researchers have created a design management model for the furniture industry in Jepara, formulated using strategic management approaches and design thinking. (Mutiara et al., 2024). Previewed and described as follows:

![Design Management Model for the Furniture Industry in Jepara](https://doi.org/10.24912/ijaeb.v2i1.2913-2922)
From previous researchers to show that the integration of design management in the Japanese engraving furniture industry can offer the way towards the development of value-added and competitive products. Through a design management approach, craftsmen can develop products that not only maintain the authenticity of Jepara's engraving art but also meet the functional, aesthetic, and sustainability needs expected by global consumers. Through technology adaptation, collaboration between designers and craftsmen, and focus on education and training, Jepara’s carving furniture industry can tackle global market challenges while preserving a rich cultural heritage. This effort requires the support of governments, educational institutions, and all industry stakeholders to sustainable innovation and effective cultural preservation. The State of the Art in this study emphasizes the importance of design management in preserving and developing the Jepara carving furniture industry. Through the implementation of innovation strategies, interdisciplinary collaboration, and effective marketing, the industry can overcome adaptation challenges while preserving local cultural values. This initiative is important not only for the preservation of cultural heritage but also to ensure the relevance and demand of the global market for Jepara carved furniture.

The novelty of this research lies in an in-depth exploration of how design management can update collaborations between designers and craftsmen to trigger product innovations that are not only competitive in the global market but also maintain the added value of the Japanese carving tradition. The research focus on the collaborative dynamics between designers and craftsmen in the context of design management offers new perspectives in the discourse of cultural preservation through innovation. The research aims to develop a model of innovation in the Jepara engraving furniture industry that can be a reference for similar industries in different parts of the world who also strive to preserve their cultural heritage in the current of globalization. It offers a new framework for understanding and implementing design management that is not only commercially effective but also sustainable from a socio-cultural point of view.

By emphasizing the collaboration between designers and craftsmen as the core of the innovation process, this research seeks to bridge the gap between preserving tradition and the need for innovation, making significant contributions to the design management literature and preservation of culture.

Figure 2. Design Management Thinking Scheme and Preservation of Furniture Wooden Sculpture (By Research Team, 2024).

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2. RESEARCH METHOD

This study uses a descriptive qualitative approach with a case study approach to Jepara engraving furniture industry (Idrus, 2009). According to Walidin & Tabrani (Warul Walidin AK et al., 2015), qualitative research is a research process that seeks to understand social or human phenomena by creating a comprehensive and complex picture that can be presented orally, reporting detailed perspectives obtained from sources of information and carried out in the natural environment. (Denzin & Lincoln, 2011). Based on the observation of the situation and conditions of the furniture industry in Jepara, where there is a tendency to be a traditional engraving industry, this qualitative research was chosen to be able to understand Jepara's furniture industries related to Design Management. The qualitational approach was selected because it enabled researchers to gain a deep understanding (Creswell & Creswell, 2017; Idrus, 2009) of the role of design management in the preservation and innovation of Jepara engraved furniture from the perspective of craftsmen, designers, and other stakeholders.

Data collection methods are carried out through in-depth interviews with carving furniture craftsmen, designers, industry managers, and other stakeholders. The interview was directed to gain insight into the design management practices, challenges, and strategies used in the preservation and innovation of Jepara engraving furniture. Interviews were conducted to two furniture companies selected by the researchers considering the presence of design managers, in addition to the interview was conducted with the engraver Jepara who is currently active in the work. Direct observation of Jepara engraving furniture production process to understand the integration between traditional and modern techniques, as well as the implementation of design management in the process. A collection of design documentation, and a brief historical record of Jepara's carved furniture.

Data analysis techniques are performed using the Miles and Huberman (1984) data analysis model, which includes three activities: data reduction, data presentation, and conclusion/verification (Idrus, 2009).

![Diagram of data analysis process](https://doi.org/10.24912/ijaeb.v2i1.2913-2922)
1. Data Reduction: The process of grinding, focusing, simplifying, abstracting, and transforming raw data obtained from field records, interviews, and documents; 2. Data presentation: The compilation of data that has been reduced to forms that are possible to analyze, such as descriptive narratives, tables, diagrams, or matrices; 3. Conclusion/Verification: Process of making decisions about what has been found and verifying the findings to ensure their validity.

Through this approach, the research aims to identify best practices in design management that can support preservation and innovation in the Jepara carving furniture industry, as well as develop strategic recommendations for craftsmen and designers.

The research location was carried out in Jepara, to two companies and two Jepara engravers. The research was conducted at two different times, between March 2022 and March 2023. The researchers visited the subjects twice. Interviews were conducted at the furniture dealer's factory, and at the carpenter's house.

3. RESULTS AND DISCUSSIONS

Results
Company 1 (PT. EAS – disguised company name) located in Jil Raya Ngabul, Jepara, is a furniture company, founded in 1987. Its main activity is furniture factories and exporters producing exclusive wooden furniture products. PT. EAS is committed to producing designs that match the wishes and demands with design results that have high quality, luxury and exclusive. Exports are made to countries in Southeast Asia, Dubai, USA, East Asia, besides it is also allocated to local communities (Indonesia). PT. EAS has a design division and is headed by a design manager. The business activity can be referred to as "Total Design" (this company providing a complete series of various design of interior products, they do all the process of design services for the customers). PT EAS generally receives requests based on the interior projects it receives, but also produces for retail purposes.

Company 2 (PT. JW – disguised company name), located in Suwawal village, Mlonggo district, Jepara. PT. JW is a modern company that operates in the field of Furniture that stands on the noble ideals to protect and bring material and spiritual change to the better, for the entire management and employees as well as make a real contribution and inspire the community of Jepara district in general. The furniture products produced are Garden Furniture products for export to America and Europe. At the time of the visit, PT. JW, was shifting production to the local market.

Engraver 1 (Rn – disguised name) is a young engraver who to this day is still doing the development of engraving products for both furniture and non-furniture products of wood. Winner of the Good Design Award. The result is a simple and modern engraving of the "Kabinet Kluntung", and a set of Stoepa foodstuffs. Rn, currently working with the Furniture Company, to produce competitive furniture products that are in demand by customers.

Engraver 2 (Ms - disguised name), at the time found, he was at his home in the village of Petekeyan, Annual Prefecture, Jepara. Ms. is one of the characters and engraver who is still active today in the village of Petekeyan. The village is known as the "Kampoeng Sembada Ukir" which has been built since 2014.
Discussion

In the interviews and field studies that have been conducted, the researchers found the existence of design management practice in the company PT EAS, this is demonstrated by the presence of design managers who specialize in dealing with the entire design process in the Company. Starting with meeting a client or prospective customer, an account executive (AE) is accompanied by a design manager (MD) to be able to carry out the design process. To see if there is no such process, the researchers used design thinking (McCarthy, 2002; Mutiara, Purna Irawan, et al., 2023). In this first process, a MD can usually give the client an overview of anything that will be obtained related to the design to be offered, for example: design style, work process, complexity, and match with the client's project, etc. Next, the MD joint team elaborates the concept and visual form of the mood board which will be offered to the client. Then we discussed the colors, the wood materials, the supporting materials adapted to the needs of the project, and so on. Once agreed, a prototype would be made, which would be a test product for adaptation to the project. The design process is an iterative process that can be repeated according to needs (Lockwood, 2010; McCarthy, 2002).

In contrast to what was done at the PT. JW visit in March 2022, the researchers found that the PT JW conducted its business by receiving orders from a trader in the form of garden furniture. In the interview found, the need for new designs that can be offered to buyer/trader, but PT JW does not have the expertise in the field of design. The owner of PT JW has begun to create a new design for garden furnishing and will be marketed. At the 2nd visit in the month of March 2023, at the time of the interview, it appears that garden furnishings are becoming more common so that many are producing. The management-related activities carried out are the production process. It is told here that PT. JW has difficulty adjusting sales prices to production, so at the time of the last visit, PT JW is stopping production. Now PT. JW is creating a new brand that provides furniture production services based on interior projects.

This research shows that design management plays a crucial role in integrating local intelligence with the demands of the global market, in the Jepara carving furniture industry. Through the implementation of design management strategies, designers in Jepara not only managed to maintain traditional techniques but also adapted them to meet international market taste, so that the resulting products are not only aesthetically attractive but also functional and relevant to current market trends (Mutiara et al., 2024).

Furthermore, innovation in design was found to be an important factor in supporting the success of Jepara carving furniture in the global market. Efforts to implement good design management strategies, including prototype development and design iteration, show better adaptation to market changes and stronger competitive advantages. This innovation is not only limited to aesthetics but also involves the application of new technologies in the production process, which ensures better efficiency and product quality (O’Grady, 2012)(Buchanan, 2015).

In the context of preservation, education, and the transmission of expertise from generation to generation became crucial. A training programme in design management that integrates local intelligence with modern design knowledge can strengthen the adaptability of young craftsmen to changing market dynamics, thereby ensuring that knowledge of traditional engraving techniques is not lost. This is done in the village of wasembada ukir, the village Petekeyan, through the race, there is also a community of household mothers who also have side jobs as engraver. Education and the transmission of expertise that has been going on in that village can be strengthened with the use of technology. In other cases, the Company may involve engravers.
in developing furniture products with engravings as done by PT. EAS or PT. JW. Involving engraving in the development of new products, may require the intervention of a designer to bridge the development difficulties.

In addition, the synergy between preserving tradition and developing creative economies through design management offers a sustainable strategy for Jepara’s carving furniture industry. Products that successfully combine traditional elements with innovative design can attract wider market interest, help promote Japanese culture while generating economic benefits. It shows that design management not only enhances economic potential but also plays an important role in cultural preservation (Mutiara, Irawan, et al., 2023; Rizali, 2020; Septian & Leksono, 2018).

Finally, data analysis shows that the application of effective design management contributes to the sustainability of Jepara furniture industry. Design management practices help companies not only maintain relevance in the market but also promote sustainable use of resources, which is essential for the long-term sustainability of this industry. The conclusions of these results and discussions confirm that design management is a very important tool in the context of creative industries, such as Jepara carving furniture, which combines elements of cultural preservation and design innovation to respond to the challenges of globalization as well as in a competitive position in the international market.

The novelty of this research lies in a design management model specific to the Jepara carving furniture industry that blends design innovation and preservation of cultural elements. Design management in this case can: (1). Handling the peculiarities of the Japanese engraving furniture industry: Through this research, a specific design management framework developed, which considers the uniqueness of Japanese carving furniture, such as the need for the preservation of traditional engraver skills that face the risk of extinction due to modernization and globalization. (2). Integrating Preservation Aspects in Design Management: Unlike existing literature, this dissertation explores how preservation principles can be integrated into design management practice, not just as a supplement, but as the core of the design process. This includes developing products that respect and use local wisdom as well as strengthening cultural identity in the products produced. (3). Design Management for Sustainability: Focus on sustainability not only in terms of materials and production processes, but also in the continuity of transfer of expertise and knowledge from generation to generation. This is an area that received less attention in previous design management studies that focused more on commercial aspects and technological innovation.

4. CONCLUSIONS AND SUGGESTIONS

This research explores the influence of design management in the context of Jepara carved furniture preservation, suggesting that an effective integration between design management and preserving tradition can make a significant contribution to industrial sustainability and innovation. Through the application of the design management model developed, Jepara's carving furniture industry can not only maintain its traditional expertise but also increase its competitiveness in the global market. This model accommodates the need for design innovation while ensuring that traditional cultural and technical values remain awake. Thus, design management is not only a tool for aesthetic and functional innovation but also as an important strategy for cultural preservation.
Theoretical implications of this study (1). Enrichment of Design Management Literature: This research contributes to design management literature by identifying and integrating conservation aspects into design management models, which were previously not much explored. It expands the theoretical understanding of how design management can be adapted in a context that relies heavily on the preservation of traditional expertise. (2). This study also contributed to the theory of cultural conservation by showing that conservation is not only related to physical conservation or conservative activities but also through integration into modern business practices such as design management, thus enriching discussions about dynamic and sustainable conservation strategies.

The study also gives practical implications, namely: (1). Strategy for the Furniture Industry: The results of the research offer concrete strategies for Japanese furniture industry players in implementing preservation-oriented design management. Industry can adopt these models to increase the added value of their products through the integration of innovative designs and the preservation of traditional motifs, capturing competitive advantages in both local and international markets. (2). Guide to Policy Makers: Recommendations from this study can be used by policy makers to formulate policies that support the development of sustainable creative industries. These include policies that support training initiatives, research and development funding, and the promotion of cultural preservation through economic activities.

Taking these conclusions and implications into consideration, Jepara's engraving furniture industry can go a step further not only in preserving its cultural heritage but also in placing itself as a key player in the global furniture market.

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