

21ST CENTURY SKILLS TRANSFORMATION THROUGH KARAWO PRODUCTS DIVERSIFICATION ON CREATIVE ECONOMY TOWARDS UMKM KARAWO EMPOWERMENT

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Abstract

This program aims to increase the capacity of business actors in facing the challenges of the modern market through innovation of Karawo products, which are typical crafts of Gorontalo. Through this empowerment program, Karawo MSME are encouraged to be more innovative in creating new products that are varied and in accordance with modern market demand. The process of diversifying products based on the creative economy includes creating more diverse Karawo designs and utilizing technology to expand the market. With the help of digital skills, MSME actors can market Karawo products more widely through online platforms, strengthen branding, and expand consumer reach. The development of creativity and innovation not only increases competitiveness, but also enriches local culture with modern Karawo designs without eliminating traditional elements. This empowerment has resulted in increased income and strengthened economic capacity at the community level. The results of this service show an increase in the innovation and creativity capabilities of Karawo MSME. In addition, better digital literacy helps business actors utilize e-commerce platforms and social media to market their products more widely, both in local and national markets. Overall, the transformation of 21st century skills through the diversification of Karawo products based on the creative economy has had a positive impact on the sustainability of MSMEs in Dunggala Village, creating new economic opportunities, and strengthening local cultural identity in facing the challenges of globalization.

Keywords: Transformation, Empowerment, Karawo MSME

Abstrak

Program ini bertujuan untuk meningkatkan kapasitas pelaku usaha dalam menghadapi tantangan pasar modern melalui inovasi produk Karawo, yang merupakan kerajinan khas Gorontalo. Melalui program pemberdayaan ini, kelompok UMKM Karawo didorong untuk lebih inovatif dalam menciptakan produk baru yang bervariasi dan sesuai dengan permintaan pasar modern. Proses diversifikasi produk berbasis ekonomi kreatif mencakup pembuatan desain Karawo yang lebih beragam dan memanfaatkan teknologi untuk memperluas pasar. Dengan bantuan keterampilan digital, pelaku UMKM dapat memasarkan produk Karawo secara lebih luas melalui platform online, memperkuat branding, dan memperluas jangkauan konsumen. Pengembangan kreativitas dan inovasi ini tidak hanya meningkatkan daya saing, tetapi juga memperkaya budaya lokal dengan desain Karawo yang modern tanpa menghilangkan unsur tradisional. Pemberdayaan ini telah menghasilkan peningkatan pendapatan serta penguatan kapasitas ekonomi di tingkat komunitas. Hasil dari pengabdian ini menunjukkan peningkatan dalam kemampuan inovasi dan kreativitas kelompok UMKM Karawo. Selain itu, literasi digital yang lebih baik membantu pelaku usaha memanfaatkan platform e-commerce dan media sosial untuk memasarkan produk mereka secara lebih luas, baik di pasar lokal maupun nasional. Secara keseluruhan, transformasi keterampilan abad ke-21 melalui diversifikasi produk Karawo berbasis ekonomi kreatif telah memberikan dampak positif bagi keberlanjutan UMKM di Desa Dunggala, menciptakan peluang ekonomi baru, serta memperkuat identitas budaya lokal dalam menghadapi tantangan globalisasi.

Kata kunci: Transformasi, Pemberdayaan Kelompok, UMKM Karawo

INTRODUCTION

Karawo is one of the cultural treasures that is the pride of the Gorontalo people, becoming the identity of the Indonesian nation that can advance the noble values of the nation's culture. As mandated in the Gorontalo Provincial Regulation No. 4 of 2017 concerning the Development of Karawo Crafts and Upiya Karanji, that karawo crafts need to be maintained, preserved and developed as part of the national culture. Implicitly, this condition implies that karawo crafts are one of the

superior cultural potentials of the Gorontalo region that should be developed and preserved by the community. Moreover, currently karawo is widely known throughout Indonesia as a typical Gorontalo craft that has also received a patent number: ID 00127784 issued by the Director General of Intellectual Property Rights, dated January 20, 2006 (Hasdiana, et al, 2013).

The presence of regulations on the development of karawo crafts is not only a government regulation on activities that support the preservation of Gorontalo culture, but it is also part of the UNG footprint innovation based on regional potential that has been carried out through the downstreaming of various research products on karawo designs that have penetrated the international market to the American continent (Wolok, 2022). No less interesting, the downstreaming of Gorontalo culture, especially karawo, became the center of attention in Seiyo City during the collaboration between the SRIREP Project from RIHN and UNG. Thus, the development of karawo crafts is one part of the cultural preservation carried out by the Gorontalo community, and of course synergizes with the UNG program.

Meanwhile, competition in the karawo craft business is a challenge for every karawo craftsman in Gorontalo. Data collected from Harian Gorontalo (2016) explains that the Cooperatives, SMEs and Industry and Trade Service of Gorontalo Province confirmed that there are 4,821 karawo craftsmen in Gorontalo. This number includes small and medium industry (IKM) players. These craftsmen have received training and even assistance from the Gorontalo Provincial Government, as well as assistance in promoting embroidered goods. However, unfortunately, not a few of the craftsmen have to lose out to other IKMs who have already gained branding among the community.

Dunggala Village is one of the villages located on the Tilemba Bone Bolango hill, which is approximately 8.6 km from the city center. Dunggala Village has a population of 1140 people spread across 3 hamlets. Meanwhile, one of the unique things in this village is that Dunggala Village has UKM Ain Karawo under the auspices of PKBM Nurain. PKBM Nurain is a non-formal education forum that provides further learning for school dropouts who want to continue their education in Packages A, B, and C. In 2019, PKBM Nurain received funding from the Ministry of Education and Culture related to the Work Skills Program (PKK) in the field of karawo embroidery, and this has been followed by students from Packages A, B, and C. The output of this activity is a noble value for the PKBM Nurain institution by establishing the Ain Karawo UKM as a forum for the surrounding community to hone their karawo embroidery skills. The results of the PKK program that has been followed by students have produced 20 participants with level 1 embroidery technique certificates, and this indirectly means they are ready to work in the business world. Unfortunately, efforts to develop SMEs based on student groups at PKBM Nurain have not developed significantly as expected. Some of the karawo craftsmen have not honed their abilities, and some of them only set up businesses independently. This challenge has emerged since the Covid-19 pandemic began to spread throughout the world, which ultimately had an impact on the economy of SMEs in all regions experiencing a decline, including SMEs. Not only that, after the pandemic, the Ain Karawo UKM had to face a situation of challenges in business legalization and branding in order to get funding from certain parties. It has been acknowledged by the leader of UKM Ain Karawo, Rislayati Ishak, S.Pd.I, MM that this UKM is constrained by business legalization and marketing and branding management. This is what ultimately hampers the production process at UKM Ain Karawo. Likewise, the motifs that will be made on the karawo that will be embroidered must be constrained by the waiting period for the motif images that still use conventional patterns, in this case still drawn in the form of paper and lines. The benefits of technology in the form of ibis paint or pixel art which can be used as an alternative media to create motifs cannot be mastered by the craftsmen. As a result, the production system must wait 1-2 weeks at the finishing stage. In fact, by utilizing this application technology, it can facilitate craftsmen to innovate the motifs that will be used on karawo cloth according to consumer interests, and this also provides benefits for craftsmen to create millennial motifs in accordance with the times. UKM Ain Karawo must also be faced with a digital promotion situation. Most karawo craftsmen only come from school dropouts, continue their education at PKBM Nurain, and are equipped with karawo embroidery skills, so the potential for using technology is still lacking.

Based on the problems above, the collaboration that will be formed between UKM Ain Karawo and Gorontalo State University through community partnership empowerment service will be mapped into several service programs, which are formed into 3 Edu programs as described in Table 1, including: 1) Edupreneruship; 2) Edudigital; and 3) Edumarket. The purpose of this activity is not only to raise the economic value of UKM Ain Karawo, but this activity is also indicated to help children who have

dropped out of school get Karawo embroidery training so as to equip them with 21st century skills to move towards the creative economy.

METHOD

The method of implementing community service activities includes 5 stages, including: socialization, training, application of technology, mentoring and evaluation, and program sustainability.

1. **Socialization:** In the implementation of the program, the team will conduct socialization to partners regarding the partnership program that will be carried out at the location. This form of socialization is carried out by presenting UKM Ain Karawo business actors and presenting a team to explain the picture of the program implementation at the partner location. This program will be packaged in the theme 'Innoventure Usaha Karawo in the Transformation of 21st Century Skills';
2. **Training:** The form of training in the 21st Century Skills transformation is carried out by covering several activities, in this case mapped to 3 Edu as a community service program, namely the edupreneurship, edudigital, and edumarket programs;
3. **Application of Technology:** The technological aspects based on 21st century skills will be a priority program that will support partner problems, namely:
 - a. Edupreneurship: utilization of online-based business legalization applications and business activities in the production of Bonda script-based Karawo embroidery.
 - b. Edudigital: utilization of ibis paint and pixel art applications as explained in the first point which functions in making sketches of motifs that will be used as patterns in karawo embroidery. In addition, in this program, the financial bookkeeping that will be carried out will use the excel application (spreadsheet) which makes it easier for SMEs to calculate digital-based finances
 - c. Edumarket: utilization of e-commerce-based technology for digital marketing of karawo products. The technological construction used is also packaged in the form of a bilingual pamphlet using Indonesian and English, so that it is hoped that not only the technological element through the promotion of karawo products is emphasized, but also the technological element based on Indonesian and English becomes one part of the promotion of local wisdom. Similar to digital advertising-based promotion, the use of social media in marketing is the basis for product promotion.
4. **Mentoring and Evaluation:** Monitoring and mentoring activities will be carried out by the supervising lecturer and the mentoring team from LP2M UNG. In their activities, the lecturer and team will monitor the extent to which the community service program is running smoothly so that the benchmark for the success of the program in the field can be measured. Evaluation activities for this program will be measured through the level of success achieved by the team and students in the activities. Evaluation or assessment will be determined by the management partner and the supervising lecturer through four criteria, including: participation/attendance (10%), cooperation between teams and students (20%), attitude and skills (30%), and implementation of the community service program (40%);
5. **Program Sustainability:** The sustainability of this program is expected that in 2025, UKM Ain Karawo will become a karawo center that has a legal business that can develop businesses independently. This is expected to be able to support the SDGs program of Dunggala village in reducing unemployment rates through community empowerment in efforts to develop karawo businesses.

FINDING AND DISCUSSION

The results of the implementation of Community Service Activities on the Transformation of 21st Century Skills towards the Empowerment of UMKM Karawo in Dunggala Village through Diversification of Karawo Products Based on the Creative Economy can be seen from various 5 aspects as explained in the implementation method which includes several stages in the form of socialization, training, application of technology, evaluation and monitoring, and program sustainability. The following are some of the results that have been achieved:

Socialization Stages

The community service activity "Transformation of 21st Century Skills towards Empowering UMKM Karawo in Dunggala Village through Diversification of Karawo Products Based on Creative Economy" involves two main stages of socialization, namely:

Pre-socialization of Activities

This stage focuses on preparation before the main socialization is carried out. At this stage, the organizers will carry out several activities. At the pre-socialization stage, the team carried out an activity dated August 12, 2024 at UKM Ain Karawo. This activity was carried out by the team through a visit to Dunggala Village to see firsthand the production activities of Karawo UMKM, product quality, and how the business is managed.

The form of pre-socialization of activities has been carried out through interviews or discussions with the Ain Karawo SME group to understand the obstacles they face, both in terms of skills, marketing, product innovation, and technology. This is important to find out which areas need improvement, especially in terms of 21st century skills such as creativity, collaboration, communication, and the use of digital technology. From the results of the discussion, the team has mapped existing Karawo products and evaluated the extent to which these products can be diversified to be more creative and have higher competitiveness in the local, national, and even international markets. The team also conducted a creative economy-based market opportunity analysis, for example identifying Karawo products that could be developed for the modern fashion, home decor, or accessories market segments that follow current trends. As a form of pre-socialization, the team attempted to provide an explanation of the importance of 21st Century Skills, which include critical thinking skills, creativity, communication, collaboration, and digital literacy to the leader of UKM Ain Karawo, Mrs. Rislayati Ishak, S.Pd.I, M.M. This was intended to open the insights of UMKM members regarding the skills needed to survive and thrive in the modern era. In addition, the team introduced the importance of technology in increasing the competitiveness of UMKM, both in the production process (such as the use of digital design for Karawo motifs) and product marketing through digital platforms. In the pre-socialization, the team held a discussion on the potential for diversification of Karawo products. New ideas based on the creative economy such as the development of fashion products, accessories, or decorations based on Karawo motifs will be discussed with UMKM members. The team listened to input from UMKM members about new products that they might be interested in developing, based on existing expertise and identified market potential.

Program Socialization

The socialization stage has been carried out by the team through an audience with the community through a program presentation at the Dunggala village office which is integrated with the community service program by the HMJ English Education student organization in Dunggala Village. In this activity, the opening of the program was delivered by the Dunggala Village Secretary in the Dunggala village office hall which was then followed by a presentation of the socialization activity program regarding community service carried out at the UKM Ain Karawo institution. This activity took place on August 16, 2024. The socialization activity of community service that focuses on the Transformation of 21st Century Skills towards the Empowerment of Karawo UMKM Groups in Dunggala Village through Diversification of Karawo Products Based on the Creative Economy is an effort to increase the capacity of human resources in facing the challenges of the globalization era. The main objective is to empower the Karawo UMKM Group to be able to develop more innovative, adaptive, and competitive products in the market through the application of 21st century skills.

At this stage, socialization is carried out in the form of interactive activities that directly involve the Ain Karawo UKM group:

- a. Presentation and Discussion: Presentation on 21st Century Skills, such as critical thinking skills, creativity, and innovation in the context of Karawo product development.
- b. Product Diversification Workshop: Through the workshop, participants learn about Karawo product diversification techniques, both in terms of design, raw materials, and product function.
- c. Digital Literacy Training: Teaching the use of technology and digital media for product marketing, such as the use of social media, marketplaces, and e-commerce.

Training

Community service training activities on the Transformation of 21st Century Skills towards Empowering the Ain Karawo SME Group in Dunggala Village through Diversification of Karawo Products Based on the Creative Economy is an initiative that focuses on improving the skills of SME members in developing creative, innovative products that are in accordance with modern economic trends. This activity aims to increase the competitiveness of Ain Karawo SMEs through the application of 21st century skills and product diversification based on the creative economy.



Figure 1. Workshop on Implementing 21st Century Skills in UKM Ain Karawo

In this activity, the team has provided socialization to participants about the importance of creativity in creating more innovative Karawo products, as well as critical thinking in dealing with problems and finding effective solutions. In this regard, the team gave a speech and explained the purpose of the socialization, namely to equip Ain Karawo UKM members with relevant 21st century skills to develop products, expand markets, and increase competitiveness through innovation and technology. In addition, the team has provided an explanation of the concept of 21st century skills which include creativity, critical thinking, communication, collaboration, digital literacy, and financial and business literacy.

Participants were involved in case studies related to challenges often faced by SMEs, such as limited product marketing or production problems. They were encouraged to think critically and find effective solutions through problem analysis and group collaboration. Participants were given a case study of Karawo's successful product development in the market, then asked to analyze the success factors and how they could adopt similar strategies for their businesses.



Figure 4. Diversified Product Making Practices in Karawo Embroidery

Based on Figure 4 above, the team presented practitioners who have extensive experience in Karawo embroidery. In this stage, the practitioner, Mohamad Yasin, as a practitioner in fine arts, began the meeting by explaining various ways to diversify Karawo products, both through design, materials, colors, and product functions. The practitioner explained the importance of product diversification to increase the competitiveness of SMEs, expand the market, and increase the added value of Karawo products. Emphasis was placed on the importance of innovation in meeting the needs of modern consumers. Participants were given real examples of how Karawo can be integrated into fashion products (such as clothing, bags, and accessories), home decor (such as tablecloths, curtains), and modern accessories (necklaces, bracelets, or wallets). Participants were also invited to understand how market trends influence product innovation.



Figure 5. Practice of Making Diversified Karawo Embroidery Products

Participants are taught about alternative raw materials that can be used for diversified products, such as additional fabrics, supporting accessories, or trending eco-friendly materials. In addition, participants are also introduced to relevant production equipment, including sewing tools, fabric cutters, and manual or digital design tools. Each group begins to create a product prototype based on the concept that has been prepared. The team and expert craftsmen provide technical guidance during the manufacturing process, such as techniques for combining Karawo motifs with modern materials or sewing techniques that can strengthen the product. After the prototype is completed, each group is asked to present their product results to other participants. In this presentation, the group must explain the product concept, the materials used, and their strategy to attract consumers.

Digital literacy and product marketing activities aim to equip SMEs with skills in using digital technology and online marketing strategies to expand their markets and increase sales of their products. In the context of Ain Karawo SMEs, digital literacy can help business actors utilize various digital platforms to promote Karawo products that have been diversified, both in design and function. In this activity, participants are given an understanding of the use of social media and e-commerce platforms to market karawo products. Not only that, in creating content, participants are taught how to create interesting creative marketing content descriptions, such as product photos, promotional videos, and social media-based product marketing. Meanwhile, the facilitator provides an introduction to the importance of digital literacy in the modern business world. The explanation includes the definition of digital literacy, its benefits for SMEs, and various technologies and platforms that can be used to optimize product marketing. Explanation of the objectives of the activity, namely to equip SME actors with digital skills, increase their knowledge of online marketing, and expand market access through digital technology.

1. Digital Marketing Training: Provides training on the use of social media and e-commerce platforms to market Karawo products.
2. Digital Content Creation: Participants learn how to create engaging, creative marketing content, such as product photos, promotional videos, and effective product descriptions.
3. Branding and Product Identity: Participants are invited to formulate the brand identity of their Karawo products so they can compete in the local and global markets.

The Application of Technology

The application of technology in community service activities on the Transformation of 21st Century Skills towards the Empowerment of Karawo UMKM Groups in Dunggala Village through Diversification of Karawo Products Based on the Creative Economy will greatly help strengthen training and accelerate the adaptation of UMKM to changes in the digital era. Here are some technologies that can be applied in various stages of activities:

Edupreneurship

Edupreneurship activities in community service that focus on the Transformation of 21st Century Skills towards the Empowerment of Karawo UMKM Groups in Dunggala Village through Diversification of Karawo Products Based on the Creative Economy can provide significant added value. Edupreneurship combines the concept of education with entrepreneurship, helping Karawo UMKM develop the ability to not only become entrepreneurs, but also learn continuously through educational activities.

1. Creativity and Product Innovation Workshop: This training focuses on developing more creative and innovative Karawo products. Participants will be encouraged to think out-of-the-box in creating product diversification, such as combining Karawo motifs with fashion products, home decor, or accessories based on the creative economy.
2. Product Prototype Development: Edupreneurship also emphasizes the importance of practice-based learning. In this stage, participants will create a prototype of a new product based on Karawo fabric, where each participant can design an idea and immediately implement the product in a real form.

In order for this activity to be sustainable, it is important to carry out mentoring and evaluation periodically. For example:

1. Continuous Mentoring Program: After training, participants need to be mentored by a business mentor or educational institution to ensure that business strategies and product innovations can be implemented properly.
2. MSME Performance Evaluation: Periodic evaluations are carried out to measure the impact of edupreneurship on business growth and products produced by Karawo MSMEs.

3. Development of a Digital Edupreneurship Platform: Building a digital platform that provides ongoing training materials, group discussions, and access to mentors will greatly support the sustainability of Karawo MSME learning and innovation.

EduDigital

EduDigital activities in community service that focus on the Transformation of 21st Century Skills towards the Empowerment of Karawo MSME Groups in Dunggala Village through Diversification of Karawo Products Based on the Creative Economy is an initiative to utilize digital technology as a means of education and empowerment of MSMEs. EduDigital aims to improve digital literacy, online marketing, and the application of technology in managing and developing Karawo MSME businesses to be more adaptive to market changes in the digital era.

1. Basic Introduction to Digitalization: Provides an understanding of the importance of digitalization for MSMEs, including how digital technology can help improve efficiency, innovation, and market access.
2. Introduction to Digital Platforms: Teaches participants about various digital platforms relevant to MSMEs, such as social media (Instagram, Facebook, TikTok), e-commerce (Tokopedia, Shopee), and business management applications (Google Drive, Trello, Xero).
3. Social Media Strategy for Karawo Product Marketing: Training on how to use social media as an effective marketing tool. Participants learn to create a business account, create interesting content, and design a marketing campaign through social media.
4. Creative Content Creation: Teaches techniques for creating interesting and interactive digital content

In order for this activity to be sustainable, it is important to carry out mentoring and evaluation periodically. For example:

1. Continuous Learning Program: After the training, participants continue to be supported through continuous digital learning programs, such as webinars, online modules, and digital discussion groups that discuss the latest innovations in the world of MSME digitalization.
2. Collaboration with Technology Platforms: Collaborating with technology companies, such as e-commerce providers or digital payment platforms, to provide continuous training and access to the latest technology for Karawo MSMEs.
3. EduDigital Platform for MSMEs: Developing an EduDigital platform specifically for Karawo MSMEs, which provides access to training materials, applications, and business mentors to support the continuous digitalization of their businesses.

Edumarket

Edumarket activities in community service on the Transformation of 21st Century Skills towards the Empowerment of Karawo UMKM Groups in Dunggala Village through Diversification of Karawo Products Based on Creative Economy is an approach that combines educational aspects with marketing activities. Edumarket aims to not only market products, but also provide learning to UMKM actors and consumers about product value, 21st century skills, and the importance of the creative economy.

1. Product Development Simulation Based on Feedback: At the end of the Edumarket activity, Karawo MSMEs can collect feedback from consumers regarding their products. This information can be used to further develop products according to market demand.
2. Marketing Strategy Evaluation: MSMEs are evaluated based on sales performance, interaction with consumers, and the effectiveness of marketing strategies that have been learned during the training. These results are used as evaluation material for future development.

To maintain the sustainability of the Edumarket program, several steps can be taken:

- a. Establishment of a Sustainable Edumarket Platform: Building an online platform or special Edumarket application that continues to support the digital marketing of Karawo MSME products and provides ongoing educational materials.
- b. Sustainable Collaboration with Partners: Maintaining cooperation with supporting institutions, such as trade offices, universities, or artisan communities to continue to promote and develop Karawo products through various marketing and educational activities.
- c. Annual Edumarket: Holding Edumarket activities periodically (annually) as a routine agenda to introduce the latest innovations from Karawo MSMEs and continue to educate the public about the importance of supporting the local creative economy.

Mentoring and Evaluation

Mentoring and evaluation are important components in ensuring the success and sustainability of community service programs such as the Transformation of 21st Century Skills towards the Empowerment of Karawo UMKM Groups in Dunggala Village through Diversification of Karawo Products Based on the Creative Economy. Mentoring ensures that UMKM are able to apply the skills and knowledge gained during the program, while evaluation provides an overview of the effectiveness of the program and provides recommendations for future improvements.

Program Sustainability

After the evaluation, it is important to follow up to ensure the sustainability of the positive impact of this community service program. Some steps that can be taken include:

Continued Mentoring Program

1. Post-Program Mentoring: Continuing mentoring to Karawo MSMEs to ensure they are able to implement the training results sustainably. Mentoring can be done through regular field visits or online consultations.
2. Advanced Training: Conducting advanced training to deepen the skills that have been learned, such as developing more sophisticated digital marketing strategies or product innovations based on new technologies.

Establishment of MSME Community or Network

1. Establishment of MSME Network: Establishing a digital-based MSME community that allows business actors to share experiences, problems, and solutions together. This also facilitates collaboration between MSMEs to increase innovation and expand the market.
2. Access to Additional Resources: Connecting MSMEs with additional resources, such as access to financing, business partners, or new technologies that can strengthen their business.

Sustainable Engagement from Partner Institutions

1. Collaboration with Government and Universities: Continuing collaboration with local governments, universities, and other organizations to support the development of Karawo MSMEs through sustainable programs, such as business incubators, ongoing training, or business funding.

Discussion

In community service activities that focus on the transformation of 21st Century Skills and empowerment of Karawo MSMEs in Dunggala Village through diversification of creative economy-based products, there are several technology and innovation products produced, both in the form of hard technology and soft technology. The following are details of these products:

Hard Technology (Physical Technology Products)

Technology-Based Karawo Diversification Products

1. Modern Karawo Product Innovation: Technology-based diversification products produced include bags, clothing, and accessories with a combination of traditional Karawo designs and modern elements. The use of more sophisticated embroidery machines to improve the quality and precision of Karawo products is also included in this category.
2. Karawo-Based Interior Decoration Products: Other innovative products are home decorations based on Karawo motifs, such as pillow cases, tablecloths, and curtains, which are made using more modern embroidery tools. These products are designed to meet the needs of the modern market, while still maintaining local cultural values.

Utilization of Digital Production Technology

Digital Embroidery Tools: In order to speed up the production process and improve quality, MSMEs are encouraged to use digital embroidery machines. This technology allows for the creation of more consistent and precise Karawo motifs, while reducing production time compared to manual methods.

Digital Marketing Tools:

Professional Product Photography: As part of a digital marketing strategy, Karawo MSMEs are trained to use high-quality DSLR cameras or smartphones to produce attractive and professional product photos. This is important to increase the visual appeal of products on digital platforms such as e-commerce and social media.

Soft Technology (Non-Physical Technology Products)

Digital Marketing Applications and Platforms

1. Use of E-commerce: One of the main results in the soft technology category is the improvement of MSMEs' ability to use e-commerce platforms such as Tokopedia, Shopee, and Bukalapak. With training on how to operate these platforms, MSMEs can reach a wider market and increase the sales volume of Karawo products.

2. Social Media Strategy: In addition to e-commerce, Karawo MSMEs are also trained to maximize the use of social media such as Instagram, Facebook, and WhatsApp Business for marketing. This training includes creating attractive visual content, effective copywriting, and using hashtags and advertising features to increase product visibility.

21st Century Skills Training

1. Digital Literacy: Karawo MSMEs are trained to use simple applications such as Canva to create promotional designs, flyers, and digital posters. They also learn how to operate digital-based financial management applications such as Microsoft Excel and Google Sheets to monitor inventory, sales, and finances.
2. Digital Payment System: The use of digital payment applications such as QRIS (Quick Response Code Indonesian Standard) and e-wallets (OVO, GoPay, and Dana) are also introduced to Karawo MSMEs. This facilitates the transaction process, especially in the digital market, thereby increasing efficiency and accessibility for consumers.

Branding and Product Design

1. Branding and Packaging Development: Another soft technology innovation is the creation of a more professional brand identity for Karawo products. Training is provided related to the creation of logos, taglines, and packaging designs that are in accordance with the target market. The use of a more modern and classy design is expected to increase the selling value of products in the premium market.
2. Product Storytelling Development: MSMEs are also trained to develop product storytelling, namely narratives that explain the cultural background of Karawo and the uniqueness of each product. This is an added value in marketing, because consumers are more interested in products with strong stories, especially in the creative economy market segment.

CONCLUSION

Community service activities that focus on the transformation of 21st Century Skills and empowerment of Karawo MSMEs in Dunggala Village through product diversification based on the creative economy have provided significant results, both in terms of technology, economy, and social aspects. Through innovation in production technology, utilization of marketing digitalization, and strengthening human resource capacity, Karawo MSMEs are able to develop and adapt to the needs of the modern market. The impact of this activity is not only increasing the productivity and income of MSMEs, but also strengthening local cultural identity and encouraging women's empowerment.

Innovation in the diversification of Karawo products, which previously focused on traditional crafts, now includes various modern fashion products, interiors, and accessories that are able to compete in local and international markets. The use of digital technology and strengthening digital literacy in online marketing are key factors in expanding the market and increasing the sustainability of MSME businesses. Overall, this activity has succeeded in encouraging collaboration between universities, government, and local communities in developing a creative economy based on local culture. The outputs of this activity include increasing the capacity of MSMEs, developing technology-based products, and scientific contributions in the form of publications and training modules.

SUGGESTION

Based on the results achieved, there are several suggestions that can be put forward for the sustainability and improvement of the impact of this activity:

1. Strengthening Cooperation with Stakeholders: Collaboration between local governments, universities, and the private sector needs to be improved to provide sustainable support to Karawo MSMEs. Support in the form of advanced training, capital, and promotional assistance will strengthen the competitiveness of MSMEs in the global market.
2. Utilization of More Advanced Technology: There needs to be the application of more advanced technology in the production process, such as more efficient automatic embroidery machines and sustainable textile technology to improve the quality of Karawo products. In addition, the development of digital applications that support product customization can also increase selling value and consumer appeal.
3. Continuous Improvement of Human Resources Capacity: Although training has been provided, improvements in business management and digital marketing strategies must continue to be

improved to ensure that MSMEs are able to compete in the long term. Advanced training on financial literacy, branding, and market analysis must be provided periodically.

4. Market Expansion and Product Certification: In order to compete in the international market, Karawo products need to obtain globally recognized certifications such as eco-friendly certification and textile product standards. Karawo MSMEs also need to optimize the use of international e-commerce platforms in order to reach a wider market.
5. Empowerment Model Replication: The empowerment model that was successfully implemented in Dunggala Village can be replicated in other areas that have creative economic potential, especially in the craft and local product sectors. This replication can increase the scale of the impact of the community service program in empowering more MSMEs.
6. Local Government Supports Local Branding: It is recommended that local governments continue to support the strengthening of Karawo branding as a symbol of Gorontalo culture. This support can be in the form of promotions at national and international events and providing incentives for MSMEs that successfully develop Karawo products.

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