

Batik Innovations In Surakarta Indonesia

Tiwi Bina Affanti
Program Studi Kriya Seni
Fakultas Seni Rupa dan Desain, Universitas Sebelas
Maret.

Sujadi R. Hidayat
Program Studi Kriya Seni,
Fakultas Seni Rupa dan Desain, Universitas Sebelas
Maret.
Email co-author: ujadi_fsrdr@staff.uns.ac.id

Abstract This article discusses *batik* innovations and the implications on batik existence in Surakarta, Indonesia. The focus of the problem being discussed is the innovation of batik production equipments that have occurred to date and the use of the innovation results in *batik* industry. The data of the research were obtained through field and literature studies conducted in 2017 to 2018. Field studies, in the form of interviews and observations, were conducted in three batik centers in Surakarta and in institutions related to Surakarta batik. Based on the analysis of research data, it was found that: The batik artisan community feels comfortable with the traditional batik production equipments so that it will be difficult to be invited to use the new innovated tools. The batik artisan community is willing to switch to innovated equipments if the new innovated tools can really provide comfort or better efficiency than traditional batik tools. The innovation of batik production tools is more directed at the efficiency of the production process and not directed at improving in the quality of batik products.

Keywords: Innovation, Batik, Production Tools

INTRODUCTION

Surakarta is one of the centers of batik in Indonesia. Batik in Surakarta has developed since the era of the Mataram Kingdom in Surakarta up to now with a well preserve existence. Surakarta style batik began to develop since the reign of King Pakoe Boewono III (Honggopuro: 2002). If calculated from the time of its emergence, Surakarta-style batik has lasted for more than 2.5 centuries.

Batik in Surakarta had experienced the golden age around 1910 as the palace batik (classical batik), and sank around 1930. The decline of palace batik resulted in the growth and development of regional batik (batik produced outside the palace). Regional batik centers in Surakarta include Bekonang, Kedunggudel, Matesih, Tembayat, and Laweyan. Surakarta batik which developed outside the palace experienced its golden period around 1930 to 1960 with the development of *batik cap* (stamp batik). Around 1978, Surakarta batik experienced a setback because of its competition with printing textiles producing batik motifs. The deterioration of batik is more common in stamped batik and rough handmade batik, whereas the fine handmade batik existence is still maintained to date (Dahrsono, 2007). At the beginning of the XXI century Surakarta batik rose again and became victorious since batik was recognized as a world heritage from Indonesia.

In its development, batik as a cultural work cannot be separated from the influence of time and environment. Various facts and history have proven that an era and environment have triggered and spurred the presence of batik to be in harmony with them. Time and the environment, undeniably, cannot be separated from the process of developing batik at any era (Doellah, 2002). In responding to various challenges of time and environment, various innovations emerged from the aspects of products, production processes and production tools. This article will discuss the innovation of batik production tools in dealing with the challenges of the era.

This discussion about the innovation of batik production tools in facing the challenges of the times through research activities was carried out in 2017 to 2018. The research used qualitative methods with field study and literature study. The research was conducted in the central areas of batik in Surakarta, such as Laweyan, Tembayat, Kedunggudel, and Pilang-Sragen. In addition, data were also extracted from institutions related to the development of the batik industry. The data sources were informants, artifacts, events, and literature.

In the Indonesian National Standard (SNI) number 0239: 2014, it is stated that Batik is a handicraft as produced through coloring by using hot *malam* (batik wax) as a suspender of colors with the main instrument of *canting tulis* (batik wax pen) and or *canting cap* (batik wax stamp) to form certain motives that have meaning. Sri Sudewi Samsi (2011) explained that the process of making batik basically consisted of: drawing of patterns, batik, coloring process, and *melorod* (removing batik wax). Based on this explanation, batik production equipment can be grouped into four, namely: 1) pattern drawing equipment; 2) batik making equipment (*canting*) for applying hot wax on the fabric surface; 3) fabric coloring equipment; 4) *melorod* equipment (equipment to shed the batik wax). Based on the data obtained, of the four groups of batik production equipment, the most innovated equipment is batik equipment because it is the main tool in making batik. For this reason, the discussion on the innovation of production equipment is more focused on batik equipment.

INNOVATION OF BATIK WAX HEATING EQUIPMENT

Batik tools are used for applying batik wax on the fabric surface. Batik equipment consists of a heating device for the batik wax and a tool to apply the hot batik wax into the fabric surface. The heating device

used to melt the wax has undergone several innovations.

At first, the tool used to melt the batik wax was *anglo* (mini clay furnace) and a small skillet. Charcoal-fueled *Anglo* functions as a heater and a small skillet as a place to melt the wax. With the growing use of kerosene that replaced wood and charcoal as fuels, batik wax heaters from *anglo* were innovated into small stoves with kerosene fuel. Kerosene stove was considered to be easier in operational and the heat produced was more stable than *anglo*. In addition, by using a kerosene stove, the workspace became cleaner and healthier, because there was no dust left over from combustion products such as those produced by charcoal in *anglo*.

The scarcity of kerosene, due to the conversion of the use of fuel in Indonesia from kerosene to LPG, has led to the innovation of kerosene stoves which were used as batik wax heaters. At that time, many innovations were made by creating an electric batik stove. In addition to creating electric batik stoves, many also use LPG gas stoves to heat batik wax. Electric batik stoves innovated by research institutions and academics were not so widely used by batik makers in production activities. Batik makers prefer to use single furnace LPG gas stoves to replace kerosene batik stoves because they feel that it is safer and cheaper.

The shift of the use of heating tools from *anglo* to kerosene stoves was due to the factors of operational ease, effectiveness, and comfort. The shift from kerosene stoves to gas stoves or to electric stoves was more due to efficiency factors because the price of kerosene has become so expensive. If the price of kerosene is still affordable by production costs, the batik makers would still prefer to use kerosene stoves. Thus the transfer to a gas stove or electric stove is more of a forced cause.



Figure 1. Anglo

CANTING TULIS INNOVATION THAT HAS NOT BEEN ABLE TO REPLACE THE TRADITIONAL CANTING TULIS

If referring to the Indonesian National Standard, the main tool that must be used in the process of making batik is *canting*. *Canting* functions to take and apply the batik wax on the fabric surface (Supriono, 2016). The making of *batik tulis* (hand-drawn Batik) is using

canting tulis (drawing *canting*) while the making of *batik cap* is using *canting cap* (stamp *canting*).

Canting, a batik wax pen, is a Javanese creative invention that is second to none in any region in the world that applies batik techniques. *Canting* is a small copper container that is given a bamboo handle. The container has a pointed channel that curves down and turns on the end (Valdhuisen, 2007). Drawing *Canting* is thought to have been created in the Mataram palace in the 17th century. In Mataram at that time, there was an attempt to perfect the independent culture, without outside influences as experienced by the northern coastal region. Both in terms of technique and in terms of patterns and motives, Javanese batik was developed in the palace environment (Doellah: 2002, Valdhuesin: 2017).

In dealing with various epochs, various innovations have been conducted on drawing *canting*. Based on the results of data collection, it was found that the innovations that have been carried out on drawing *canting* include material innovation, form innovation, and operating system innovation.

Material innovation is the use of new materials in the manufacture of *canting* with a specific purpose. The *canting* handle, which functions as a handle during the operation, was originally made of bamboo innovated with wood material. Cylinder shaped wood is made using a lathe to replace the handle made of bamboo. Handles made of bamboo material will have varying sizes, because to obtain bamboos with the same sizes in large quantities is difficult. The size of the diameter of the *canting* handle using wood material can be adjusted to adjust to batik makers' taste in general.

In addition to material changes in the *canting* handle, there are also material innovations in the *nyamplungan* (wax container on the *Canting*) and *carat* (pointy channel serving as the pen head on *canting*). *Nyamplungan* and *carat* on the traditional *canting* which were made using copper material were innovated using brass metal material. The purpose of this innovation was to reduce *canting* production costs, so that the price of *canting* could be cheaper. Based on the results of interviews with craftsmen, *canting* with brass material is cheaper and stronger but less comfortable. Batik wax inside the *canting* made with brass material cools faster than in copper *canting*. Brass *canting* is more difficult to repair than copper *canting*, because the material character is more rigid.

The innovation of *canting* forms is mostly done by batik makers. Innovation in the form of *canting* is mostly done in the *nyamplungan* section. The aim of the innovation is more on the comfort and safety of work when making batik. The *nyamplungan* hole is made to be more closed so that the wax is not easily spilled thus it is easier to move the *canting* when making batik. The innovation was carried out by Amri Yahya (a batik artist) and batik maker from Germany. The resulted innovation is known as the Amri Yahya style and German style *canting*.



Figure 2. Amri Yahya style *Canting*



Figure 3. German Style *Canting*

Canting operating system innovation is mostly done by creating electric *canting*. Electric *canting* is a *canting* that has been given a heating device using an electrical power source. The wax is used in the solid form and directly inserted into the *nyamplungan*. Using electric *canting* there is no heating process or wax melting with the stove separately.



Figure 4 swanata electric *canting*



Figure 5 ladoe electric *canting*

The advantage of *Ladoe* electric *canting* is its shape that has been familiar with batik makers because it is the same as the traditional *canting* form, so that batik makers can hold the *ladoe* electric *canting* in the same way as usual. But in its use, *ladoe* electric *canting* is quite difficult to use. The *nyamplungan*, which is the space to heat and melt batik wax, is very narrow so batik wax must be cut into small pieces to be included. After batik wax is included, batik makers still have to wait a few minutes to melt the batik wax. After batik wax melts, new batik wax can be applied to the fabric surface. Because of the small capacity of the *nyamplungan*, melted batik wax soon runs out. This requires more time to re-fill batik wax until it melts, so the batik work stops too often. When stopping to pause in the process of making batik, in a short time, if the *nyamplungan* is still filled with liquid batik wax, it will be difficult to put the *canting* down. If the *canting* is still filled with batik wax, then it is put down, then the batik wax will drip through the *carat* or spill through the *nyamplungan* hole.

Swanata electric *canting* is more innovative than the *Ladoe*. The way to hold it for its operation is almost like writing with a pencil or ballpoint pen. Its *Nyamplungan* has greater capacity and is made of copper. The position of the *nyamplungan* hole is above the side. The *carat* has been innovated so the melted

batik wax will not drip when the *swanata* electric *canting* is not used to to apply the batik wax. *Swanata* electric *Canting* is equipped with a temperature control so that the level of the melted batik wax can be adjusted as needed. The drawback of this electrical *canting* is in the process of refilling batik wax, which takes time for the melting process to be applied, making it less efficient in terms of production processes.

The Yogyakarta Center for Crafts and Batik has conducted research for the evaluation of electric *canting*. The result of the evaluation of the electric *canting* is that its shape is non-ergonomic. To obtain a *canting* which is in accordance with the users' desires, the technical factors that might be improved in the development of *canting* are: a) Mechanism, model according to the work, quality of materials, size according to anthropometry, light-weight materials, and the strength of materials (Siti Lestariningsih, et al. 2013).

In addition to electrical *canting*, in the case of operating system innovations, a mechatronics *canting* innovation has also been conducted. Mechatronic *canting* is an electrical drawing *canting* which is operated mechanically. The basic principle used is like a plotter printer mechanism but using heated batik wax instead of ink. The mechatronic *canting* innovated by the Sanata Dharma Polytechnic was named *Robot Batik Tulis* (batik drawing robot). This robot can work to produce batik wax drawings according to the design of the motif that has been prepared through a computer. The disadvantage of this robot is its work performance which is still very slow compared to the work of batik craftsmen. Refilling the batik wax is also still a problem, as the same case with electric *canting*.

Based on data from observations and interviews with several batik centers in Surakarta, it is known that the most widely used *canting* is traditional *canting*, namely *canting* with *nyamplungan* and *carat* made from copper and handles made from bamboo or those that have been innovated with wood. Batik makers prefer traditional *canting* for several reasons. Drawing *canting* with copper material is the most comfortable material with optimal results, because copper metal can conserve heat better than brass. Although the price is more expensive than *canting* made from brass material, if there is damage, copper material can be repaired. Drawing *carat* from brass material is difficult to repair if damaged. Thus the calculation of the final cost will save more copper *canting*.

There was no electric *canting* or mechatronic *canting* used in batik production in Surakarta, both in the household industry and in large industries. This is because the community of batik makers does not even know of the results of *canting* innovations with an electrical work system. Besides that, both electrical and mechatronic writing *canting* from the operating system aspect and comfort of usage cannot beat the traditional *canting*, so batik makers who are familiar with the innovated tool also do not want to use it in batik production activities.

STAMP CANTING INNOVATION FOR EFFICIENCY AND NOT FOR QUALITY IMPROVEMENT

When the demand for batik products increased and could not be met with drawing *canting*, batik *canting cap* (stamp *canting*) innovation appeared. *Canting* batik stamp is a tool to apply batik wax to the fabric surface with a stamp system. Up to now there have been many innovations in *canting* stamp batik. According to Soerachman (1927), various types of materials have been used to make batik stamp. At first the batik stamp was made from large cassava tubers carved according to the desired pattern and then dried. After it was dry the batik stamp was used to paint the batik wax on the fabric surface. *Canting cap* with cassava tubers material was not durable and the resulted image was not smooth.

Then *canting* batik stamp innovation appeared by using wood material as a substitute for cassava tubers. *Canting* batik stamp with wood material is more durable but the visuals produced are also not smooth. Besides that, there was also an innovation of wooden batik stamp added with small stakes of metal nailed to its surface thus producing lines that were not continuous. This type of batik stamp was suitable for making *nitik* pattern (repeated small patterns) only.

Around 1845 batik stamp was innovated using copper material (Veldhuisen, 2007). The stamp used in batik was small, generally 1x2 cm. The stamp only served as a complement, rather than as a substitute for the drawing *canting*. In the early 1870s, the size of the batik stamp changed to 10 x 15 cm. Batik stamp with copper material began to become a mainstay in batik production workplaces (Siraishi, 2005).

At first the results of the batik wax application using *canting* stamp were less neat, because the connection from the one stamp to the next stamp could not result in a *sanggit* (continued) pattern. In 1930 the idea of installing pin pointing pegs appeared. On the edges of the stamp patrons there are four small pegs whose pattern can be clearly seen in the image made with batik wax on the fabric surface (Veldhuisen, 2007).

Based on the observations in several batik centers in Surakarta, *canting* stamp from wood and *canting* stamp from copper material are still used today, but the use is dominated by copper *canting* stamp. *Canting* stamp from wood is applied for making batik with a rather rough shape on a solid field. *Canting* stamp with copper material is used for motifs with fine line and patterns. Although there have been many innovations of *canting* stamp with various materials, *canting* stamp with copper material has the best stamp batik results. This is because the copper material is best in conserving heat and is most easily formed to produce complicated and stylative motif shapes.

The initial purpose of the creation of *canting* stamp was to replace the function of drawing *canting* in applying batik wax on the fabric surface. After exploring innovations continuously, to this day, *canting* stamp cannot replace all of the drawing *canting* functions. *Canting* stamp can only overcome the shortage of drawing *canting* on certain parts. *Canting*

stamp has better productivity compared to drawing *canting* for certain motives. *Canting* stamp is more optimal if used to make allover and geometric motifs. *Canting* stamp cannot be used to make motifs for panel types. *Canting* stamp is not able to form lines and dots as smooth as drawing *canting*.

CONCLUSION

Based on the results of the analysis, the following conclusions are drawn; Community of batik craftsmen has been very comfortable with the traditional batik production tools so it will be difficult for them to be invited to use the new innovated tools. The batik community will be willing to switch to using the innovated tools produced if the tools really provide comfort or better efficiency than traditional batik tools. The innovation of batik production tools is more directed at the efficiency of the production process and not at increasing the quality of batik products.

The innovation process of batik production tools should involve batik makers directly so that they can identify the problems that exist and the results of the innovation can be accepted and applied to batik production activities. The innovation of batik production equipments should also lead to improving product quality, not just to increase the efficiency of the production process.

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