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Implementation of Batik Dyeing Tools to Increase the Productivity of the Coloring Process in Batik SMEs

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ABSTRACT

Batik as a work of cultural art in Indonesia is a work that is also attractive for tourist cities such as Malang City. Batik SMEs in Malang City develop batik typical of the region while maintaining traditional manufacturing methods. UKM Batik Tulis Poesaka Djagad, located in Blimbing Village, Balearjosari Subdistrict, Malang City, is a Batik UKM that is productive in making batik typical of Malang. The color reinforcement process in batik usually takes a long time so that the dye solution can be absorbed perfectly, thus reducing efficiency. The purpose of this community service activity is to apply a color reinforcement tool to UKM Batik Tulis Poesaka Djagad in the hope of speeding up the coloring process so as to increase the productivity of written batik. This activity consists of several stages, namely preparation and planning, implementation, monitoring, and evaluation. Training on the use of batik coloring process tools involved the owner, batik artisans of the SME, and several other SME batik artisans. With the application of this coloring process tool, the productivity of batik cloth increased, especially at the batik coloring stage, and the quality of the coloring results also became better.

Keywords: Batik dyeing tools, Coloring Process, Productivity.

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INTRODUCTION

Batik is a work of art of adiluhung culture with various motifs and their origin, techniques, technology, and motif development related to culture. UNESCO has designated batik as the Masterpieces of the Oral and Intangible Heritage of Humanity since October 2, 2009 (Putri et al., 2019). The meaning of intangible cultural heritage when associated with batik can be explained that intangible cultural heritage means practices, representations, expressions, knowledge, skills, as well as instruments, objects, artifacts, and cultural spaces related to or recognized by communities, groups, and in some cases, individuals as part of their cultural heritage. This is the understanding that batik heritage is a practice that should be carried out by the Indonesian people to preserve it together (Widadi, 2019).

Based on the awareness of the importance of batik as a cultural heritage, it is necessary to make efforts to conserve and develop it. In connection with these efforts, currently there are many children of the nation who feel the need to make efforts so that batik is preserved and even more widely developed, even becoming a distinctive characteristic for each batik craftsman in an area.

Its development in this modern era, batik making still uses many traditional methods and techniques which in its activities require a long time and process. This is in line with previous research that batik craftsmen do not necessarily understand the need for production equipment that significantly increases the productivity of Batik SMEs in Malang Raya, because not all equipment can be owned and not all equipment owned is significant in increasing productivity, due to limited technological knowledge and economic limitations in procuring equipment (Putri & Sahbana, 2021b).

Based on one of the research results, that partially, the machine/equipment of written batik affects the productivity of written batik. In full, the variables of people, money, machines, methods, technology, time, information simultaneously have a positive and significant effect on productivity. Partially, people, money, machines, methods, technology, time, information have a positive effect and significant influence on productivity. However, the material and market variables have an insignificant effect (Putri & Sahbana, 2021a).

Based on other research from the proposer which further examines the technological orientation of each tool in SMEs of Batik Tulis in Solo and Yogyakarta, it results that canting cap, padder, and kenceng affect the performance of written batik production. Meanwhile, technological orientation towards drawing tables and canting has no effect on the performance of hand-written batik production (Putri & Hunaini, 2020). Further research from the proponent resulted in a design of a batik dyeing and color reinforcement tool with a design that adapts to the conditions of batik craftsmen in Malang City.

Based on the results of this research, pengabdi seeks the application of tools that have been developed into outputs that can be applied to relatively new batik craftsmen in Malang City.Batik is a cultural heritage that is the work of the Indonesian people which was designated by UNESCO in 2009. As time goes by, batik is increasingly developing in Indonesia with each region having its own characteristic batik style. Likewise with UKM Batik Tulis Poesaka Djagad, which is located approximately 6 km from Widyagama University Malang, precisely in Balearjosari District - Malang City.

This SME produces batik with Koi patterns and 3D coloring as its hallmark. Where each region or batik SME explores the potential for excellence as its hallmark.

As with the making of other written batik, the batik production process at UKM Batik Tulis Poesaka Djagad also has long and complicated stages. The process of making batik starts from drawing patterns on the cloth using a pencil. Then proceed with mencanting batik, which is attaching hot malam to the pattern that has been drawn with a pencil before, followed by the process of coloring, strengthening the color and pelorodan, which is the process of cleaning the night on the batik cloth so that, and ends with the drying process. Among these processes, one of the important processes lies in the coloring process. The coloring process is called important because this process determines the color of batik which makes the artistic value of batik appear, making it more beautiful and attractive.

In an effort to increase productivity from the length of the batik making process, it is necessary to study which part of the process can be pursued to increase productivity. understand this batik making process. Understanding the process of making batik has even been done through the method of designing audio-visual media for educational and information media containing knowledge about the process of making written batik in an effort to make it easier for anyone to learn (Susanti & Azhar, 2020). In this community service activity, productivity is increased at the stage of the batik cloth coloring process.

Figure 1: UKM Batik Tulis Poesaka Djagad

Figure 2: The Owner and the Work of Batik Tulis UKM Poesaka Djagad

The coloring process in batik making is very important, however, this Batik SME still uses the traditional method, namely by dipping the batik cloth that has been dyed with a color reinforcement solution in a tub. The color reinforcement solution is a high-

viscosity solution so that the fabric takes time to absorb the solution. The absorption process time of the color reinforcement solution in batik is an obstacle in batik productivity at Poesaka Djagad hand-written batik in Malang City, so that it cannot produce batik optimally.

In previous research on coloring process tools, it was carried out for the immersion coloring process. Batik cloth coloring in the soaking tub is done several times. Modification of the soaking tub is carried out with a permanent model/type, namely modifying the size, shape, and capacity where the soaking tub is made of masonry, sand and cement (Darmanto et al., 2020).

From a study that aims to determine consumer perceptions of the quality of written batik products, it is concluded that batik consumers want written batik with comfortable fabric, neat canting treads, attractive motifs, and quality coloring, so this needs to be required and fulfilled by producers (Mandegani et al., 2018).

Other community service activities with appropriate technology for coloring tools have been carried out in order to develop batik production businesses, especially in the coloring process where partners have difficulty in coloring long fabrics (Susantiningrum et al., 2019) or manual coloring takes a long time and is sometimes untidy (Devi & Susantiningrum, 2017) so as to help increase the professionalism and productivity of the group in order to achieve the goal of forming a batik artisan group. Based on the results of research on the design of tool development for batik coloring, the results of the analysis can be used with minor improvements. By using the coloring process tool, the coloring process becomes more efficient. Coloring using tools can produce color gradations and color mixes that are also very good (Libriani, 2014).

In the effort to develop a batik business, even though the production process still uses traditional methods, it is important for a batik SME to emphasize a characteristic for SMEs or batik in a particular area including coloring and natural motifs (Rahayu, 2012), or other characteristics such as Malangan masks, Koi, 3D, and so on as in this Poesaka Djagad batik SME partner.

To optimize the productivity process, in this community service, the author applies a batik coloring process tool but a different design from the existing one to speed up the coloring process on batik. Although the design of this tool does not use a motor as a driver as in the design of other coloring tools (Arizki et al., 2022), this color amplifier tool is expected to help Poesaka Djagad hand-written batik SMEs to be able to increase productivity more in accordance with partner needs.

METHOD

The method used in this activity is training and substitution. The training activity in question is the operation of the batik coloring process tool for partner batik craftsmen. While the substitution method is intended to provide science and technology along with tools that have not been used, namely the coloring process tool which is expected to help facilitate the work of the batik coloring process.

In implementing this community service program, it is arranged in several stages of activity. The stages of this activity include 3 stages, namely: preparation and planning,

implementation, monitoring and evaluation. The implementation of the program to the community is described in the following table.

Table 1 Stages of Activity

No	Stages of Activity	Completion Step
1	Preparation and planning	• Coordination of the implementation of activities and planning of batik coloring process tools with partners. • Preparation of tools and materials for making batik coloring process tools.
2	Implementation	• Manufacturing process of color amplifier. • Trial application of color enhancement tools at partner locations • Training on the operation of batik coloring process tools
3	Assistance and Evaluation	• Assistance with the use of batik coloring process tools. • Evaluation of the use of batik coloring process tools.

Source: Team of Community Service Program

RESULTS AND DISCUSSION

The implementation of this activity was carried out with UKM Batik Tulis Poesaka Djagad located in Balearjosari Malang City as a partner. This activity was carried out in 4 weeks. The schedule of this activity is described in the following table.

Table 2 Schedule of Activities

No	Activity	Week			
		1	2	3	4
1	Preparation: Coordination of the implementation of activities for the application of batik coloring process tools with partners				
2	Implementation: Making coloring tools and assembling tools.				
3	Trial application of batik coloring process tools at the partner location				
4	Training on the operation of batik coloring process tools				
5	Mentoring and evaluation: Assistance and coaching of SMEs in the application of batik coloring process tools				

Source: Team of Community Service Program

Preparation and Planning Stage

In the preparation and planning stages, initial coordination was carried out by the community service research team with UKM Batik Poesaka Djagad, especially to convey objectives, ascertain the needs of SMEs and determine the schedule of

community service activities. The community service implementation team prepares the materials and equipment needed, distributes tasks to team members and prepares for the field and evaluation that will be used during monitoring activities. This activity involves students to get the same perception of the activity, then explaining the benefits of the coloring process tool to increase batik productivity to partners. At this stage of explaining the coloring process tools to partners, measurements and design are also made so that the size or capacity of the tools made is in accordance with the needs of the partners.

Figure 3 Coordination of the Implementation of Batik Coloring Process Tool Implementation Activities with Partners

Figure 4 Planning and Measurement of Tools

Implementation Stage

This stage begins with the process of making a coloring process tool through several stages, namely preparation of materials and making designs, assembling tool components, and ending with testing the tool at the location. This tool is made in a workshop and skillfully done by experts, then distributed to the location for testing.

Figure 5 Batik Coloring Process Tool Making

After the tool is ready and has been tested at the partner location, the tool is then handed over to the partner, Mr. Henry as the owner of UKM Batik Tulis Poesaka Djagad.

Figure 6 Handover of Coloring Process Equipment to Partners

Furthermore, the tool training process was carried out by inviting a resource person, namely Mr. Sumari from UKM Batik Semar - Batu City. He is also a craftsman who first used the coloring process tool made by the service team and has been applied before with a slightly different design,

The results of the training showed that the partners were able to use the coloring process tool well. Although at first it still had to be guided and worked together by more than 2 people, but at the end of the activity the craftsmen could use the tools well. In terms of the batik cloth produced, it can provide a faster coloring process and more even color quality. Initially, the coloring process, especially the color reinforcement process, produced 3 pieces of batik cloth per 8 working hours, after applying this coloring process tool, productivity increased to 100 pieces of batik cloth per 8 working hours in the coloring process stage. This means an increase of 320% from the original. This is also in line with the results of research on coloring process tools that tools can speed up the coloring process (Arizki et al., 2022), and consumers get written batik, especially quality coloring (Mandegani et al., 2018). The application of previously non-existent production process tools can increase production capacity (Dewi et al., 2021), is very efficient, and increases the productivity and welfare of people's lives (Nurdin et al., 2021).

Assistance and Evaluation

This stage includes mentoring and coaching related to simple color amplifier tools in a long stage. In addition to assisting to ensure that craftsmen can operate and maintain the tools smoothly without assistance, this assistance is also intended so that the team can find out what obstacles are faced by partners in operating this color amplifier. If the partners still have difficulties in operating the coloring process tool, further coaching will be carried out together with this community service team.

CONCLUSSIONS

This community service activity has been carried out and has succeeded in helping partners of hand-written batik SMEs to increase productivity, especially in the batik coloring process. The batik coloring process using the coloring process tool increases productivity up to 300 times from the original. The application of community service

methods accompanied by mentoring and coaching is very helpful and makes it easier for partners to implement new appropriate technology. The collaboration of the service team and partners can expedite the process of implementing this coloring process tool. The advantages of this coloring process tool can also speed up the absorption process of the color reinforcement solution on the batik cloth, so that the resulting batik color becomes more even and quality. Efforts to apply this appropriate technology can further improve the welfare of the community, especially batik craftsmen.

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