

## DEVELOPMENT OF COMPETITIVENESS AND PROMOTION OF WATER HYACINTH (EICHHORNIA CRASSIPES) CRAFT PRODUCTS AS EMPOWERMENT FOR MICRO ENTERPRISE

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### ABSTRACT

Binus University, with its mission of "empowering society," successfully implemented an MSME empowerment program focusing on businesses utilizing water hyacinth as a raw material. This program, led by two faculty members from Binus Business School, operated from April to September 2023 and had a profound impact on Ratu Eceng, owned by Mrs. Eiko Darmayanti. The program's digital marketing content training played a pivotal role in transforming Ratu Eceng's business. Equipped with newfound social media skills, she created compelling promotional content, increasing brand visibility and engaging with customers online. Binus University's contribution extended further with the procurement of live marketing studio equipment. This allowed Ratu Eceng to create captivating live streaming content, fostering direct customer interactions and presenting her products in a more personal manner. In summary, Binus University's MSME empowerment program focused on water hyacinth-based businesses has yielded remarkable results for Ratu Eceng. These outcomes encompass improved digital marketing capabilities, enhanced product design, and successful international expansion. This initiative exemplifies how higher education institutions can empower communities by enhancing skills and creating opportunities for MSMEs. Future program recommendations include fostering greater collaboration among MSMEs, maintaining a sustainable international expansion focus, and enhancing impact measurement for continued success in community empowerment initiatives.

**Keywords:** empowerment program, MSMEs, water hyacinth, digital promotion content, coaching program

### 1. INTRODUCTION

The utilization of water hyacinth (*Eichhornia crassipes*) as a raw material in craft products represents an intriguing solution in the effort to manage waste and empower communities. Water hyacinth is an aquatic plant often considered a water weed due to its rapid proliferation, capable of covering extensive water surfaces. Uncontrolled expansion of water hyacinth has caused various ecological, economic, and social issues in various regions worldwide.

In recent decades, many lakes, rivers, reservoirs, and canals have been contaminated by water hyacinth, obstructing water flow, reducing oxygen levels in the water, and threatening biodiversity in aquatic ecosystems. Furthermore, the expansion of water hyacinth disrupts fishing and water transportation activities, negatively impacts the tourism sector, and results in losses for communities relying on water resources. For most people, water hyacinth is perceived as a useless plant that only causes floods by contaminating rivers. However, for creative individuals, water hyacinth can be processed into various high-value handicrafts (Setiati et al., 2020).

Amid the issues caused by uncontrolled water hyacinth growth, there exists significant untapped potential in this plant. Water hyacinth possesses strong and flexible fibers, as well as excellent water resistance. These properties make water hyacinth an attractive raw material for crafting diverse handicraft products. Research indicates that the utilization of water hyacinth in weaving handicrafts is highly effective in reducing water hyacinth growth in rivers (Rahmayanti et al., 2023). Therefore, studying the potential and development of handicraft products made from water hyacinth is relevant because this endeavor can offer dual benefits. Firstly, by transforming water hyacinth into handicraft products, the previously troublesome and detrimental plant waste can be turned into economically valuable goods, thus helping reduce water hyacinth accumulation in water bodies and minimizing its negative environmental impact. Secondly, the development of handicraft products from water hyacinth opens business opportunities and empowers local communities, particularly those residing in areas infested with water hyacinth. This, in turn, reduces unemployment rates and enhances community well-being.

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In the production process, water hyacinth is used as the primary material, collected from farmers or collectors in its dry form. Additionally, other materials such as fibers from other plants, accessories (beads), scissors, glue, strings,

and molds are used according to specific orders. Marketing of these products is done through social media platforms like Facebook and Instagram, with some customers visiting in person. Currently, the aspiration of this MSME is to create products that are more appealing to the international market with innovative, creative, and competitive designs. While the products they produce are already quite attractive, there is a need to expand the market to enhance business growth. Marketing through social media, especially live promotion on platforms like TikTok, is planned to be intensified. A live promotion studio facility is prioritized for this purpose. Furthermore, there is a need to enhance skills in seizing opportunities and exporting products abroad, as well as addressing challenges in international exports.

### **Problem Statement**

In the production process of water hyacinth handicrafts, raw materials are sourced from farmers or collectors, primarily in the form of dried water hyacinth. Additionally, to fulfill customer demands, other materials such as fibers from other plants, accessories (beads), scissors, glue, strings, and molds are used as per specific orders. CV. Sahabat Alam Handycraft, operating under the brand Ratu Eceng, is a business established since 2008 specializing in water hyacinth crafts. The business focuses on community empowerment for the sustainability of its production. The products produced include bags, baskets, placemats, mats, chairs, home decor, and sofas. This business has had significant positive impacts on the economy, society, and the environment.

The water hyacinth crafts are intended for the European and American markets. The location primarily serves as a finishing point for water hyacinth crafts before export. Orders began to increase again after experiencing a decline at the onset of the Covid-19 pandemic.

Currently, the aspiration of this micro, small, and medium-sized enterprise (MSME) is to create products that are more appealing to the international market with innovative, creative, and competitive designs. While the products they produce are already quite attractive, there is a need for market development to enhance business growth. Marketing through social media is planned to be intensified, particularly by utilizing live promotions, similar to those on TikTok. The facility for live promotional activities is a prioritized requirement. Additionally, there is a need to enhance skills in identifying opportunities and exporting products abroad, as well as addressing challenges associated with exports.

### **Objectives of the Empowerment Program**

1. Exploring and Assessing the Processing of Water Hyacinth into High-Quality and Innovative Craft Products: This objective includes an analysis of production techniques, design, and creativity in transforming raw water hyacinth materials into products with high market appeal.
2. Identifying Barriers and Challenges in the Development of Water Hyacinth Craft Products and Formulating Strategies to Overcome Them: This objective aims to find effective solutions to overcome various obstacles that may arise in the development of the water hyacinth craft industry.
3. Analyzing the Impact of Water Hyacinth Craft Product Development on Increasing Public Awareness of Environmental Conservation and Waste Management: This study will evaluate the extent to which the development of craft products can contribute to raising environmental awareness and community participation in environmental conservation efforts.

Through the above-mentioned objectives, this program is expected to provide a comprehensive overview of the potential and development of craft products made from water hyacinth as an effective step in community empowerment. Furthermore, it is anticipated that this program will offer guidance to stakeholders in developing a sustainable craft industry that positively contributes to the environment. Empowerment programs like this play a crucial role in supporting the growth of Micro, Small, and Medium-sized Enterprises (MSMEs) and their positive impact on the economy and society.

Water hyacinth (*Eichhornia crassipes*), originating from the Amazon Basin in Brazil and spreading to over 50 countries on five continents, is regarded as one of the most invasive aquatic weeds globally (Malik, 2007; Rakotoarisoa et al., 2015). The presence of water hyacinth often leads to waterway siltation, hindering light and oxygen penetration into the water, threatening biodiversity, and causing ecosystem damage (Rakotoarisoa et al., 2015).

In Indonesia, water hyacinth is estimated to have appeared in 1894 when it was initially planted to beautify the Bogor Botanical Gardens. From there, water hyacinth has spread to various regions in Java, Sumatra, Kalimantan, Sulawesi, including Gorontalo. The proliferation of water hyacinth in these regions has resulted in various environmental issues. In Gorontalo, for instance, water hyacinth is considered the cause of the siltation of Lake Limboto and has covered over 70% of the lake's surface (Wolok et al., 2019).

Nevertheless, water hyacinth also offers various benefits to human life. It can be used for composting, biogas production, animal feed, wastewater treatment, and alcohol production (Malik, 2007). Water hyacinth can also serve as a unique material for papermaking, canvas for artistic painting, and eco-friendly craft products (Bhattacharjee et

al., 2015; Vaidyanathan & Induchoodan, 2017). A significant opportunity in harnessing water hyacinth as an economic resource is to use it as a raw material for creative craft products. Researchers such as Retnoningrum (2014), Samsudin & Husnussalam (2017), and Wolok et al. (2019) have successfully demonstrated that water hyacinth can be utilized as a raw material for various eco-friendly craft products, capable of enhancing economic value and providing employment opportunities.

### **Types of Craft Products That Can Be Made from Water Hyacinth**

Water hyacinth has the potential to be transformed into various appealing and useful craft products. Some types of craft products made from water hyacinth include:

1. **Woven Crafts:** Water hyacinth is often used as a material for weaving, creating items such as baskets, storage containers, and bags. Woven products made from water hyacinth possess an attractive natural texture and are known for their durability.



Figure 1. Woven Crafts from Water Hyacinth

2. **Fashion Accessories:** Water hyacinth can be transformed into fashion accessories such as bracelets, necklaces, and earrings. These products offer a unique appearance while being environmentally friendly.



Figure 2 Fashion accessories from water hyacinth crafts

3. **Home Decor:** Water hyacinth can be used as a material for home decor items, including pendant lamps, wall decorations, and photo frames. Home decor products made from water hyacinth provide a natural touch and an appealing aesthetic.



Figure 3 Home Decoration from Water Hyacinth Crafts

4. Furniture: Water hyacinth can be processed into household furniture items such as chairs, tables, and bookshelves. Furniture products made from water hyacinth provide a natural ambiance that blends with the environment.



Figure 4. Furniture from Water Hyacinth Crafts

### **Uniqueness and Advantages of Craft Products Made from Water Hyacinth**

Craft products made from water hyacinth possess several unique features and advantages that make them attractive to consumers, including:

1. **Environmentally Friendly:** Water hyacinth is an aquatic plant that grows abundantly and is often considered a water weed. By transforming water hyacinth into craft products, plant waste that previously disrupted the environment can be converted into high-value economic goods.
2. **Unique Appearance:** Craft products made from water hyacinth exhibit a unique appearance with natural colors and textures. Each product often has its distinctive characteristics because they are crafted by hand.
3. **Durability and Strength:** Water hyacinth fibers are known for their strength and flexibility, making craft products from this material durable and suitable for various purposes.
4. **Community Empowerment:** The development of the water hyacinth craft industry can empower local communities, especially those living in areas infested with water hyacinth. This opens up business opportunities and enhances community well-being.

### **Market Potential and Marketing of Craft Products Made from Water Hyacinth**

The market potential for craft products made from water hyacinth is substantial due to the increasing number of environmentally-conscious consumers seeking eco-friendly and natural materials. Craft products from water hyacinth can capture the attention of consumers with diverse tastes because of their unique appearance and natural aesthetics.

The marketing of craft products made from water hyacinth can be carried out through various channels, including craft exhibitions, souvenir shops, e-commerce platforms, and social media. Collaboration with local businesses or tourism stakeholders can also help expand market reach.

When marketing craft products made from water hyacinth, it is essential to emphasize environmental friendliness, product uniqueness, and the positive impact on community empowerment. This will add value to the products and attract consumers who are increasingly concerned about the environment and sustainability.

## 2. METHOD

### Implementation Methodology

The implementation method will involve discussions with the Polukids SME through Zoom meetings and WhatsApp Groups. The initial activity will focus on analyzing the needs of the Partner. We propose community engagement activities at Bina Nusantara University, Angrek Campus, as well as on-site with the SME, with an approach that includes providing training and guidance in digital marketing, export assistance, and product design evaluation to meet export standards. The acquisition of a studio setup for live online marketing on social media platforms and assistance in creating product designs and supporting export activities will also be part of the plan.

Table 1. Planned Targeted Output Achievements

| No. | Output Type                                | Achievement Indicators |
|-----|--|------------------------|
| 1   | Studio equipment for live online marketing | Provided               |
| 2   | Assistance for export activities           | Provided               |
| 3   | Assistance with product quality evaluation | Provided               |

Table 2. Activity Schedule

| Type of activity                          | Month |   |   |   |   |   |   |   |    |    |  |
|---|-------|---|---|---|---|---|---|---|----|----|--|
|   | 2     | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |  |
| 1 Digital content marketing training      |       |   |   |   |   |   |   |   |    |    |  |
| 2 Design evaluation assistance            |       |   |   |   |   |   |   |   |    |    |  |
| 3 Purchase of live marketing studio tools |       |   |   |   |   |   |   |   |    |    |  |
| 4 Export assistance                       |       |   |   |   |   |   |   |   |    |    |  |

## 3. RESULTS AND DISCUSSION

1. Digital Promotion Tools: The provision of digital promotion tools and training in digital marketing content creation has had a profound effect on Mrs. Eiko's business. Prior to the program, she might have faced challenges in creating engaging online content. However, with the newfound skills and resources, she can now craft compelling and visually appealing promotional materials for her products. This has not only increased her brand's online visibility but has also attracted a larger audience on social media platforms. As a result, Mrs. Eiko has seen a significant uptick in followers and interactions with potential customers. This demonstrates the program's success in enhancing her digital marketing capabilities.
2. Product Design: The program's design evaluation assistance has allowed Mrs. Eiko to revamp and diversify her product offerings. By introducing fresh and innovative designs, she has effectively made her products more competitive in the market. These new designs have resonated with customers, resulting in increased sales and higher levels of customer satisfaction. The impact on her business extends beyond mere aesthetics; it reflects a strategic approach to product development that aligns with changing market preferences.
3. Export to the United States: The program's guidance and support in the export process have opened up new horizons for Mrs. Eiko's business. The increase in export volume to the United States signifies a significant achievement in expanding her business internationally. It reflects the successful application of export strategies and compliance with international trade standards. Moreover, this expansion has led to business growth and higher revenue, directly contributing to the economic development of the community.

In summary, the program has not only equipped Mrs. Eiko with valuable skills and tools but has also translated into tangible benefits, including increased brand visibility, higher sales, and access to international markets. These outcomes are a testament to the program's effectiveness in empowering micro-entrepreneurs like Mrs. Eiko and fostering economic growth at both the individual and community levels.

#### 4. CONCLUSION

Binus University's UMKM empowerment program has yielded a range of substantial benefits for Ratu Eceng and Mrs. Eiko Darmayanti. The positive impacts have been multifaceted:

1. **Enhanced Digital Marketing Skills:** The training in digital marketing has equipped Mrs. Eiko with essential skills to promote her products effectively in the digital realm. As a result, she can now independently manage digital marketing campaigns, creating engaging content that attracts a broader audience. This newfound capability has not only increased her online brand visibility but has also fostered greater customer engagement.
2. **Improved Product Design:** The program's design evaluation assistance has proven instrumental in upgrading the aesthetic appeal of Ratu Eceng's products. The introduction of fresh and innovative designs has made her offerings more competitive and appealing to a wider customer base. This has translated into increased sales and higher customer satisfaction.
3. **Expansion into International Markets:** Through the program's guidance on export strategies and support, Ratu Eceng has successfully expanded its reach into the United States. This achievement is a testament to the program's effectiveness in fostering international business growth and increasing revenue.

Based on the program implementation and impact measurement, the recommendation for a sustainable program are in following:

1. **Continued Training:** Ongoing training and mentoring are essential to ensure that UMKM owners stay up-to-date with the latest trends and technologies in digital marketing and product design. This continuous improvement will enable them to remain competitive in a dynamic market landscape.
2. **International Expansion:** Recognizing the potential of international markets, it is crucial to bolster programs that facilitate UMKM's entry into these markets. This may include exploring trade agreements, market research, and logistics support to streamline export processes.
3. **Sustainable Impact Measurement:** To gauge the lasting success of empowerment programs, periodic impact assessments should be conducted. These assessments can identify areas for improvement, measure long-term benefits, and ensure that UMKM continue to thrive. **Collaboration and Networking:** Fostering collaboration among UMKM participants in empowerment programs can lead to a dynamic ecosystem where knowledge, experiences, and opportunities are shared. This collaborative environment can serve as a source of inspiration and innovation, contributing to the overall growth of UMKM.
4. In summary, Binus University's UMKM empowerment program has demonstrated its potential to drive tangible improvements in micro-entrepreneurship. By continuing to provide training, facilitating international expansion, measuring impacts, and promoting collaboration, such programs can continue to empower UMKM and contribute significantly to economic and social development.

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