

## Appropriate Technology for Tampar Spinner and Digital Marketing as an Effort to Increase the Sustainability of Slap Rope Craftsmen in Lumajang

Moh. Hudi Setyobakti <sup>1</sup>, Retno Cahyaningati <sup>2</sup>, Imam Abrori <sup>3</sup>

Department of Management, Institut Teknologi dan Bisnis Widya Gama Lumajang, Indonesia<sup>1,3</sup>  
Department of Accounting, Institut Teknologi dan Bisnis Widya Gama Lumajang, Indonesia<sup>2</sup>

Corresponding Author: ari.abrorii@gmail.com

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### ABSTRACT

This community service activity aims to determine the impact of Slap Spinner Appropriate Technology and Digital Marketing on business sustainability for slap rope craftsmen in Lumajang Regency - East Java. The method used is descriptive qualitative. Data collection methods used observation, direct interviews, and literature studies. This series of activities includes the pre-research stage by conducting observations and cooperation, the core stage in the form of socialization and training, and the evaluation stage in the form of discussions and questions and answers. The results of the activity show that the use of appropriate technology in the form of Tampar Spinner can increase the productivity and quality of the slap ropes produced. This technology can increase the strength and neatness of slap production and can shorten production time, so that it can increase the amount of production to be more than before. In addition, by using Tampar Spinner technology, it can further streamline the human resources needed in the production of slap which was previously done by 2 people to just 1 person. Digital marketing applied through social media such as WhatsApp and Facebook can also attract consumers from various regions so as to increase sales.

Keywords: Appropriate Technology for Slap Spinner, Craftsman, Digital Marketing, MSMEs.



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## INTRODUCTION

Small and medium-sized enterprises (SMEs) are an important part of the Global economy (Berger & Frame, 2005). In China, SMEs are the foundation of economic growth and an important driver of social progress. (Berger, A. N., & Frame, 2007). Meanwhile, Micro, Small and Medium Enterprises (MSMEs) in Indonesia have significantly influenced the Indonesian economy. MSMEs have a significant role and contribution such as expanding employment opportunities, forming Gross Domestic Product (GDP), and providing a network for low-income people to run a productive economy. In 2019, MSMEs were able to contribute 60% to the Gross Domestic Product.

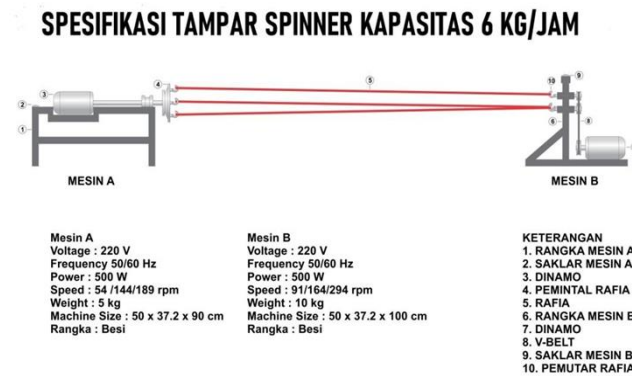
According to the latest data from Diskopindag Lumajang, there are at least 39,900 MSMEs in Lumajang district, one of which is Tali Tampar craftsmen. The Tali Tampar partner is the "Tampar Emas" business located at Gang Tampar 01, Ngebruk Hamlet, Tempeh Kidul Village, Tempeh Sub-district, Lumajang District. Tampar is a type of rope made from raffia. In the cargo field, slap ropes are commonly applied as a binding tool for cargo items. So that it remains safe and does not fall apart during the shipping journey. While in the field of animal husbandry, slap ropes are commonly used for cow ropes and cow complaints and grass binders. The "Tampar Emas" business partner is one of 20 slap rope crafters in the village. Mistari and Manisa are the owners of the "Tampar Emas" business, they are a married couple who have been in the slap rope business for 30 years which is produced manually. With employees totaling 5 people. The employee payroll system is not paid daily or weekly, but in piecework, the piecework price is calculated in units at a price of Rp. 3000, - every one seed of slap rope whether it is Slap Cow Complaint or Cow Rope. Employees can produce slap ropes at their respective homes, usually once a week they take material in the form of raffia at Mr. Mistari's house as well as depositing tampars that are ready for sale. The process required to make 1 piece of 3-meter slap rope is approximately 2 hours. The selling price of 1 tampar is Rp. 10,000,- to Rp. 15,000,-. The long process and low selling price do not make them despair, because spinning rope is their only livelihood. The majority of people in Tempeh Subdistrict and its surroundings raise cattle, so slap ropes are needed as cow complaints, cow ropes and grass binding ropes. Furthermore, Mr. Mistari sells the slap ropes to the animal market every Wednesday and Saturday, the market demand is actually quite large, it just can't be fulfilled quickly because the spinning process is manual so it takes a long time.

The marketing strategy used is not optimal, only relying on buyers coming to the stalls in the market, so sales have decreased by around 40% from before. Mr. Mistari, Business Owner of "Tampar Emas" said that the number of slap sales per year before the pandemic was able to produce 7,200 slaps so that some market demands could not be met. During the Covid 19 pandemic sales dropped dramatically, the partner "Tampar Emas" was only able to sell 4,350 seeds. Meanwhile, in 2023 after the pandemic was declared over, sales slowly began to increase, but still could not meet market demand because the process was very long. With this community service, it is hoped that it can increase sales to various regions in an effort to improve the economy of the slap craftsmen community. In addition to Cow Rope, the product produced is Cow Grievance Slap. Slap Cow complaints are priced at Rp. 10,000 / item. The overall production process of the tampar rope is still done manually, so the time required is quite long and the quality of the tampar produced is still not optimal. The purpose of this community service activity is to maximize the productivity of slap using appropriate technology, so that the slap produced is getting better quality and production time is also getting faster.

Seeing some of the problems that occur in the slap rope craftsmen, Appropriate Technology is the right solution to this problem. The use of modern work equipment can increase production quantity. A machine is a technology-driven tool used to assist human labor in carrying out the production process in the manufacturing industry. (Adhiguna et al., 2016). The role of machines is very helpful for humans in carrying out the production process of an item, in quantity, the production process is faster and more efficient, while in quality, the products produced are better and more attractive, so that market demand can be met quickly. (Adhiguna et al., 2016)

Seeing the making of raffia slap ropes that are still done manually, intrigues our Community Service Team to innovate to create Appropriate Technology "Tampar Spinner" made of a driving dynamo that can facilitate the process of spinning slap ropes even faster than the manual method, in quantity can meet market demand quickly. Not only that, after mastering how to use the machine, it is expected to produce slap ropes with stronger quality. The Appropriate Technology Innovation was designed by looking at the spinning process carried out by crafters, then the Community Service Team conducted a comparative study with spinning machines on the market, because it was felt that the machines sold on the market did not meet the needs desired by slap rope crafters, so the Community Service Team innovated to design the Appropriate Technology in collaboration with

experts to meet the needs of crafters in making slap ropes to be more effective and efficient, of course also with stronger and more attractive quality. If manual spinning of slap ropes produces 4 to 8 slaps per day, with the Appropriate Technology it is expected to produce up to 100 slaps per day. The plan/sketch of the Appropriate Technology innovation "Tampar Spinner" that the Community Service Team will design and then provide to partners is as follows:



**Figure 1: Appropriate Technology for Slap Spinner**

Source: Researcher (2023)

If the production problem has been solved, then the next plan is product marketing activities through e-commerce. E-Commerce is an online channel that can be reached using a computer, which is used by business people in conducting their business activities through electronic systems such as radio, television, and computer networks or the internet, (Adhiguna et al., 2016; Kotler, P. T., & Lee, 2009). The use of online marketing and sales strategies is more effective and easy to run, considering that people are increasingly modern and the majority use gadgets. (Kotler, P. T., & Lee, 2009).

Thus, to increase sales, the Community Service Team optimizes e-commerce as a marketing and online sales medium using WhatsApp and Facebook social media. This is an effective way to overcome problems in the marketing field. (Cahyaningati, Lukiana, Wiyono, Rizalus, & Juliasari, 2022). In order for the e-commerce optimization strategy to run well, the Community Service Team will provide assistance in managing social media to create interesting content and carry out continuous promotion. To facilitate communication between customers and partners, our Community Service Team will create a WhatsApp business account which contains several catalog photos of the products produced by "Tampar Emas", so that customers can find out the types of slap products offered, besides that the Community Service Team also provides several strategies for getting WhatsApp contacts to be saved by customers and potential customers, so that the promotion of the stories we upload can be seen by many people.

Facebook accounts are familiar to us young people and adults, this social media is very important for promotional media, because from here there are buying and selling groups for various kinds of goods throughout Indonesia, so that partners can promote their products through these buying and selling groups. (Nurussofiah, Karimah, Khodijah, & Hidayah, 2022). So our goal is for the Community Service Team to create this Facebook account so that the slap products produced are better known by the wider community.

## METHODS

The design of community service activities uses a qualitative approach with descriptive analysis methods. Qualitative methods can be interpreted as research methods based on interpretative philosophy, used to research on natural object conditions (as opposed to experiments) where the

researcher is the key instrument, data collection techniques are triangulated (combined), data analysis is inductive or qualitative, and qualitative research results emphasize meaning rather than generalization. (Sugiyono, 2015).

### **Time and Place of Service**

Community service activities were carried out from August 5 to October 15, 2023. The location of community service is Tempeh Kidul Village, Tempeh District, Lumajang Regency.

### **Methods and Design of Community Service**

Data collection methods through lectures, discussions, training, interviews of results achieved, observation and documentation studies. Determination of informants or resource persons is done by random sampling technique.

### **Sampling**

Samples were taken randomly, especially the slap rope craftsmen. This community service uses data collection from primary sources. Primary data is obtained directly from the results of interviews with informants, namely representation of slap rope craftsmen

## **RESULTS AND DISCUSSION**

Results The initial preparation carried out by the community service team was a survey/visit to the place of slap rope craftsmen. The purpose of the survey is to collect relevant and accurate information regarding the impact, success, and needs of the community related to the service project or program being carried out. From this activity, the community service team found several problems that occurred, such as the weak fulfillment of goods on consumer demand, this is because the production process is carried out manually so it takes a long time, then problems in marketing, consumers who buy slap products are only local scope in Lumajang Regency. Tampar craftsmen want their products to spread to various regions, so that the income and sustainability of tampar craftsmen will increase.

To overcome the problems that occurred, the community service team agreed on a program that would be run with partners. To overcome production problems, the community service team makes appropriate technology tools for slap spinners so that the production process is faster and produces quality slap ropes. Furthermore, helping sling rope craftsmen create an online presence by utilizing platforms such as social media and online markets. This will help their products be recognized beyond the local area. Making appropriate technology tools for slap spinners is a positive step to help craftsmen improve the efficiency of the production process. The community service team designs tools based on the needs and specifications that have been identified by considering several factors such as size, speed, and level of automation.

The slap spinner appropriate technology is designed using a quality iron frame and sturdy construction to avoid the risk of breaking or being dangerous to the user, there is an ergonomic handle that can reduce the risk of injury when the tool is used, there is an automatic machine that can turn itself off if there are problems when operating, the slap spinner has been thoroughly tested to ensure that there are no unexpected hazards, such as parts that are easily separated or potentially injure the user. After the tool is finished, the community service team provides training and assistance on how to use the tool effectively and safely, then the tool is handed over to one of the slap rope craftsmen. The following is an image of the Tampar Spinner appropriate technology tool that has been designed by the community service team.





**Figure 2: Appropriate Technology Training for Slap Spinner**

Source: Researcher (2023)

Furthermore, the community service team makes whatsapp and facebook social media accounts in order to fulfill the digital marketing strategy, this is an important step in the digital marketing strategy to promote tampar artisan products. The Community Service Team created a WhatsApp business account and a Tampar Emas Facebook account. Besides that, training and assistance are also provided in managing the two social media accounts, so that in the future the tampar craftsmen will promote their products through social media.



**Figure 3. E-Commerce Training**

Source: Researcher (2023)

After the training and mentoring activities for appropriate technology tools for slap spinners and digital marketing were completed, the next step was to conduct interviews with slap rope craftsmen regarding business development. The results of interviews with slap rope craftsmen found that the business is growing. This is because the production process is getting faster, in a day it can make approximately 100 pieces of tongar / cow slap rope. On the other hand, the slap ropes produced are denser and stronger. Production time is more effective and efficient, so that craftsmen can immediately meet market demand.

The benefits of a slap rope here are used for cow's grievances, so there are sizes and quality standards that must be met, because if this is not the case, the cow's grievance slap will be easily damaged, if it is quickly damaged, then the cow's grievance will change many times, this will cause problems with the cow's nose. This slap is attached to the cow's nasal partition (septum nasale) for easy control by tying and pressing the nose as the center of pain. (Ilmi, Wayan Batan, & Soma, 2012).

Based on observations and interviews with slap rope craftsmen regarding the impact of using the appropriate technology tool slap spinner produced in community service activities are as follows:

**Table 1. Before and after the application of Appropriate Technology Tampar Spinner**

Aspect	Before implementation	After implementation
Total labor	5 Labor	1 Labor
Processing time	15 minutes	5 Minutes
Capacity	2 kg/ Hour (4 pieces)	6kg (12 pieces of slap)
Fee	7000/ slap ropes	4.500/ slap ropes
Quality of results	Neat but not strong	Neat, strong and solid

Source: Researcher (2023)

The utilization of appropriate technology in the slap rope industry can provide many benefits, including increased productivity, quality, and efficiency in the production process as well as helping to meet increasingly competitive market demands.

Tampar Spinner Appropriate Technology has advantages when compared to other raffia spinning machines. Tampar Spinner performs two processes, namely twisting and spinning. The existing raffia smart machine has a separate spinning process and is carried out before the spinning process. It uses an automatic spinning machine that can produce slap ropes with high consistency and faster production time. The machine can be set up to meet a variety of different rope thicknesses and lengths. The use of the tool is more flexible because the tool is designed to be portable which is easy to move around or has high mobility. In addition, there is also an automatic machine, so that in the event of an obstacle the machine can turn off by itself. Then the vanbelt rope holder is also designed to be easy to change size, this aims if the vanbelt rope has begun to stretch, then the size of the machine can be adjusted so that it does not repeatedly replace the vanbelt rope. Furthermore, there is a safety in spinning the rope so that it is denser, tidier and does not easily hit clothes when the machine is operated so that the safety level is high.

The majority of business people have utilized the world of digital marketing which is currently used to market their products. One form of digital marketing using social media is Whatsaap and Facebook. The role of digital marketing strategies can be very important in following technological developments and requires planning and consistency to attract consumers. (Harahap, Dewi, & Ningrum, 2021). The knowledge about digital marketing that has been obtained from the community service team has slowly been applied, some slap rope craftsmen have received customers outside the region such as Probolinggo, Surabaya, Pasuruan, Madura, Tulungagung and Bali. The market audience is getting wider because every time the craftsmen's online transactions ask for whatsaap numbers and make friends on Facebook, so that those outside the area can still transact through social media. To keep up with the development of digitalization, business people must be willing to

learn to have new abilities by switching to a modern marketing system. Ease of communication and transactions are the mainstay of digital marketing that can be accessed around the world at any time. (Febriantoro & Arisandi, 2018).

So far, digital technology has only been utilized for personal communication needs, many MSMEs do not know the benefits of digital technology for business. (Satria et al., 2022). The shift in consumer behavior has moved from physical to online shopping, therefore digital marketing is becoming increasingly important in today's business environment, digital marketing is a trend in developing market segments throughout the archipelago. (Pratama Afrianto & Irwansyah, 2021). Major changes in technology and consumer behavior have encouraged many businesses, especially MSMEs to switch and be active in the digital world by utilizing social media such as WhatsApp, Facebook, and Instagram, (Utami & Marzuko, 2021). Whatsaap, Facebook and Instagram are two very popular social networking platforms that have become the main platform for individuals and businesses to share stories with internet-based digital images, (Ferbita, Setianti, & Dida, 2020). Instagram has become a popular platform for individuals, businesses, and SMEs to share their stories directly through snapshots and also as a means to sell online. (Ramadan, 2021).

Digital marketing training activities are divided into two sessions, namely in the first session information and understanding of digital marketing is given by participants, ranging from background knowledge to specific applications for Tampar craftsmen. Furthermore, in the second session participants were given knowledge about creating interesting content and captions to post on whatsaap and facebook. Explanation to create content and captions from posting photos of products marketed by tampar rope craftsmen. Participants were taught to utilize analytics tools on platforms such as Facebook and Instagram to see how their posts are performing. This will help them track the interactions, reactions and conversions generated by their content and captions.

Content creation must prioritize the quality of the photos and videos taken by looking at the aesthetic quality of the photos or videos in order to attract consumers to buy the products being sold. (Harahap et al., 2021). Furthermore, participants were also given tips and tricks for creating interesting, concise, and persuasive captions is an important skill in marketing, make sure the caption supports the marketing goal, whether it is increasing sales, increasing brand awareness, or getting interaction from followers. Create sentences that are concise and easy to understand. Avoid sentences that are too long or complicated (Alma Damayanti, Sibarani, Maulana, & Febrian, 2022).

The goal of this activity to increase knowledge acquisition by 90% in understanding the world of digital marketing is a significant achievement and shows that participants have responded well to the training. With a better understanding of digital marketing, participants will have a strong foundation to increase the success of marketing their products through online platforms such as WhatsApp, Facebook, and Instagram.

The outcome of this activity was a very positive and meaningful achievement. The participants' increased knowledge of digital marketing, including the creation of persuasive content and captions, is clear evidence that the training has made a significant impact on them. With their enhanced skills, participants will have a competitive advantage in digital marketing. They now have the tools to communicate effectively through engaging and persuasive content, which in turn can help increase brand visibility and product sales.

## **CONCLUSION**

In an increasingly competitive and uncertain business environment, resource optimization becomes very important to maintain competitiveness and business sustainability. Therefore, MSMEs must have the uniqueness and value of the products produced. To achieve this, MSMEs, one of which is a slap rope crafter, strive to maintain their existence through increasing the creativity of innovation

so that production results are increasingly useful and effective. Therefore, the purpose of the Community Service Program activities is to provide Innovation in the form of Appropriate Technology as an Effort to Improve the Community Economy. The Tampar Rope craftsman who became a partner was "Tampar Emas". The problem being faced by partners is that the production process is still manual, causing long production times and the quality of the slap produced is not optimal. In addition, the sales carried out are still dominantly offline, so it is necessary to innovate new products and optimize e-commerce to expand marketing reach. In overcoming these problems, several things were done in community service activities. First, making a new innovation in the form of Appropriate Technology "Tampar Spinner" for slap production so that the production process is more efficient and of high quality. Second, to support product sales, the proposing team also provides assistance in optimizing e-commerce through social media so that market segmentation is wider.

The results of community service activities show that the use of appropriate technology for slap spinners can increase productivity and the quality of the slap ropes produced. The slap spinner appropriate technology is designed using a quality iron frame and sturdy construction to avoid the risk of breaking or being dangerous to the user, there is an ergonomic handle that can reduce the risk of injury when the tool is used, there is an automatic machine that can turn itself off if there are problems when operating, the slap spinner is thoroughly tested to ensure that there are no unexpected hazards, such as parts that are easily separated or have the potential to injure the user. Furthermore, to maximize market share, the application of digital marketing strategies has a very positive effect on the sale of slap ropes. Digital marketing is applied through social media such as WhatsApp and Facebook. The existence of product information on Facebook can attract consumer buying interest from various regions. It is evident that the sales of these slap ropes have been sold to various regions such as Probolinggo, Surabaya, Pasuruan, Madura, Tulungagung and Bali.

The limitation of this activity is that it is only carried out on slap rope craftsmen in the Tempeh Kidul area, Tempeh sub-district, Lumajang district. Suggestions for future researchers are to conduct community service in other MSMEs, so that the utilization of the technology designed can help increase product productivity in their respective fields, and then conduct e-commerce training in all fields of MSMEs so that their sales increase.

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