

PKM Revenue Optimization Strategy UMKM BATIK Pamekasan During the Covid-19 Pandemic using Biogas Stoves, Improvement of Marketing and Managerial Systems

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Abstrak: Berdasarkan pantauan TIM PKM, Mitra mengalami penurunan penjualan yang drastis dan diprediksi gulung tikar akibat pandemi Covid 19. Penurunan penjualan dan biaya produksi yang tinggi disebabkan oleh PPKM. Dengan perpaduan ilmu Biogas Energi Terbarukan (Ilmu Fisika), Manajemen Kualitas dan Kuantitas (Ilmu Fisika dan Ilmu Manajemen), Manajemen Keuangan (Ilmu Ekonomi), Manajemen Pemasaran (Ilmu Ekonomi dan Bisnis) bahkan mengurus izin usaha (Legal dan Ilmu Administrasi), dan penjualan online menggunakan Aplikasi (Teknik Informatika). Metode kombinasi ilmiah ini dilakukan, guna memaksimalkan proses produksi batik di UMKM Batik ISHAK, Manajerial UMKM Batik ISHAK dan penjualan batik secara Offline dan Online. Cara ini dapat meningkatkan penjualan Batik meskipun PPKM diterapkan oleh pemerintah Indonesia. Kenaikan penjualan sekitar 25% dari dana produksi batik. Artikel ini merupakan rangkuman dari kegiatan pelaksanaan PKM.

Kata Kunci: Biogas, Batik, Pemasaran Offline dan Online, Pamekasan, Covid-19

Abstract: *Based on the observations of the PKM TEAM, Partners experienced a drastic decline in sales and were predicted to go out of business due to the Covid 19 pandemic. The decline in sales and high production costs were due to PPKM. With a combination of knowledge from Biogas Renewable Energy (Physical Sciences), Quality and Quantity Management (Physical Sciences and Management Sciences), Financial Management (Economics), Marketing Management (Economics and Business Sciences) and even taking care of business licenses (Legal and Administrative Sciences), and online sales using the Application (Informatics Engineering). This scientific combination method is carried out, in order to maximize the batik production process in UMKM ISHAK Batik, Managerial UMKM ISHAK Batik and batik sales using Offline and Online. This method can increase sales of Batik despite the PPKM implemented by the Indonesian government. The increase in sales is about 25% of the batik production fund. This article is a summary of PKM implementation activities.*

Keywords: *Biogas, Batik, Offline and Online Marketing, Pamekasan, Covid-19*

Introduction

Madura UMKM, especially in Pamekasan Regency which are still active and productive, are UMKM engaged in traditional batik. The Pamekasan Regency Government has established a Pamekasan batik center located in Klampar village, Proppo District. This batik center system relies on UMKM for home batik craftsmen in various sub-districts in Pamekasan. One of the groups of batik craftsmen in Pamekasan is a group called UMKM ISHAK BATIK (Partners) whose address is Dsn. Karang RT/RW 014/006 Larangan Badung Village, Palengaan District.

From the observations, Mitra experienced a drastic decline in sales and is predicted to go out of business due to declining sales, high production costs and high prices for batik raw materials during the COVID-19 pandemic (Figure 1). From the results of observations by the Team, the number of Partner workers has decreased because some workers have been forced to be laid off due to the COVID-19 pandemic (Figure 2).

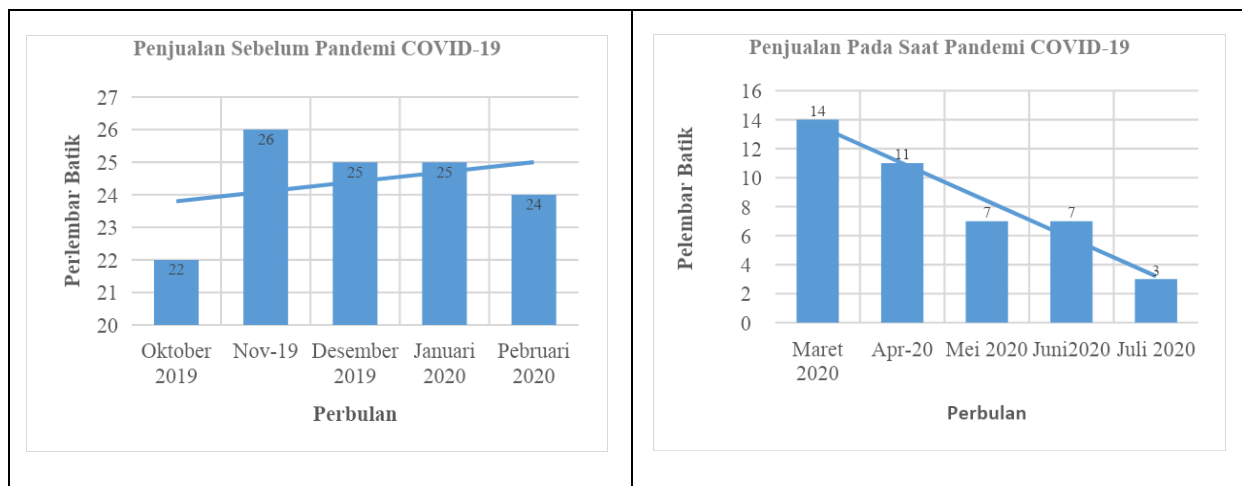


Figure 1. Sales comparison before and during the COVID-19 pandemic

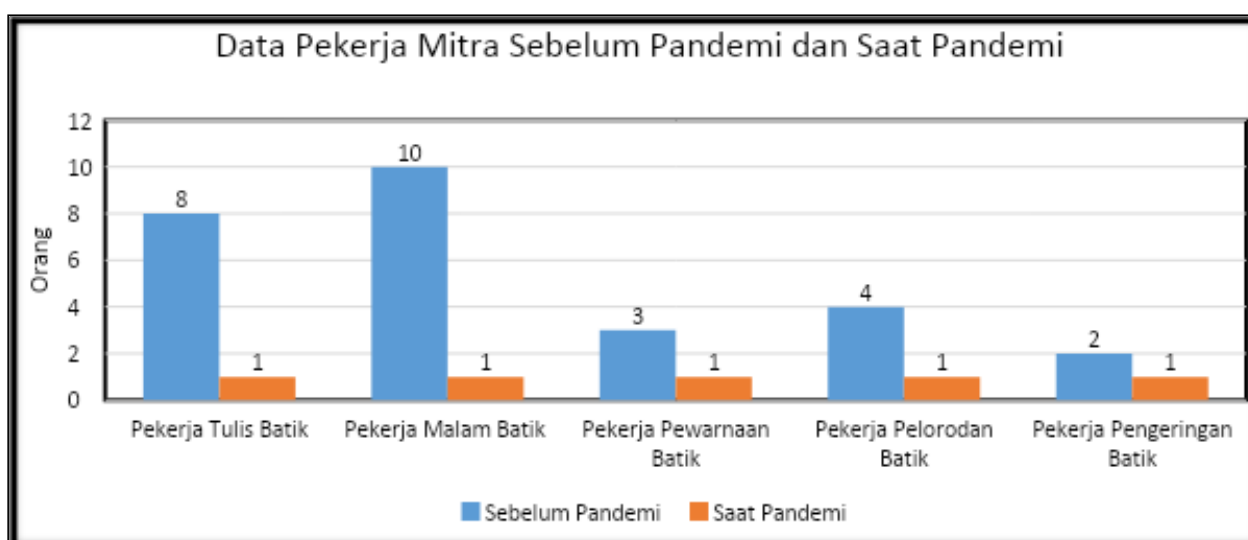


Figure 2. Comparison of Partner workers before and during the pandemic

From the results of observations by the Team, the process of making batik by Partners is as follows:

1. Write batik to mori is the initial process of making batik. To write batik, Mitra uses a manual writing method using a pencil or ballpoint pen so that for the same motif, the same writing is still repeated. As a result, the process of writing the same motif takes a long time so it still requires an appropriate way to store batik writing.
2. Pemmalaman is the process of attaching the wax as the main ingredient of the batik barrier to the mori. Mori who has made the pattern and then night with canting. The canting used when making batik patterns is canting with small, medium and large size spikes. After the main pattern is finished at night, then make the isen-isen. However, Mitra still lacks canting tools for large-scale batik production (Figure 3).



Figure 3. Canting tools and stoves used by Partners

3. The batik motif that has been written with wax is a picture or motif of the batik that will be made. The next process is giving color to the open place to be colored, while the place covered by wax is not affected by the color that is applied. However, Mitra still uses drums, so a large surface area is needed to maximize the coloring process (Figure 4).

4. Pelorodan is the process of removing the wax attached to the mori cloth. Removing the wax on batik can remove some or all of the wax. Partial or local removal is removing the wax in a certain place by scraping it with a knife-like tool. Pelorodan done at the end is called mbabar or ngebyok. Partners use kitchen knives, resulting in a lack of quality batik. Therefore, an appropriate tool is still needed to scrape this pelorodan so that the quality of batik is not reduced (Figure 5).



Figure 4. Tools for coloring used by Partners



Figure 5. The results of slashing using a knife used by Mitra

5. Wax removal is done with hot water. But Mitra didn't pay attention to the decent hot water temperature for the fabric. So it still requires appropriate technology to measure the temperature of hot water so as not to damage the fabric fibers (Figure 6). And for the process of releasing candles, Mitra uses traditional heating tools, namely stoves with wood heating materials so that they are prone to fires, the price of firewood is quite expensive, it is difficult to find dry wood. Therefore, an appropriate tool is needed for the process of releasing cheap, easy, and safe candles for production, namely by using a biogas stove made from cow dung (Figure 7).

6. The place to put tools and materials is still below the K3 standard so it requires a place to put tools that meet personal safety standards (Figure 7).



Figure 6. Wax release results regardless of the water temperature used by Partners



Figure 7. Stove for the wax removal process, The place to put tools and materials is still below personal safety standards

7. Partner still does not have a business license.

From the results of observations by the PKM Team, marketing is divided into 2 types, namely sold to batik centers in Proppo sub-district, only during the COVID-19 pandemic the batik centers were temporarily closed. So that Partners sell their products in the Seventeen August market or known by the local community as the Western market. Meanwhile, Mitra's online sales use Bukalapak, Facebook, and WA. It's just that online sales are still not optimal due to the COVID-19 pandemic, price competition and imitation of similar products.

The Problem

1. From the aspect of increasing technological capacity (Production Process):
 - a) Lack of quantity of production equipment (canting, stove, night wok, brush, wicket, drum).
 - b) Do not have a tool to measure the temperature of hot water when melorod cloth.
 - c) Does not yet have Appropriate Technology (TTG) for Biogas Stoves made from Cow Manure for the wax release heating process.
 - d) Do not have rubber gloves to dye the fabric
 - e) Lack of quality and quantity of scrapers to remove wax from the fabric.
 - f) Lack of quality understanding of the placement of production equipment according to work safety standards.
2. From the managerial aspect: Do not have financial management, marketing management, and micro business license.
3. From the aspect of marketing technology: Do not have web or android-based marketing technology.
4. From the aspect of capital: Lack of capital to buy raw materials, and pay production costs..

Method

The principle of the approach used is that knowledge, technology and innovation that will be received by Partners must go through a process of listening, understanding, trying, evaluating, accepting, trusting and implementing (Wulandari, 2017). Based on this series of processes, it is hoped that knowledge, technology and innovation can be accepted and adopted in a sustainable manner, so that Partners have the ability to plan and analyze batik business development, as well as develop innovations both in the process and the final result. To support the successful transfer of knowledge, technology and innovation, the delivery can be done through theory, discussion, practice and mentoring. In general, the process of approaching the problem is as shown in (Figure 8).

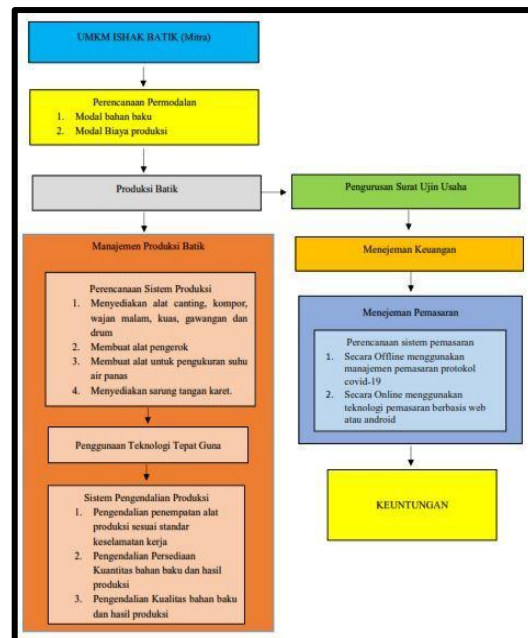


Figure 8. Problem approach framework

Description of Technology Products to be Implemented on Partners

To assist Partners in solving problems, the PKM Team provides solutions in the form of technological products that can be implemented by partners to simplify the production process while maintaining the quality of the products produced and achieving optimal marketing results. The technology products include temperature measurement tools, scrapers and web or android-based marketing technology.

Work Procedure

Based on the problem approach method described earlier, the PKM activity plan is as follows:

1. Socializing the program to provide a clear picture of the objectives and benefits of the program as well as program output targets to all parties who are directly involved and play a role in achieving the success of all activities.
2. Implementation methods to overcome production problems are as follows:
 - a) Providing raw materials, canting, stoves, night pans, brushes, wicket, drums, rubber gloves for dyeing cloth, and payment of production costs.
 - b) Make a scraper to remove the wax from the fabric
 - c) Make a tool to measure the temperature of hot water when it melts cloth.
 - d) Making Appropriate Technology in the form of Biogas Stoves made from cow dung.
 - e) Improve understanding of the quality of placing production equipment according to work safety standards.
 - f) Provide training, discussion and practice in compiling the management of business licenses.
3. Implementation methods to overcome marketing problems are as follows:

- a) Provide training, discussion and practice for offline marketing management.
- b) Provide training, discussion and practice for web or android based online marketing technology.

4. The implementation method to overcome financial management problems is to provide financial management training as well as practice it.

Participation of Partners and Parties Involved

Partner participation is to provide space, equipment, manpower, provide data and explanations needed by the team to analyze and provide solutions to problems faced by partners. The parties involved in this PKM activity include: Teams, Partners, offline and online mass media, SKPD related to business licensing, and the surrounding community.

Evaluation of Program Implementation and Sustainability

At this stage the implementation of evaluation activities is carried out by the team by looking at the obstacles that arise in the field (Rahadi et al., n.d.). Then an evaluation is carried out if problems arise, then find a solution so that the Partner's production activities continue as expected.

Results and Discussion

Biogas Production

The biogas production in the village of Badung is placed in a location where the partner has a home-industrial-scale batik production business. The purpose and objective of making biogas is to save expenses in the form of gas used to produce batik on night heating and batik cloth dyeing which requires gas or ignition which is quite large and large, so a solution is needed to minimize the cost of buying gas oil by using natural resources. which is in the form of abundant cow dung, which can be utilized and processed into biogas. Biogas production on a household scale generally uses anaerobic fermentation technology in one biodigester (one stage), which accommodates two main stages of the principle of biogas formation, namely the acetogenesis stage and the methanogenesis stage (Sarwani et al., 2020). This activity aims to transfer knowledge and technology on the use of livestock manure and rice straw as an environmentally friendly alternative energy source in the form of biogas (Irsyad et al., 2018). The amount of vegetable waste produced from market activities is very abundant, vegetable waste is used as material for making compost, besides being used as raw material for fertilizer, vegetable waste can also be used as biogas (Widyastuti & Suyantara, 2017). This service is entitled the application of management science in the development of biogas agroindustry from cow dung waste from cow dung which has an impact on the welfare of the people of Sindanglaya Village, Kec. Tanjungsiang, Kab. Subang (Sarwani et al., 2020). From this statement, the PKM Team concluded that biogas can reduce the price of batik production.

The work on making biogas begins with a discussion carried out by the service team to make a scheme or design of a biogas triangle tube model that is in accordance with environmental and soil conditions in the location that will be occupied as a service location. After discussing with members of the service team, it is scheduled for a field survey. This field survey aims for several things, among others, firstly, socializing community service activities with partners, secondly determining the location of biogas placement that will be occupied and then used as a source of fireplaces to produce batik, thirdly, determining the tools and materials used and the labor required (Amirullah et al., 2018). needed in the manufacture of biogas equipment, scheduling activities for making biogas equipment.

After the schedule was agreed, the process of making biogas equipment was carried out, starting with the purchase of biogas equipment such as paralon pipes, tampolong, sand, cement, iron, iron plates and faucets (Figure 9).



Figure 9. Purchase of biogas equipment

The process of making this biogas device takes one month, due to several obstacles, the location is difficult to reach by four-wheeled vehicles, materials such as tampolong which cannot be purchased quickly because they must first order according to the desired size, the process of transporting tampolong from the tampolong manufacture to the factory. the location of the service is rather difficult and requires a lot of energy, and it is difficult to put the tools and materials that have been purchased because the location is narrow (Figure 10).



Figure 10. The location of the service is a bit difficult

After all the materials are collected and the required manpower is available and deemed sufficient, then the work on making this biogas tool is carried out. The first work was to dig a tampolong hole, which amounted to two holes. Each hole contains three tampolong, each measuring 1 meter in diameter, and 50 cm in length, with a thickness of 10 cm. This excavation is done by placing the tampolong in a predetermined location, then excavating it from inside the tampolong. This excavation took more than a week because of the rocky contours of the soil, making it difficult for workers to dig a 1.5 meter long hole for 3 tampolong (Figure 11). After the two tampolong holes have been completed, then the connecting pipe is installed to connect the two tampolongs, then the tampolongs are coated with cement mixture so that they are tight and gas leaks will not occur when used (Figure 12).



Figure 11. the process of excavating the soil and laying Tampolong



Figure 12. Installation of biogas pipes

After completion, the service team only made a biogas stirrer made of iron measuring 14, 12, 10, and 8 which were assembled in such a way by welding so that a stirrer was formed as a biogas player which was placed in the tampolong, besides that they also made two tampolong covers with using an iron plate that has been formed in a circle by welding. Only then the top layer of the location of the two tampolong holes is leveled by means of plaster (Figure 13).



Figure 13. Making tools for stirring the biogas mixture

Batik Production Manager

Managerial batik production is carried out by the service team, preceded by the implementation of program implementation discussions to discuss techniques, strategies, and effective ways of implementation. After discussing, the service team conducted a survey to the location of partners who produce batik for observation as well as interviews. From the results of observations and interviews with partners, it was found that various aspects of the problem that needed to be addressed were, among others, the quality of batik, batik products, and batik processing techniques. These results are then used as a basis for the service team to carry out the following activities; make purchases of some batik tools and materials, such as wax, canteng, wok, dye, and zodium salt (Figure 14).



Figure 14. Managerial Grants For Batik Production

Scraping is the process of removing wax/night using a scraper which is usually made of metal plates (Hermawati et al., 2020). One of them is the traditional process, namely the scraping technique, in the world of batik this technique is carried out with a scraping tool called a cawuk. It is called scraping because in one of the processes to remove some of the wax of klowong batik by scraping it using a cawuk tool (wax scraper) which is a thin plate of iron binding that is bent in such a way that the index finger can enter the swelling and is flanked by the thumb and middle finger. , being moved around the klowong part of the cloth, usually, the klowing is done in the shaded place and in the morning. This technique aims to streamline the

coloring process (mbironi to nyogan) which is usually used by craftsmen so that production costs are not high (Hermawati et al., 2020).

Batik Marketing

The beginning of selling batik in traditional markets (offline marketing) using a customer waiting system without movement as if and the profit from this strategy was not maximum, which was only 10 percent of the capital (Setyowati & Wijayanti, 2021). However, after the PKM team provided training on how to market batik products using a marketing strategy designed by the PKM team, the results increased to 20 percent of the capital. But before that, the PKM team provides insight for partners about competition with the right mindset, namely competing by appearing different or unique, not trying to be the best, because if everyone competes for the best way to compete they will collide with each other, so the PKM Team recommends to partners with a competitive strategy to be unique, in other words the focus of this strategy is to create superior value for consumers, and competing to be unique develops in innovation, while competing to be the best will lead to imitation because basically the real point of competition is not to destroy competitors, the point is profit. So that in the production of this partner using biogas to make batik production cost efficient. In this case, partners maintain quality by going through several processes of making batik that are quite long so that the results of this production have good quality, this is what makes partners different from other batik business partners. on the other hand the PKM TEAM to optimize turnover provides direction to partners to be pro and actively respond to consumer opportunities and needs such as conducting special communications in the form of collaboration with several agencies such as private school institutions as batik providers to make uniforms for teachers or employees in the company . With a pick-up system like this, the profitability of partners will be high.

Previously, batik sales were only focused on offline sales, so sales were not optimal. After the PKM team gave directions to use online marketing, batik sales increased by about 5%. The PKM Team uses existing online marketing, in the sense that the PKM Team uses Facebook, Whatsapp, Bukalapak, Tokopedia, Shopee. One example of the sale of the PKM Team.

Business License Management

Before the PKM team, this batik UMKM still did not have a business license so that the trust in this batik business was still in doubt so that the impact of sales was not optimal, after the PKM team gave directions to manage and assist licensing, the results obtained from the processing of this UMKM license were sales increased. increased by about 5%. This increase occurred because the public's trust had increased in this batik UMKM product.

The results of this PKM team service show that the strengthening of sales of ISHAK batik UMKM has increased by about 20%, due to (1) the presence of biogas which can reduce batik production expenses, (2) an increase in managerial production of ISHAK batik UMKM, (3)

improvements and increased marketing through offline and online marketing, (4) the arrangement of ISHAK batik UMKM business licenses.

The role of the Madura University PKM Team (UNIRA) has a positive effect on batik production, batik sales, batik marketing and the processing of batik business licenses at ISHAK batik UMKM. Although the implementation of this service was carried out during the COVID-19 period, the results obtained in the service could increase the production and sales of batik based on the health protocols that have been set by the Indonesian government.

Based on the results of the service that has been carried out, it can be concluded that there is a significant difference between the level of batik production and the level of batik sales before and after the PKM activity at the University of Madura (UNIRA).

Conclusions

Based on the results of this PKM activity from training, mentoring, knowledge, technology and innovation that have been planned, compiled and implemented, the PKM Team draws several conclusions:

1. UMKM ISHAK BATIK strives for sustainability to make scrapers from stainless material so that the scrapers don't corrode quickly, the effect of this corrosion on batik cloth is that the batik cloth material becomes damaged quickly.
2. UMKM ISHAK BATIK strives for sustainability to make biogas equipment from recycled materials from batik production, this effort is carried out to reduce production prices.
3. UMKM ISHAK BATIK strives for sustainability to make cloth dryers, so that during the rainy season batik production can still be carried out.
4. UMKM ISHAK BATIK already understands the use of technology for batik production equipment made by the KKN-PPM Team, so that with this tool UMKM ISHAK BATIK can maximize batik production with better quality and quantity.
5. UMKM ISHAK BATIK have been greatly helped by Offline and Online sales, accompanied by the PKM Team, with Offline and Online sales training, the Blaban village community increasingly understands good sales management.
6. The success of the series of PKM activities cannot be separated from the collaboration between the head of PKM service, PKM members, LPPM UNIRA, UMKM business owner ISHAK BATIK, and all parties who help and support the implementation of PKM activities. Without good cooperation, the work program of PKM activities will not run smoothly and satisfactorily.

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