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The Role of Interior Product Designers in Improving the Welfare of Craft and Furniture Artisans after Pandemic
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The Role of Interior Product Designers in Improving the Welfare of Craft and Furniture Artisan After the Pandemic]

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ABSTRACT

The Covid-19 pandemic, which lasted more than two years, significantly impacted the welfare of handicraft and furniture artisans in Indonesia. The decline in market demand during the pandemic is caused by the limited design and marketing reach that the artisans can do. Interior product designers need to play a role in developing quality designs that are suitable for the target market. This paper aims to show the process and role of interior product designers in developing interior products by utilizing local Indonesian materials to be accepted in local and global markets. Designers collaborate with artisans, private entrepreneurs, governments, exporters, and associations. The unification of desires and interests between each party is one of the challenges designers face. The design process applies the design thinking method from the empathize, define, ideate, prototype, and test stages. Local materials of rattan and water hyacinth were developed in this study to increase the target market of Europe, Asia, and Indonesia. The main obstacle in this study is how to align design solutions with market needs, availability of raw materials, production process, and marketing facilities encountered in the field. Designers need to continue synergizing so that this industrial sector's growth will benefit entrepreneurs and significantly impact the welfare of craft and furniture artisans in Indonesia

Keywords: Role of Designers, Welfare of Craftsmen, Collaboration, Creative Industries

1. Introduction

The pandemic, which has lasted more than two years, has sluggish many business sectors in society. The COVID-19 pandemic has significantly impacted various fields of human life, especially those closely related to the circulation of goods and services (Marlina & Syahribulan, 2020). Many crafts and furniture artisans were affected and eventually left their profession and expertise. The decline in people's purchasing power and the breakdown of business sustainability have made many sectors of the community's economy experience a setback. Various restrictions imposed during the pandemic have significantly reduced the income of the creative industry sector (Marlina & Syahribulan, 2020). However, Indonesia's creative industry's strength depends a lot on this sector. Data from the Coordinating Ministry for Economic Affairs of the Republic of Indonesia stated that amid the economic downturn due to the pandemic, there was still an increase in two export commodities based in the Small and Medium Industry (IKM) sector, namely exports of wood and furniture. Export growth of wood goods reached 18.31%, and furniture grew to 30.12% from January to July 2021. These two commodities were even included in the 20 main contributors to Indonesia's exports throughout 2021 (Kementrian Pariwisata & Ekonomi Kreatif, 2021a). This background makes the government implement policies to move the community's economy after the pandemic through the creative industry sector.

Local materials and skills of Indonesian human resources are substantial capital to improve Indonesia's creative industry in the global market. This creative industry is

also expected to overcome employment problems after the pandemic in 2022. In 2020 data from the Ministry of Tourism and Creative Economy states that the creative industry in the craft sector can absorb 3.9 million workers in Indonesia. This industry is one of the answers to labor problems in Indonesia. Then in the same year, the creative industry sector produced export commodities of up to US\$20 billion (Kementrian Perdagangan Republik Indonesia., 2020). Government data through the Ministry of Industry and Trade states that in 2020, export commodities in the creative industry in the field of product design and crafts are the second largest after fashion, with an export value of US\$ 4.95 billion. This sector is a potential industrial sub-sector. Management from upstream to downstream is vital in developing creative industries. The population dominated by productive age is expected to have high creativity in developing this industry (Hermawan, 2020).

To increase this effort, interior product designers need to play an active role, collaborate with various parties, to develop creative industries in the field of interior furniture and craft products in the world market. Knowledge collaboration in production to marketing can add value to the product (Pahlevi, 2017). Interior product designers need to cooperate with Small and Medium Enterprises (SMEs), entrepreneurs, governments, and exporters to improve the quality of design and marketing of interior products. So far, the interior products that have been developed have been quite good. However, overseas users have provided inputs such as monotonous designs and only repeating previously popular designs. It is in this field that the role of the designer is needed. Designers need to work together to give a new design touch that keeps up with the trend and can be accepted in the global market.

The author raises two case studies of the role of designers in improving the welfare of water hyacinth artisans in Pasuruan, East Java, and rattan artisans in Central Java. The designer team comprises faculty members and active students of the Interior Design study program at Petra Christian University. Designers collaborate with interior product industry players to develop interior designs and products as export commodities that add value. Central Java and East Java are the two largest provinces producing furniture products since the pre-pandemic period in 2015. These two provinces have the potential for skilled human resources and adequate natural resources for interior products.

In the case study in Pasuruan, East Java, the designer team collaborated with the Pasuruan Regency Industry and Trade Office, the Water hyacinth SME "Wins Rajut", and the East Java Indonesian Interior Designers Association. In the second case study, the designer team collaborated with Water hyacinth SME Central Java and entrepreneurs and exporters of interior products "CV Sheo Home Living Bali". Sheo Home Living is a company that was only established in 2017. Technological and scientific developments have made this company successful in exporting interior and craft products to more than 20 countries.

2. Literature Review

In the last few decades, Indonesia has entered the ranks of the world's largest exporters of natural raw materials. Data from the Ministry of Environment and Forestry states that the export value of Indonesia's forestry industry products worldwide reached USD 11.6 billion in 2019 and decreased during the pandemic to 4.46 billion dollars in 2020. However, this has not been supported by the high export rate of the products derived from wood and other natural materials. Indonesia had a furniture export value of more than 300 million dollars in 2018 and decreased below 150 million dollars in 2020 (Kementerian Lingkungan Hidup dan kehutanan, 2020).

Indonesia is the largest rattan-producing country in the world. Eighty percent of the world's rattan comes from Indonesia. Indonesian rattan is spread in Kalimantan, Sumatra, Sulawesi, and Irian Jaya, with a total potential of around 622,000 tons/year (Kementerian Lingkungan Hidup dan kehutanan, 2020; Sanusi, 2012). In 2020, Indonesia will become the third world rattan product exporter with an export value of US\$ 610,417,000 (Kementerian Lingkungan Hidup dan kehutanan, 2020). However, in recent years, Indonesia has experienced a decline in its export trade for rattan products. Several things that caused this decline were the scarcity of raw materials, the consistency of raw material prices, and the lack of quality in Indonesian rattan furniture designs. Based on the level of processing, rattan can be classified as follows: raw rattan, naturally washed rattan, polished rattan, rattan heart, rattan skin, Dersseh /woven/sheets), stringing, final drying, and finishing. Several types of woven water hyacinth include: single, double, braided, cross maps, clove flowers, Banyu waves, Pihuntuan Tangkup, and Turik diamonds (Aniek, 2003).

Indonesia has a highly skilled workforce in interior products and handicrafts (Adikampana et al., 2018) Data from the Ministry of Tourism and Creative Economy in 2020 states that the distribution of Indonesian creative industry players working in the craft sub-sector is 20.9% and 0.2% in the product design sub-sector in the craft crafts area spread throughout Indonesia. The government has sought various training and assistance for SMEs actors through existing agencies (Kementrian Pariwisata & Ekonomi Kreatif, 2021).

3. Research Methodology

Interior product design is developed using the Design Thinking Kelley method (Camacho, 2016; Johansson-Sköldberg et al., 2013). Design Thinking is a process of producing design solutions through the stages of Empathize, Define, Ideate, Prototype, and Test. Design thinking is a solution to a complex problem, understanding it, and reformulating it. Innovation comes from reframing existing problems. The discovery stage of design inspiration is carried out to observe and approach the conditions of the local creative industry, both natural and human resources, to see the opportunities and potentials that exist (empathize). In this case, a mapping of the role of SMEs, industry, government, and exporters is also carried out to support this effort (define). Design concepts are generated as problem constraints to frame existing conditions (ideate)

through alternative design sketches. The existing design forms are realized in a form that can be tested (prototype and test). The last stage is to make publications to potential markets and make a marketing plan (storytelling and business model canvas). The designer's role in all these stages is a long process from the initial stage, framing the problem and applying the role of each party according to their competence. This process produces new, cutting-edge design works, to increase the selling value of the resulting interior products.

4. Result And Discussion

In Pasuruan, the Industry and Trade Office of Pasuruan Regency routinely assists its fostered SMEs. The assistance includes Wins Knitting SME, which has developed its business in crafting and knitting water hyacinths into interior products. Since 2019, Wins Knit has taken advantage of the opportunity to cultivate water hyacinth plants, which have threatened the river population in Pasuruan. Wins knitting produces various water hyacinth crafts to be marketed in national and international markets. This approach was different from Sheo Homeliving in Bali. Sheo Homeliving is trying to develop rattan and wood commodities by cooperating with SMEs across Solo, Central Java. In collaboration with design associations, exporters, and government agencies, Sheo Homeliving has expanded its marketing to 20 countries worldwide. In Pasuruan, the Industry and Trade Office of Pasuruan Regency routinely assists its fostered SMEs. The assistance includes Wins Knitting SME, which has developed its business in crafting and knitting water hyacinths into interior products. Since 2019, Wins Knit has taken advantage of the opportunity to cultivate water hyacinth plants, which have threatened the river population in Pasuruan. Wins knitting produces various water hyacinth crafts to be marketed in national and international markets. This approach was different from Sheo Homeliving in Bali. Sheo Homeliving is trying to develop rattan and wood commodities by cooperating with SMEs across Solo, Central Java. In collaboration with design associations, exporters, and government agencies, Sheo Homeliving has expanded its marketing to 20 countries worldwide.

The limited design form also influences the low number of exports and the production of natural-based interior products. So far, exploration of Indonesia's natural wealth has been mainly carried out by outsiders. The designs developed are less varied, so the marketing of interior and craft products is minimal. Foreign designers' thoughts have dominated the existing designs, so Indonesia only contributes as a producing country. Design development for the global market needs to be synchronized with the issues or trends in that country. The design not only answers user needs but can also become a user identity. Another obstacle in developing SME products is the lack of knowledge about the latest design trends. SMEs' production techniques and facilities are minimal, so assistance and support from industry and government are needed. SMEs also need to improve product quality standards following export quality

standards so that their products can be accepted in the international market, especially in preserving the natural materials and its administrative export process. By looking at the conditions in the field, designers seek collaboration so that this responsibility is not only on improving the quality of natural resources and human resources of SMEs. The designer is responsible for creating a collaborative planning map involving each field of knowledge and the background that supports this effort.

First, the designer approaches local materials and the capacity of SMEs in terms of material characteristics, weaving techniques, processing techniques, and assembly and packaging processes. The water hyacinth material used in the first case study came from river waste in Pasuruan. In 2019, the Pasuruan Regional National Crafts Council (DEKRANASDA), led by Pasuruan Regent's wife Lilik Irsyad Yusuf, sought water hyacinth training for craft artisans in Pasuruan. This effort was then responded to by Wins Knit positively and developed water hyacinth into a high-selling value product. Pasuruan water hyacinth has excellent material characteristics, and the stems are thick and robust, so they are of high quality as woven material.

Water hyacinth material is mainly processed into woven form. Because it cannot stand alone, water hyacinth requires rods and planes as a reinforcing structure. One of the uniqueness of this material is its ability to absorb iron. Water hyacinths can absorb iron in the structure, so the iron becomes corroded had (Dersseh et al., 2019; Harun et al., 2021; Punitha et al., 2018) Therefore, in this study, wood and rattan were used as the frame for the seating facility. For the seat and back, the webbing needs to be thicker and more solid to accommodate the user's body weight (Figure 1).



Figure 1. The process of making a water hyacinth design prototype: (a) Craftsmen make prototype designs; (b) The designer team learns the prototyping production process.

In the second case study, Sulawesi rattan is used, which is processed through rattan artisans in Solo, Central Java. Rattan is a natural material that is very easy to shape. Rattan can be bent to make a full 360-degree circle. Several stages of making rattan material are documented in Figure 2 to obtain an overview of the characteristics of the material. The first stage is steaming to make the rattan flexible. A rattan that has been steamed is bent in a unique mall to form a curve shape. The bent rattan is then measured so that it fits the design made. Rattan is assembled into a single unit using nails and screws as connection reinforcement. After the frame is finished, the coil or

webbing is installed on the seat and back, following the design. The connection design is closed with rattan or cowhide coils. After that, a water-based transparent finishing material was sprayed. After that, the rattan is dried in the sun, so the finishing adheres perfectly. The final process is scrubbing the surface of the rattan again so that the surface is smooth and even.



Figure 2. The process of making rattan furniture prototype

The second stage is the designer mapping the market segment. Several stages of analysis are carried out to determine market segments, including market segment grouping, selection, and product processing so that market segments are remembered (Wijaya & Sirine, 2016). The target market in this effort is to increase international and national markets. The national market target is applied to a case study of water hyacinth in Pasuruan, East Java. Indonesian people must be educated to respect local materials and be proud of their country's products. Existing local materials are included in the design of high-value interior products or furniture for better acceptance. In the second case study in Solo, Central Java, the international target market is the Australian and European markets. Environmentally friendly natural materials have a significant market share in developed countries. Developed country consumers value natural products more because this material is sustainable and environmentally responsible when the product reaches its end of life.

In the third stage, designers create alternative designs following market achievements. In addition to foreign markets, the domestic market needs to be educated to appreciate the work of the nation itself better. In the first case study, The Spirituality trend was developed, taken from the Indonesia Trend Forecasting 2021/2022 issued by the Ministry of Tourism and Creative Industries (Kementrian Pariwisata & Ekonomi Kreatif, 2021). This style seeks to highlight the awareness of nature and culture. Product dimensions adjust to Indonesian human anthropometry (Chuan et al., 2010). So far, Pasuruan water hyacinth products have only been processed into room decoration and simple craft products. In this case study, water hyacinth is processed into the primary material for room furniture, namely sitting facilities, shelves, and lamps (Figure 3). The water

hyacinth material is highlighted in the form of woven, with a combination of simple geometric shapes from other supporting materials such as wood and rattan.



Figure 3. Final design results for the local Indonesian market

In the second case study, the market issues taken for the export market are sustainability and wellness. The use of natural materials that are sustainable and have an impact on health makes natural materials more in demand. The impact of the pandemic has also made humans prioritize nature in their homes and places to interact. The design development in the European market uses the classic chinoiserie design style that has endured throughout the ages. This style has re-emerged in Europe in recent times. Cheerful colors are also used in the product to give a different touch to the design. The Australian market developed a Scandinavian style which is simple but accentuates the flexibility of the rattan character. These characteristics were developed in the design for the Australian and European markets.

The curved shapes of rattan are made into the main composition, both in the products of chairs, benches, swing chairs, tables, shelves, and tables. Different design sizes for the European and Australian markets are used according to the user's anthropometry. In this study, a dynamic Scandinavian design was developed by utilizing the characteristics of rattan. The design for the Australian market has 8 product variants, including hanging chairs, accent chairs, stools, coffee tables, consoles, storage benches, hanging shelves, and side tables with sizes adapted to European dimensions (Pheasant, 2003). For the European design, the classic chinoiserie design was developed by utilizing the main materials of rattan and wood. The design for the European market has 4 product variants, namely hanging shelf, stool, and drum stool (Figure 4).



Figure 4. Furniture design for the European and Australian markets

In the fourth stage, designers collaborate with SMEs, industry, and government to create several sets of design prototypes. In the manufacturing process, design improvements are made that are adapted to the technical production in the field. Some designs were revised due to material characteristics and production techniques that were not possible. In producing water hyacinth, the constraint faced is the limited number and ability of the SME workforce. The artisans have not been able to apply woven into new products such as lamps and sitting facilities. So the product has been changed several times. This delay impacts the agreed production time, so the product documentation and promotion schedule are neglected. Designers need to adapt and revise the design with a production process and adjust to the capabilities of the SME so that the production process runs well.

In water hyacinth products, a structural framework for interior products is needed that functions as a reinforcement and product aesthetics. Designers collaborate with the wood industry that can support product quality with high selling value (Figure 5). Through the Department of Trade and Industry of Pasuruan Regency, the government also supports this activity by providing an industrial machine-based Wood Processing Center. Before processing, wood needs to undergo a drying process, and the wood used must be oven-dried to have a moisture level below 13%. This drying process is necessary for reducing wood's expansion and shrinkage, affecting the final product.

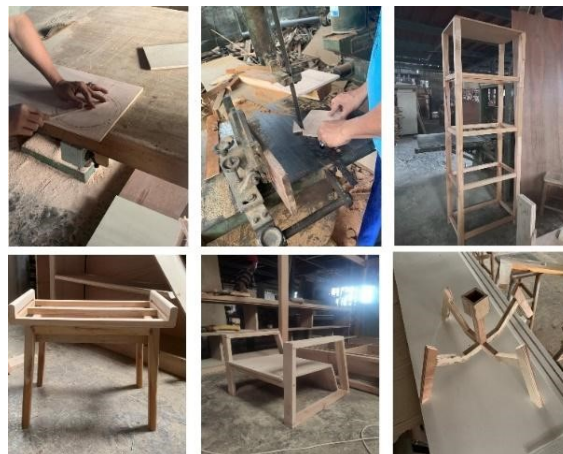


Figure 5. The process of making a wooden frame product.

In rattan material, the design must pay attention to the characteristics of the flexible material, so additional support is needed as a frame. This frame structure will affect the strength of the rattan in the product. The shape of the design produced by the designer underwent several revisions because it adapted to the character of the material and the production capabilities of SME artisan. In addition to processing rattan rods and rattan weaves, winding techniques must be processed to improve the product's aesthetics. The rattan product's coil connection closes the rattan's nail connection. Winding uses high-quality materials such as cowhide in premium rattan products for the international market. This kind of detail will increase the exclusivity of the product in the market. The prototype production process in the first and second case studies took approximately two months.

The fifth stage that designers do in this effort is to conduct market tests to determine market interest in the products they make. For the domestic market, tests were carried out through soft launching activities and exhibitions (Figure 6). The test is carried out to determine the suitability of functions, anthropometry, material resistance, and production prices under market capabilities. The regent of Pasuruan attended the exhibition as chairman of the Pasuruan DEKRANASDA, the SMEs, industry, several Pasuruan Regency Government offices, and the Association of Indonesian Interior Designers. From interviews with exhibition visitors, feedback was generated on the products on display. The Department of Industry and Trade of Pasuruan Regency sees that this effort provides an opportunity for SMEs to expand the market and increase the economic value of the product. In addition, this collaboration is an effort to synergize SMEs with industry in East Java. In this process, SMEs face several challenges because the products they produce entirely differ from the handicraft products that are usually made. This experience enables SMEs to develop production techniques and time efficiency management. The Association of Indonesian Interior Designers also markets the resulting prototype through several events held by design associations in East Java.



Figure 6. Domestic market test through a joint exhibition with the Government Service and the Indonesian Interior Designers Association.

The test was carried out for the Australian and European markets through a soft launch of the product on the Sheo Homeliving company website. The finished product prototype is styled and documented. Photos of products that have been styled are included on the company's website to determine market interest in the products produced (Figure 7). Designers play a significant role in the documentation process because designers play a role in product styling and interior arrangements. Documentation needs to be processed seriously to produce attractive and worthy marketing.



Figure 7. Interior product styling for digital publications and marketing

Technology is utilized so that marketing can be broader and optimal. The synergy of joint work between SMEs, designers, government agencies, industry, and exporters is needed in this process. The designer and the company made a business model canvas pattern applied in this case study. First, the market segment is the medium-high global market group. The values offered are quality craftsmanship, sustainable materials, ease of ordering, and payment. The three product marketing processes are done through websites, social media, and official distributors. Fourth, establish a good experience with consumers. The fifth stage prioritizes business income through selling products and product design services. The sixth stage is to promote through the website, attend international meetings and exhibitions, take business opportunities, carry out product development, and find new quality suppliers. In the seventh stage, the company cooperates with the Indonesian government, international organizations, business spotter companies, and domestic SMEs. The company cooperates with e-commerce platforms, online campaigns, and pricing strategies in the eighth stage. Then in the last stage, the company makes a cost budget structure consisting of production and operational costs, employee salaries, organizational partnership costs, office and store operations, and marketing costs. The product received a positive response from overseas markets from the initial launch test. One of the prototypes has now been dispatched to Paris to be exhibited at international events in France. While several other products, as of this writing, the products are in the final finishing stage to participate in exhibitions in Australia and Europe.

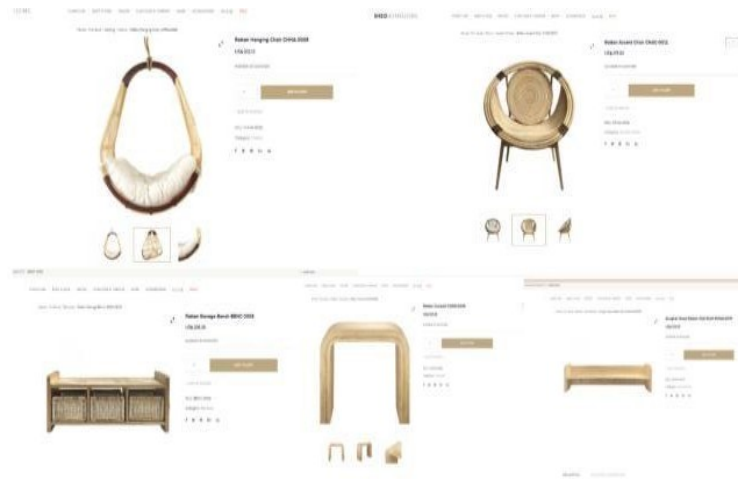


Figure 8. Export market test through the company's website
<https://sheohomeliving.com/>.

5. Conclusion

The pandemic that has lasted more than two years has caused many sectors of the economy to decline. Creative new designs can be a new discourse that can increase the selling value of local material products. Designers play a role in framing the conditions of Indonesia's creative industry and seeking new solutions to boost economic growth after the pandemic. So far, Indonesian interior products are monotonous and only repeat designs that have been popular. Designers collaborate on improvements to old designs that are monotonous and do not have prominent characteristics. Through the design of aesthetic, efficient, and high-quality interior products, designers increase the selling value of products in the global market.

In this case study, the designer carries out five design implementation and development stages. In the first stage, designers approach local materials and the capacity of artisans with SMEs and government agencies. Then a market segment mapping was carried out involving entrepreneurs, government agencies, and design associations. In the third stage, the designer creates a schematic output of the design. The fourth stage is the prototype production process involving SMEs, industrial entrepreneurs, and government agencies. Market testing is carried out through branding activities and collaboration with entrepreneurs, the government, distributors, and associations. Collaboration is sought not only to increase business profits but also to increase the productivity and welfare of artisans throughout Indonesia. Designers need to continue to synergize the capacity of SME artisans, entrepreneurs, governments, and associations to work together to develop the latest designs that are worthy of competing in the global market. It is still necessary to continue collaborating with and providing assistance to artisans to continue improving their abilities and capacities. Artisans need to be continuously nurtured to be able to produce competitive products, which have a direct impact on their welfare.

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ABSTRACT

The creative industry is expected to drive economic growth in Indonesia after the COVID-19 pandemic. Abundant local materials and skilled human resources are two major strengths that need to be optimally managed to increase the selling value of design products. The pandemic has significantly impacted the welfare of furniture and handicraft artisans in Java. This paper aims to demonstrate the process and role of interior product designers (IPDs) in improving the socio-economic welfare of artisans after the pandemic. IPDs collaborated with Small and Medium Enterprises (SMEs), artisans, private entrepreneurs, governments, exporters, and associations to deal with vulnerabilities after the pandemic to achieve the development of policies and strategies toward sustainable community welfare. This IPDs role mainly focused on utilizing water hyacinth and rattan as the material for interior products to be accepted in local and global markets. The IPDs faced challenges in collaboration and unification of aspirations and interests between each party. The research used Kelley's design thinking method, implementing the empathize, define, ideate, prototype, and test stages. The latest information on commodities produced by SME artisans, the existing advantages and disadvantages, and in-depth studies of developing market issues in Indonesia, Asia, and Europe were explored. The resulting design was then adjusted to the availability of raw materials, the production capabilities of the artisan, as well as the support of tools and technology used. The production process involved the government and industrial assistance in supporting the needs of machinery and production technology. Market tests at home country and abroad were conducted to determine the market response to the product. With a good market response, it is hoped that there will be policy development from the government and industry associations to support joint work to achieve a strategy for the socio-economic welfare of the community, especially groups of artisans.

Keywords: interior products; collaboration; local materials; economic growth; water hyacinth; rattan

6. Introduction

The COVID-19 pandemic has lasted more than two years and has sluggish many business sectors. It has significantly impacted various areas of human life, especially those closely related to exchanging goods and services. Many crafts and furniture artisans were affected and eventually left their profession and expertise. The decline in people's purchasing power and the breakdown of business sustainability have made many sectors of the community's economy experience a setback. Various restrictions imposed during the pandemic have significantly reduced the income of the creative industry sector (Marlina & Syahribulan, 2020). However, Indonesia's creative industry's strength depends significantly on this sector. Data from the Coordinating Ministry for Economic Affairs of the Republic of Indonesia stated that amid the economic downturn due to the pandemic, there was still an increase in two export commodities based in the Small and Medium Industries (SMEs) sector exports of wood and furniture. Export growth of wood goods reached 18.31%, and furniture grew to 30.12% from January to July 2021. These two commodities were included in the 20 main contributors to



Indonesia's exports throughout 2021 (Ministry of Tourism & Creative Economy, 2021b) This condition made the government implement policies to move the community's economy through the creative industry sector after the pandemic.

According to (Muhyiddin et al., 2021), five elements determining society's sustainable life are capital assets, vulnerabilities, policies and institutions, welfare outcomes, and strategies for achieving that prosperity. The capital asset comprises human, natural, social, physical, and financial capital (Morton et al., 2017; Murniningtyas, 2018; Yunus & Sakaria, 2017). This paper explored the role of interior product designers (IPDs) in collaborating with parties related to asset capital to deal with the vulnerabilities of people's sustainable lives after the pandemic and, in this case, developing a new interior product that could increase the economic value of the artisans' products.

Opportunity needs for furniture or interior products are basic human needs that will not change occasionally. After the pandemic, humans are more comfortable doing activities in a smaller, safer, and more limited environment. This condition causes people to want changes in interior product designs. This opportunity could be developed to help revive the sluggishness of the creative industry after the pandemic. Designers strive to develop creative new furniture designs or interior products acceptable to the market, thereby increasing production activities. Market research and material availability are conducted to develop product designs that interest various markets. Appropriateness of design with market needs will increase production demand and directly impact the socio-economic welfare of artisans.

Local materials and the skills of Indonesian human resources are substantial capital to improve Indonesia's creative industries in the global market. The population, dominated by productive age, is expected to have high creativity in developing this industry (Hermawan, 2020). These are also expected to be able to overcome employment problems after the pandemic in 2022 (Yusuf & Nabeshima, 2005). In 2020, the Ministry of Tourism and Creative Economy data stated that the craft sector's creative industry absorbed 3.9 million workers in Indonesia. This industry is one of the answers to labor problems in Indonesia. Then in the same year, the creative industry sector produced export commodities of up to US\$20 billion. Government data through the Ministry of Industry and Trade shows that in 2020, export commodities in the creative industry in product design and crafts are the second largest after the fashion industry, with an export value of US\$ 4.95 billion. This sector is a potential industrial sub-sector (Herdiyati & Ismail, 2022). Management from upstream to downstream is essential in developing creative industries (Chang & Lee, 2015; Wu & Lin, 2021).

To enhance this effort, IPDs need to play an active role and collaborate with various parties to develop creative industries in the field of interior and craft products in the world market. Knowledge collaboration from production to marketing can add value to products (Pahlevi, 2017). IPDs must partner with Small and Medium Industries (SMEs), entrepreneurs, governments, and exporters to improve interior product design and marketing quality (Arenius & Clercq, 2003; De Clercq & Arenius, 2002). The interior



products produced in Indonesia have been quite good quality. However, the feedback from overseas users mainly mentioned monotonous designs and only repeat designs that have been popular before. It is in this field that the role of the IPDs is needed. IPDs must work together to provide new designs that keep up with the trends and can be accepted in the global market.

The author discussed two case studies on the role of IPDs in water hyacinth interior product design in Pasuruan, East Java, and rattan interior product design in Solo, Central Java. The designer team consists of faculty members and active students of the Petra Christian University Interior Design Study Program. The team worked closely with the interior product industry player to develop interior designs and products as export commodities with added value. East Java and Central Java have been the two largest provinces producing furniture products since 2015. These two provinces have the potential for skilled human resources and adequate natural resources in interior products.

In the first case study using water hyacinth, the designer team collaborated with the Pasuruan District Industry and Trade Office, the “Wins Knitting” Water hyacinth SME, and the East Java Indonesian Interior Designers Association. In the second case study, the designer team collaborated with the Central Java rattan SME, entrepreneurs, and exporters of interior products “CV Sheo Home Living Bali.” Sheo Home Living is a company that was just founded in 2017. Utilizing technological developments has made this company successful in exporting interior and craft products to more than 20 countries.

7. Literature Review

2.1 Indonesian Human Resources and Natural Resources

Muhyiddin explains that in the five applications of the sustainable living concept, the most basic thing is human capital assets. Indonesia has a highly skilled interior product and crafts workforce (Adikampana et al., 2018; Muhyiddin et al., 2021). The second asset capital is Indonesia’s natural resource wealth. In the last few decades, Indonesia has entered the ranks of the world’s largest exporters of natural raw materials.

Data from the Ministry of Environment and Forestry states that the export value of Indonesia’s forestry industry products worldwide reached USD 11.6 billion in 2019 and decreased during the pandemic to 4.46 billion dollars in 2020. Indonesia had a furniture export value of more than 300 million dollars in 2018 and decreased below 150 million dollars in 2020 (Ministry of Environment and Forestry Republic of Indonesia, 2020). However, the data showed that the export of unprocessed forestry products was more dominant than the interior products, showing that considerable potential was yet to be obtained.

Indonesia is the largest rattan-producing country in the world. Eighty percent of the world’s rattan comes from Indonesia. Indonesian rattan is spread in Kalimantan,



Sumatra, Sulawesi, and Irian Jaya, with a total potential of around 622,000 tons annually with an export value of US\$ 610,417,000 in 2020 (Ministry of Environment and Forestry Republic of Indonesia, 2020). However, in recent years, Indonesia has experienced a decline in its export trade for rattan products. Several factors that caused this decline were the scarcity of suitable raw materials, the consistency of raw material prices, and the lack of quality in Indonesian rattan furniture designs. Based on the level of processing, rattan can be classified as follows: raw rattan, naturally washed rattan, polished rattan, rattan heart, rattan skin, woven/sheets, strung, final-dried, and finished items. The design needs to adjust the type of rattan used with the available materials.

Water hyacinth (*Pontederia crassipe*) is a natural material that is easy to find in Indonesia. Water hyacinth grows in rivers, lakes, and coastal ecosystems. Water hyacinth can be used as compost, biogas, fodder, and absorbent waste. Their fast growth rate often makes this plant a threat to aquatic ecosystems (Dersseh et al., 2019; Sudana & Mohamad, 2021). Water hyacinth could be processed into craft items that are environmentally friendly and capable of creating jobs (Punitha et al., 2018; Sudana & Mohamad, 2021). Water hyacinth processing goes through several stages, including harvesting, drying its stems, processing semi-finished materials (braids/plaits/sheets), assembly, final drying, and finished product. Several types of woven patterns of water hyacinths include single, double, braided woven, cross maps, clove flowers, water waves, pihuntuan tangkup, and turik diamonds (Aniek, 2003).

2.2 Obstacles

Three other capital assets, such as social, physical, and financial capital, would have an impact on the ability of people's welfare (Al-Afeef, 2017; Moore, 2015; Muhyiddin et al., 2021). Therefore, in this effort, designers should work with the government, industry, and associations to strengthen other components of capital assets. Artisans with high human skill strength often do not have financial, social (networking) capital and the ability to provide tangible capital such as machines and other industrial equipment. The vulnerability problem caused by the pandemic has impacted the availability of raw materials and decreased market demand. Efforts are needed to update institutional, government, and association policies, which impact access to capital, productivity, and various policies to survive vulnerabilities due to the pandemic. The pandemic has caused many artisans to experience difficulties because market demand has fallen drastically. In addition, it also has had an impact on the high level of unemployment caused by layoffs.

Product quality and designs produced by artisans also need attention. It was necessary to carry out a design strategy and market analysis to increase welfare by increasing the productivity of the creative industries in the export market. Until then, exploration of Indonesia's natural wealth has been mainly carried out by outsiders. The designs were monotonous, and the marketing of interior and craft products were minimal. Foreign designers have designed the existing product, and the Indonesian



artisans only contribute as fabricators. Design development for the global market should be synchronized with issues or trends in that country (Moore, 2015). Design not only answers user needs but can also become a user identity. Another obstacle in the development of SME products so far was the lack of knowledge of SMEs regarding the latest design trends. SMEs' production techniques and facilities were minimal, so assistance and support from the industry and the government are needed. SMEs also need to improve product quality following export quality standards so that products can be accepted in the international market, especially in the preservation process of natural materials and the administrative completeness of the export documents.

8. Research Methodology

The interior product was developed using Kelley's Design Thinking method (Camacho, 2016; Johansson-Sköldberg et al., 2013). Design thinking generates design solutions through the Empathize, Define, Ideate, Prototype, and Test stages. Design thinking is a solution to a complex problem, understanding the problem and reformulating it, and innovation comes from reframing existing problems. The design inspiration discovery stage was carried out to observe and approach the conditions of the local creative industry, both natural and human resources, to see the opportunities and potential that exist (emphasize). East Java water hyacinth SME and Central Java rattan SME were involved in obtaining relevant information regarding the obstacles and conditions during the pandemic. The data was also compiled with the Pasuruan Industry and Trade Service and related private industries, such as Sheo Home Living and PT Cahayamas Pancabenua. From the existing data, mapping and analysis of the role of SMEs, industry, government, and exporters were also carried out to support this effort (define). Design concepts were then generated as problem boundaries to frame existing conditions (ideates) through alternative design sketches. Existing design forms were realized in a form that can be tested (prototypes and tests). The last stage was making publications for the potential markets and making a marketing plan (storytelling and business model canvas). The designer's role in all these stages was a long process from the initial stage, framing problems and applying the roles of each party to create sustainable livelihoods and improve the socio-economic welfare of artisans (Ruben & Hoebink, 2014). The opportunities for renewable design to increase the selling value of interior products that are according to market reach were examined.

9. Result And Discussion

In the product design sub-sector, the craft artisan is scattered throughout Indonesia. The government has provided various training and assistance for SME actors through existing agencies (Ministry of Tourism & Creative Economy, 2021). In Pasuruan, the Department of Industry and Trade of Pasuruan Regency routinely assists



its SMEs, including Wins Knitting, which is developing its business in the craft of water hyacinth and knit interior products. Since 2019, Wins Knitting has taken advantage of the opportunity to utilize water hyacinths, which had threatened the river population in Pasuruan. Wins Knitting produces various water hyacinth handicrafts for national and international markets.

In Pasuruan Regency, water hyacinth once threatened river ecosystems because of its very high population. In 2019, the local government took the initiative to empower groups of artisans to process water hyacinth into handicraft products. The use of water hyacinth has been limited to making only handicraft products such as carpets, baskets, bags, and several other simple crafts, which experienced a decline in the market during the pandemic. Artisans' limitations in improving the quality of water hyacinth processing also cause this product not to develop optimally. Sustainable natural materials are design strengths that should be highlighted in the design. Natural materials like wood and rattan were developed simultaneously with water hyacinth. Design, quality, and production efficiency would determine the competitiveness of Indonesian interior products in the global market (Padamali & Fernando, 2016). Products that compete in international markets must have specifications that meet market demands. Target users need to be defined so that the design can adapt to market demands.

Sheo Homeliving, another company in Bali, is trying to develop rattan and wood commodities by cooperating with SMEs across Solo and Central Java. In collaboration with design associations, exporters, and government agencies, Sheo Homeliving has developed marketing to 20 countries worldwide.

4.1 Designer Role

4.1.1 Emphatize Stage

By looking at the existing conditions in the field, IPDs sought collaboration so that their responsibility was not only on improving the quality of SMEs' natural and human resources. IPDs were responsible for creating a collaboration roadmap that involves each field of knowledge and background that supports this effort. First, the designer team approached local materials and SMEs' capacity related to material characteristics, weaving techniques, processing techniques, and assembly and packaging processes. The water hyacinth material used in the first case study came from river pollution in Pasuruan. In 2019, the Pasuruan Regional National Crafts Council (DEKRANASDA), led by the Regent of Pasuruan, provided water hyacinth training for groups of craft artisans in Pasuruan. Wins Knitting responded positively to this effort and developed it into a product with high selling value. Pasuruan water hyacinth has very decent material characteristics, and the stem is thick and strong, so it is of high quality as a woven material.

Water hyacinth was processed into woven forms (Figure 1). It required a solid reinforcing structure due to its flexible characteristic. One of the uniqueness of this



material is its ability to absorb iron in its structure, making it unsuitable to be combined with steel structures (Dersseh et al., 2019; Punitha et al., 2018). Therefore, in this study, wood and rattan were used as the frame for the sitting facility. The webbing must be thicker and more solid for the seat and back to accommodate the user's weight.



Figure 1. The process of weaving a water hyacinth sheet.

In the second case study, a rattan artisan used and processed Sulawesi rattan in Solo, Central Java. Rattan is a natural material that is very easy to shape. Rattan can be bent to make a solid 360-degree circle. Several stages of making rattan material are shown in Figure 2, showing the material characteristics. The first stage was steaming to make rattan flexible. Rattan that has been steamed was bent specifically to the form designed. The rattan that had been bent was then confirmed so that it fits the design that had been made. Rattan was assembled into a single unit using nails and screws as connection reinforcement. After the framework was finished, the winding or webbing was installed on the seat and back following the design. The connection design was enclosed with rattan or cowhide wrap. After that, the spraying of water-based transparent finishing materials was carried out. The rattan was dried in the hot sun, so the finishing sticks perfectly. The final process was to scrub the rattan surface again so that the surface is smooth and even.



Figure 2. The process of making a rattan prototype.

4.3.2. Define Stage

In the second stage, IPDs map the market segments to determine market segments. Several stages of analysis were carried out, including grouping market segments, selecting market segments, and product processing so that market segments remember them (Wijaya & Sirine, 2016). The target of this effort was to increase the international and national markets. The national market target was applied to a case study of water hyacinth in Pasuruan, East Java, so they appreciate local materials and be proud of their country's products. For better acceptance, existing local materials were included in interior product designs or high-value furniture. In the second case study in Solo, Central Java, the international market targeted the Australian and European markets. Environmentally friendly natural materials have a significant market share in developed countries. Developed country consumers value natural products more because this material is sustainable and an environmentally responsible choice for product disposal after its service life.

4.3.3. Ideate Stage

In the third stage, IPDs made design alternatives according to market achievements. In addition to the foreign market, the domestic market should be educated to appreciate national creations better. In the first case study, a spiritual trend was developed from the Indonesia Trend Forecasting 2021/2022 issued by the Ministry of Tourism and Creative Industries (Ministry of Tourism & Creative Economy, 2021b). This style sought to highlight awareness of nature and culture. Product dimensions were adjusted to Indonesian human anthropometry (Chuan et al., 2010; Pheasant, 2003). Until then, Pasuruan water hyacinth products have only been processed into simple handicrafts and room decorations. This first case study processed water hyacinth into the primary materials for room furniture, such as seating facilities, shelves, and lamps (Figure 3). The water hyacinth was highlighted as a woven pattern, combining simple geometric shapes from other supporting materials such as wood and rattan.



Figure 3. The final design and prototype for the local Indonesian market.

In the second case study, the market issues taken for the export market were sustainability and wellness. The use of natural materials that are sustainable and have an impact on health makes natural materials more in demand. The pandemic has also made humans prioritize nature in the parts of their homes and places to interact (Dhingra & Dhingra, 2020; Krumov et al., 2022; Robinson et al., 2022). Design development for the European market used a classic chinoiserie design style that is everlasting, which has been coming back to Europe recently. Cheerful colors were also used in the products to give a different touch to the designs. In the Australian market, a Scandinavian style was developed, which was simple but emphasized the flexibility of the rattan character. These characteristics were developed in designs for the Australian and European markets. The shapes of the rattan indentations were made into the main composition, both in the products of chairs, benches, swing chairs, tables, shelves, and tables. For the European and Australian markets, different design dimensions were used according to the anthropometry of the users (Pheasant, 2003). The design for the Australian market has eight product variants, including hanging chairs, accent chairs, stools, coffee tables, consoles, storage benches, hanging shelves, and side tables. The design for the European



market has four product variants: hanging shelves, stools, and drum stools. The finished product is shown in Figure 4.



Figure 4. Product design and prototype for the European and Australian markets.

4.3.4. Prototype Stage

IPDs collaborated with SMEs, industry, and the government to create several design prototypes in the fourth stage (Moore, 2015; Yunus & Sakaria, 2017). In the manufacturing process, design improvements were made and adapted to production techniques in the field. Several designs were revised following material characteristics and production techniques. In water hyacinth production, the constraints faced were the limited number and ability of the SME workforce. The artisan had not been able to apply the woven into new forms of products such as lamps and seating facilities. These changes impacted the agreed production time, so the product documentation and promotion schedule was missed. Designers need to work around designs with production processes that are adjusted to the capabilities of SMEs so that the production process runs well.

In water hyacinth products, a structural frame was needed to function as a reinforcement and product aesthetics. Designers collaborated with the wood industry, which could provide high-value product quality (Figure 5). The government supports this activity through the Department of Trade and Industry of Pasuruan Regency by providing industrial machine-based wood processing centers. Before being processed, wood needs to undergo a drying process, and it must be oven-dried for moisture below 13% to reduce the expansion and shrinkage, which would affect the product to be made.

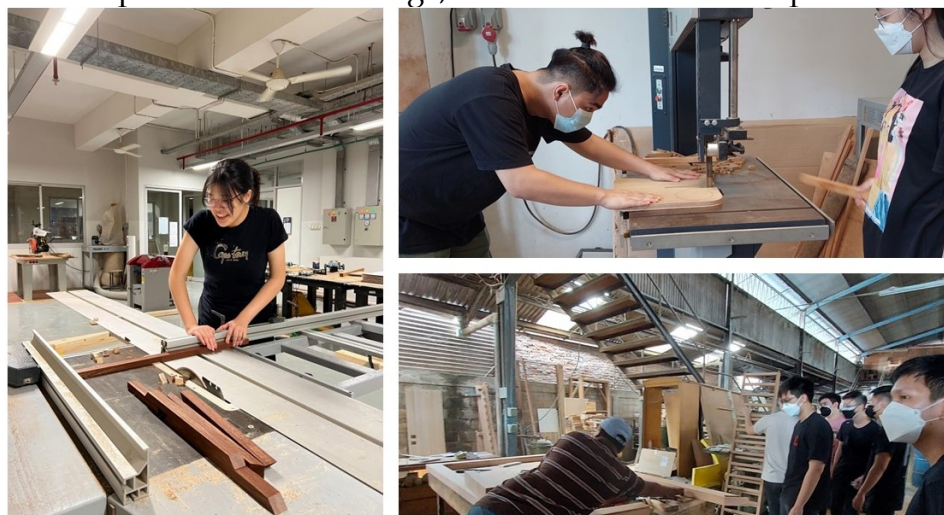




Figure 5. The process of making the product's wooden frame.

In rattan material, the design considered the flexible material's characteristics, so additional support was needed for the frame. This frame structure depended on the strength of the rattan in the product. The designs have been revised several times because they were adapted to the material's character and the SME artisan's production capabilities. In addition to processing rattan rods and weaves, the winding technique must be done to improve the product's aesthetics. The winding hid joints on rattan products and the nail joints. The winding used high-quality materials such as cowhide in premium rattan products for the international market. Details like this would increase the value of product exclusivity in the market. The prototype production process in the first and second case studies took about two months.

4.3.5. Test Stage

The fifth stage carried out by IPDs was to conduct a market test to determine market interest in the interior product made. For the domestic market, tests were carried out through soft launching and exhibition activities (Figure 6). Tests were conducted to determine the suitability of function, anthropometry, material durability, and production prices that follow market capabilities. The Regent of Pasuruan attended the exhibition as Chair of DEKRANASDA Pasuruan, SME, industry, several Pasuruan Regency Government agencies, and the Association of Indonesian Interior Designers Association (Arenius & Clercq, 2003; Murniningtyas, 2018). From interviews with exhibition visitors, feedback was generated on the displayed products. Shape, size, color, and price were considered by consumers when choosing a product. The Department of Industry and Trade of Pasuruan Regency saw that this effort provides opportunities for SMEs to expand their market and increase the economic value of their products. In addition, this collaboration was an effort to synergize SMEs with industrial parties in East Java. In this process, SMEs experienced several challenges because the products shown differed totally from the usual handicraft products. This experience allowed SMEs to develop time-efficient production and managerial techniques. The Association of Indonesian Interior Designers also marketed the resulting prototypes through several events held by design associations in East Java.





Figure 6. Domestic market test through a joint exhibition by Government Services and the Indonesian Interior Designers Association.

For the Australian and European markets, tests were conducted through a soft product launch on the Sheo Homeliving company website. Finished prototypes were styled and documented, and photos of products that had been styled were included on the company's website to determine market interest in the products produced (Figure 7). IPDs played an essential role in the documentation process because they also did the product styling and interior arrangements. Documentation must be done thoughtfully to produce attractive and marketable advertising, and technology must be utilized to make marketing more extensive and optimal. The synergy of joint work between SME actors, designers, government agencies, industry, and exporters was needed in this test process.



Figure 7. Interior product styling for promotions and publications.

10. Conclusion

The COVID-19 pandemic, which has lasted more than two years, has caused many sectors of the economy to decline. Creative new designs could become a new course that increases the selling value of interior products made from local materials. Sustainable community welfare could be achieved if it is supported by good capital assets and can survive the vulnerability due to the pandemic. The effort needs to be supported by government policies and professional associations to increase the income of artisans through design strategies that match the market. The previous interior products were monotonous and only repeated existing popular designs. IPDs play a role in framing the condition of Indonesia's creative industry and seeking new solutions to boost economic growth after the pandemic and should collaborate on improvements to the monotonous old designs to increase the value of the interior products made by local artisans.

Through the design of interior products that are aesthetic, efficient, and of high quality, designers increase the selling value of products in local and global markets. Five stages of design implementation and development are shown in this paper. In the first stage, IPDs approached local materials as natural capital assets. In the second stage, IPDs analyzed human capital assets, including an artisan's capacity. Government



agencies and industry involvement can help with the limited capital and financial, social, and physical assets that artisans do not have. Social capital or networking and market segment mapping involves entrepreneurs, government agencies, and design associations. In the third stage, IPDs created a schematic output of the design based on the availability of materials and the skill of artisans. The fourth stage was the prototype production process which involved SMEs, industrial entrepreneurs, and government agencies. Market testing was done through branding activities and collaboration between entrepreneurs, governments, distributors, and associations.

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12. Declaration of Conflicting Interest

The Author have declare no potential conflicts of interest concerning this article's research, authorship, and/ or publication.

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Letter of Acceptance

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Date: 13 September, 2023

Dear Grace Mulyono, Josephine Cornelya

Interior Design Study Program, Faculty of Humanities and Creative Industries,
Petra Christian University, East Java, Indonesia

I am pleased to inform you that your paper entitled:

**“The Role of Interior Product Designers in Improving the Welfare of Craft and
Furniture Artisan After the Pandemic”**

has been accepted for publication and will be published in Society (Volume 11, Issue 1,
2023).

Thank you for your contribution. The technical issues about the publication will be
informed later.

Kindly Regards,
Editor in Chief

Herdiyanti



4. Bukti Artikel diterima dan Publish (30 Juni 2023)



Vol 11 No 1 (2023)



The Role of Interior Product Designers in Improving the Welfare of Craft and Furniture Artisans after Pandemic

Peran Desainer Produk Interior dalam Meningkatkan Kesejahteraan Pengrajin Kerajinan dan Furnitur Pasca Pandemi

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Grace Mulyono^{*}, Jochepine Cornelya Cristy^{*}

Abstract

The creative industry is expected to drive economic growth in Indonesia after the COVID-19 pandemic. Abundant local materials and skilled human resources are two major strengths that need to be optimally managed to increase the selling value of design products. The pandemic has significantly impacted the welfare of furniture and handicraft artisans in Java. This paper aims to demonstrate the process and role of interior product designers (IPDs) in improving the socio-economic welfare of artisans after the pandemic. IPDs collaborated with Small and Medium Enterprises (SMEs), artisans, private entrepreneurs, governments, exporters, and associations to deal with vulnerabilities after the pandemic to achieve the development of policies and strategies toward sustainable community welfare. This IPDs role mainly focused on utilizing water hyacinth and rattan as the material for interior products to be accepted in local and global markets. The IPDs faced challenges in collaboration and unification of aspirations and interests between each party. The research used Kelley's design thinking method, implementing the empathize, define, ideate, prototype, and test stages. The latest information on commodities produced by SME artisans, the existing advantages and disadvantages, and in-depth studies of developing market issues in Indonesia, Asia, and Europe were explored. The resulting design was then adjusted to the availability of raw materials, the production capabilities of the artisan, as well as the support of tools and technology used. The production process involved the government and industrial assistance in supporting the needs of machinery and production technology. Market tests at home country and abroad were conducted to determine the market response to the product. With a good market response, it is hoped that there will be policy development from the government and industry associations to support joint work to achieve a strategy for the socio-economic welfare of the community, especially groups of artisans.

PDF (English)

PDF (Bahasa Indonesia)



Keywords

Craft and Furniture Artisans;
Interior Product Designers;
Post-Pandemic Economic Growth;
SME Collaboration;
Sustainable Community Welfare;
Water Hyacinth and Rattan
Products

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