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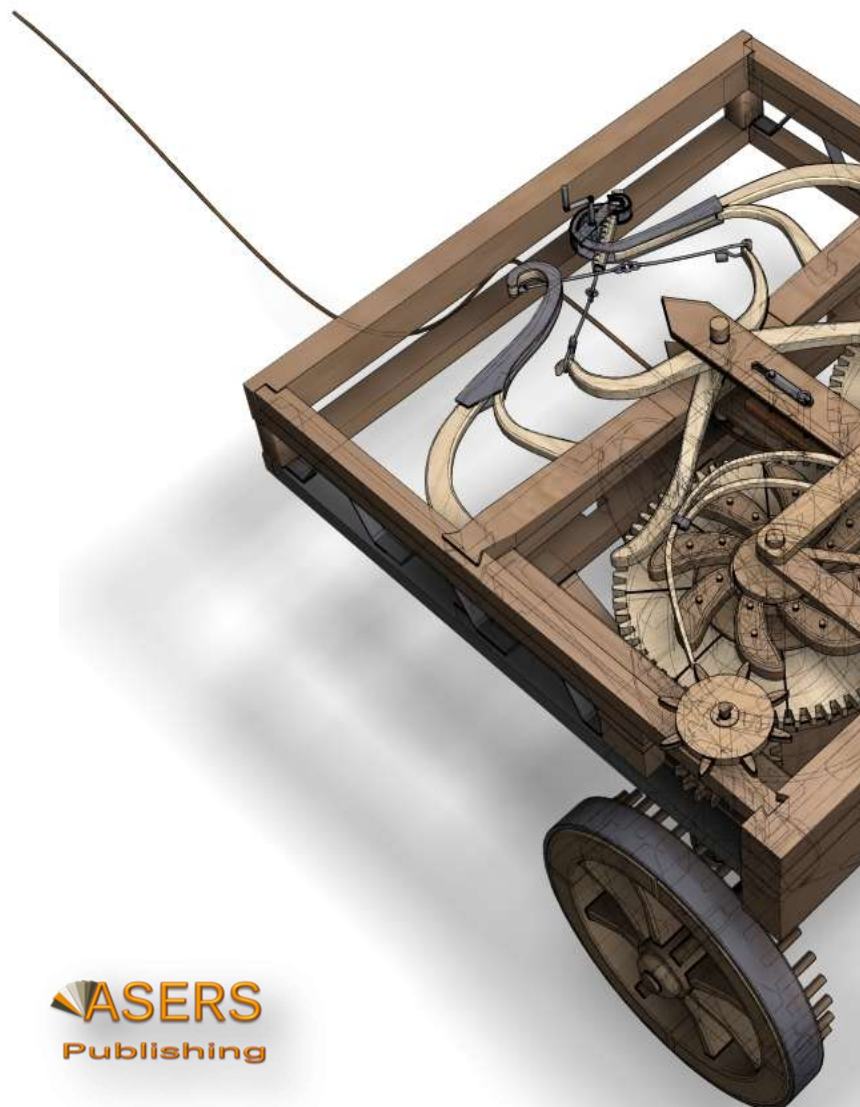
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PRESERVATION, STANDARDIZATION AND INFORMATION TECHNOLOGY 4.0 OF TRADITIONAL GEDOG TUBAN BATIK TO BE COMPETITIVE IN MARKETING DURING COVID - 19

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Abstract:

One of traditional batiks of Indonesia is Gedog Batik in Kerek District, Tuban. Gedog batik is made from handmade cloths. It makes the surface of the cloth is rough. The lines of the fabric are coarse clearly visible. Thus, the batik motifs tend to be geometrically patterned following the flow of the fabric. With these conditions, the researchers are worried that Gedog Tuban batik will not be able to compete in market. On this basis, this research was conducted to examine efforts to preserve, standardize, and IT 4.0 traditional batik/Gedog batik Tuban in order to be able to compete in today's marketing (COVID -19 pandemic era). The objective was to find ways to preserve, standardize and TI 4.0 traditional batik/Gedog Tuban batik to be able to compete in current marketing (during the COVID-19 pandemic). To answer problems above, the method used was descriptive qualitative. The results of the research showed that, first, several attempts to preserve Gedog Tuban batik in was loving gedog batik, improving the quality of the fabric, developing other functions by combining the batik with other materials, using technology for melting and drying colors to speed up production. Second, in order to be able to compete, it needed to be standardized. Batik standardization includes 7 aspects. Third, it needed to conduct online promotion and marketing with the right segmentation. This research is expected to be able be useful for readers, researchers, and Gedog batik craftsman.

Keywords: Batik Gedog; COVID-19; marketing; preservation; standardization.

JEL Classification: L15; M37; Z11.

Introduction

This research aims to find out the ways to preserve, standardize and Information Technology 4.0 Gedog Tuban batik in order to be able to compete in marketing during the COVID -19 pandemic. This is motivated by the increasingly left behind traditional works of art/traditional batik in this modern era in terms of quality of work and marketing. The current era well- known as RI 4.0 era, is an era where the use of information technology is increasingly advanced. The arts/crafts that are presented by hand are left behind. This condition is feared that it can eliminate works of art/handicraft that are traditional in nature, conducted from generation to generation by hand manually.

In 2009, UNESCO has recognized that batik is an intangible heritage belonging to Indonesia. Therefore, Indonesia is famous for its batik work. Based on the nature of the workmanship, Indonesian batik is divided into 2 (two) types, namely modern and traditional batik. One of the cities in Indonesia that produces modern batik and traditional batik is the Tuban City. In the book entitled *Kabupaten Tuban dalam Angka 2000* (BPS, n.d.), Tuban Regency is located on the north coast of East Java, between 111,30⁰ - 112,35⁰ East Longitude and 6,40⁰ - 7,18⁰ South Latitude, about 100 km west of the city of Surabaya. Tuban has prominent cultural products, namely traditional Gedog Written Batik and traditional Gedog Tenun/Weaving. It is called traditional because the manufacturing process starts from making yarn from cotton, weaving, dyeing it until it becomes cloth. It is carried out manually by hand from generation to generation (traditional).

2. Maintext

Karsam (2005) explained that making batik is a work process following certain stages. When viewed from the nature of the batik and based on these stages, batik in Tuban can be categorized into 2 (two), there are traditional and modern batik.

1) Tradisional Batik Craftsmen, including:

a) Batik Craftsmen: people who prepare cloth, wax, melorod, wash and dry until the cloth is ready to use.

b) Trader/seller: buying and selling batik cloth, collecting unfinished batik cloth for diwedel.

c) Wedelist: works to dye the blue of the batik cloth. This work is usually conducted by men.

2) Modern Batik Craftsmen, including:

a) Batik Craftsmen: only preparing cloth and wax.

b) Dye (artisan coloring): dyeing, melting, washing and drying.

Explained in book entitles *Batik and its Kind* (Djumena 1990), Tuban batik is a coastal batik because Tuban is in coastal area. The characteristics of Tuban batik as coastal batik are stated below:

1) *Putihan* batik: it has a white background with dark blue or black motifs. This batik functions as clothing to repel reinforcements or prevent disease from the dangers of Satan.

2) *Bangrod* batik: It is from Javanese words, '**bang**' means brother/red, rod means **dilorod** or cleaned of wax. Bangrod batik has a red base. It serves for women who are not married. This is related to women's blood/menstruation.

3) *Pipitan* Batik: *Pipitan* means side by side. Pipitan batik is has a crushed base. *Remekan* is the background of a dicanting cloth full of hot wax. Before being colored, the wax is crushed or kneaded by hand so that the wax is cracked. The wax that breaks when it is dyed will enter the color. Pipitan batik is for married women. This batik is a symbol of the coexistence between husband and wife.

4) *Irengan* Batik comes from the word *ireng* means black. Irengan batik has a black pattern. This batik functions for the parents and the body cover. Irengan batik is sacred to reject reinforcements for the sake of the safety of the spirits who have died.

5) *Lurik* Batik; Lurik means patterned. Lurik batik is characteristic of Tuban batik. This batik is woven from Kerek District that is known as gedog batik. Lurik batik is a product known as lurik klontongan. *Lurik klontongan* is a striated fabric that uses black and white plaid/stripes motifs.

The process: it is a batik cloth with a dotted motif using wax, then dipped in red noni (*morinda citri folia*) then the wax is cleaned. Furthermore, the batik cloth becomes striated batik with white dots motif. The striated batik cloth functions as daily clothes for the people of Tuban.

In book entitled *Batik Gedog Tuban* (Bagian Proyek Pembinaan Permuseuman Jawa Timur 1993) explained that Gedog Batik is batik that uses cloth from the gedog weaving, white/brownish white. It is called *gedog* because during the process of weaving the thread into a cloth it sounds *dhog, dhog, dhog*. Karsam (2015) explained that the "batik ghedok/gedog" process is conducted in several stages, including:

A. Raw Material Processing

1) Yarn Making

a. Grinding the Cotton

The process is cleaning the cotton from the seeds. This work is called *blibis*. Then the cotton is milled called *musoni*.

b. Musoni

It is called *musoni* because the tool is called *puson*. This tool is assisted by another tool, named "*jedhul*" or *bethuk*.

After *Musoni* process, the cotton is rolled up to the size of the hand that is called a *pusuhan*. Furthermore, the cotton is ready to be picked up/weaved/spun.

c. Mengantih or Spinning

Mengantih is the process of making threads using a *jantra* tool. The essential parts of the *jantra* are the wheel, rope and grid. The grid is a tool for spinning. This tool is made of wood with a length of 20 cm in the shape of a cylinder. The front is 75 mm in diameter and the tip is pointed. The grid is connected to the enchantment wheel by means of a rope. Thus, when the spell is rotated the grid also rotates.

2) Weaving

Weaving begins with preparing the yarn into two parts. The thread that is perpendicular to the weaver is called *lungsen* and the thread parallel to the weaver is called *pakan*. The weaving process in Tuban is in Kerek Subdistrict in Beji and Margorejo Villages. These two villages produce Kerek weaving called "*Tenun Gedog*".

Karsam (2015) stated that Gedog weaving is conducted starting with preparing Lungsen Yarn and Feed Yarn with the following stages, as follow:

a. Nyekuli process

Nyekuli means to give *sekul* or rice (*nyekuli*) to the threads. Thus, the threads become stiff. So that the yarn is easy to weave.

b. Unraveling the Yarn

Preparing yarn for weaving using a tool called *ingan*. This tool is a wooden, rotating rectangular pyramid.

c. Manen

Preparing *pakan* and *lungsen* yarns.

3) Weaving Process

In general, the process of weaving Gedog batik is the same as the process of weaving cloth in other countries. The difference is that Gedog batik weaving is processed starting with making *pakan* conducted manually/by hand/not by machine. When the weaving process sounds *dhog dhog dhog*, the resulting cloth is called gedog woven cloth. The weaving process begins with the process of preparing *lungsen* and weft *pakan*. Karsam (2015) explains in full the stages of weaving below:

a. Nyurup

It is inserting the *lungsen* yarn between the spokes of the weaving comb.

b. Ngelap

It is arranging the *lungsen* threads on the part of the loom called *gebeg* or planks.

Furthermore, the weaving process is conducted like weaving in general, namely weaving lungsen and weft threads. The figure below is a picture of a person weaving and parts of a traditional loom.

Figure 1. A woman is weaving



Figure 2 The Loom

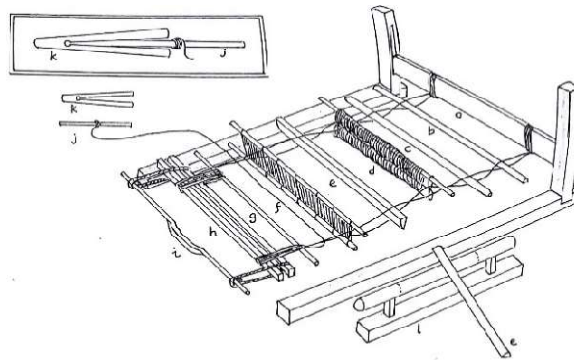


Figure 3. Names of Weaving Parts

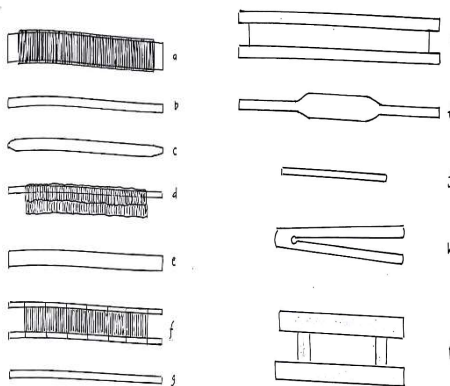
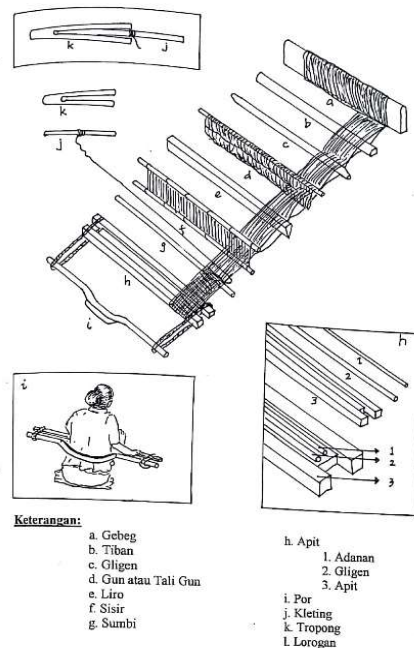


Figure 4 Weaving Tools Parts



4) Woven Result

The woven fabrics in Kerek can be categorized into 2 (two) fabrics, as follow:

a) Gedog woven fabric

Gedhok woven fabric has a unique pattern. It is because before weaving, the yarn used are already colored. The colors used are various according to the taste of the weaver/order. The yarn that has been colored, is woven based on the desired motif. Thus, after the fabric is finished, the fabric is automatically patterned.

b) Gedog batik fabric

Gedog batik cloth is a woven fabric produced in plain white/cream color. The color is white because prior to weaving, the threads used are still genuine/plain and have not been colored. Thus, the weave is a plain white sheet of cloth. This cloth is the basic material for batik. The resulting batik is known as Gedog Batik.

5) Process of Making Batik Gedog

Gedog batik can be divided into two, there are *Gedog Putih/Irengan* batik and *Gedog Soga Pipit* batik (Karsam 2015). The stages in making batik are generally the same. While the gedog batik process, the stages are:

a) Preparation and Ngetel

The yarn to be woven is previously given rice/*sekul*. After it becomes a sheet of cloth, the rice that is stuck to the cloth is still attached. Before making the batik, the rice must be cleaned, so that when the cloth is dyed, the fabric can absorb the color properly. The process of cleaning rice marks on the cloth is called *ngetel* stage.

b) Making Motif

After setting it, the next step is to make the *moti*. Because the fabric is rough with stripes, the traditional gedog batik motifs tend to use geometric motifs.

c) Ngengreng

Ngengreng is press the hot wax on the fabric following the pattern/motif design. Pressing this candle usually begins with a large motif, that is commonly referred to as *mbaboni*. *Mbaboni* comes from the word "*babon*" that means the main hen/mother/base. *Mbaboni* means to make the main motive. The batik makers in Kerek do not go through the *mbaboni* stage, they go straight to the *ngengreng* stage. The *ngengreng/nglengreng* stage is the process of giving hot wax.

d) Nerusi

While *ngereng*, if the wax does not penetrate the back of the cloth, then the cloth has to be (*canting*) repeated from behind. This process is called *nerusi*. *Nerusi* stage often occurs because the Gedog batik cloth is used more coarsely so that the wax often does not penetrate the fabric.

e) Isen-isen

There is *ngengreng* process that has been explained above. This process usually produces motifs that tend to be large. Then the large motifs are filled with small motifs inside using hot wax. This process is called making *isen-isen*. In the Gedog Soga pipit batik, after *nerusi*, it is continued directly to *nembok*. After the *nembok*, the wax is *dicoblosi*. This technique is what became known as batik with the *cocohan* technique (Bramantijo et al. 2018) After *dicoblosi*, it is fiveb *isen-isen*. The blue dots on the background of Gedog batik in Figure 5 below are the result of the batik technique of *Cocohan*.

f) Nembok

Nembok is a continuation process of *ngengreng* and *nerusi* and coloring. *Nembok* is covered with hot wax on the motif to produce the second, third and so on. The walled/*nembok* motif will not get another color, when the fabric is dyed the second color.

g) Nyoblosi

It has explained about *nyoblosi/nyocohi*. *Nyoblosi* is making holes/small dots with a needle. When dyed indigo blue (*wedel*), the hole will be exposed to color. *Nyoblosi* is the opposite of *nyeceki*. *Nyeceki* gushes with hot wax, like dots so that it doesn't get stained. *gedhok putihan/ irengan batik* process is carried out after covering, while *gedhok soga pipit batik* stage is carried out after dyeing.

h) Nyelup

Nyelup means putting the cloth in color. *Gedhok putihan/irengan batik* uses blue/*gadung* (*wedel*) as the first color. *Gedhok Soga Pipit Batik* uses red as the first color.

i) Nggadungi

Nggadungi or *gadung* means blue. *Nggadungi* is also called *mbironi* or make blue colors. After dyed blue, *Gedog putihan/irengan batik* is dyed again to brown (*soga*) for the second color. The desired motif will be blue, so the motif must be covered/walled first. Therefore, after the process is complete, the resulting batik color is white, blue, dark blue/blackish blue (*soga brown mixed with wedel blue*). This batik is called *batik gedog putihan/irengan*.

While the *gedog soga pipit batik*, after dyeing it red, continued to *nyoblosi*, giving *isen-isen*, dyed blue (*wedel*), then *nyoga*. The resulting batik cloth is white, red, and dark blue/blackish blue.

j) Nyoga

Nyoga is dyeing cloth with brown/*soga* color. *Nyoga* is conducted to get a dark blue/blackish blue color.

k) Locking the Color (Fixation)

Fixation is to lock the color so that the color of the batik when washed does not fade. Traditional batik fixation in ancient times used *endut* (wet soil) by soaking for 24 hours. Now we can use alum, limestone and arbor.




l) Nyaren/nyarena

After fixing the fabric, it is washed, then dried, then it continues to be filtered. *Saren/nyaren* is the process of repeating colors so that the color is more mature/stronger. This re-dyeing can be carried out between 5-7 times.

m) Nglorod, Waching and Drying

The final process is *nglorod* batik, washing and drying. *Nglorod* is cleaning the wax attached to the batik fabric. After the cloth is washed clean, the batik process is complete. Figures 6 and 7 are examples of *tulis gedog batik*.

Table 1. Process of Making Batik Gedog

No	Process of Making Batik Gedog	A description
1.	A <i>ngengreng</i> process	 <p>Figure 5. Gedog Bati Using <i>cocohan/coblosan</i> Technique</p>
2.	A <i>nglorod</i> process	  <p>Figure 6 <i>Ganggeng</i> Figure 7 <i>Ganggal Liris Motif</i></p>

6) Gedog Batik Staining Process

Karsam (2014) described that the process of coloring Gedog batik can be divided into two:




a) Natural Dyes

Natural dyes use *soga* (brown) and *indigo/wedel* (blue). *Soga* is made from bark and *indigo* is made from tom leaves..

b) Chemical Dyes

Chemical coloring is conducted in the same way as the traditional batik coloring process in other places. The colors used were *Naptol* and *Naptol Salt*. Figure 8-10 shows the *Gedog Putih/Irengan* batik.

Table 2. Gedog Batik Staining Process

No	Gedog Batik Staining Process	A description
1	Chemical Dyes	   <p>Figure 8 Figure 9 Figure 10</p> <p>Figure 8. <i>Lokchan Motif</i> Figure 9. <i>Panjiori Coblosan Motif</i> Figure 10. <i>Lokchan Babar Motif</i></p>

Based on the explanation above and seeing examples of gedog batik such as pictures 1 to 6, it is necessary to preserve gedog batik and meet the standardization as Indonesian batik. Thus, gedog batik can compete in the market.

Standardization is an effort to determine the rules/measures that must be followed in creating/producing something (Fahrudin 2018). Standardization can also be interpreted as a standard-making process. The word standard comes from the word standard (standardization). In Indonesian, it is translated into standardization (Badan Standardisasi Nasional 2014).

As a form of empowerment in the marketing process, batik standardization can be categorized as Business Model Standardization. Standardization of the Business Model based on the Indonesian Academy Franchise (2020) can be categorized into two (2) parts, there are Standardization of Process and Standardization of Forms.

Standardization of process is divided into three (3) processes, as follow:

- 1) The marketing process, it consists of branding, promotion and sales.
- 2) Operational processes, it consists of service, transactions, production, customer acceptance, and maintaining customer relationships.
- 3) The process of financial management and administration consists of secretarial, HRD, and general affairs.

Meanwhile, the standardization form can be:

- 1) Legality and licensing
- 2) Design
- 3) Operational equipment
- 4) Equipment or attributes of the building/shop
- 5) Size of the building
- 6) Location criteria
- 7) Other things that are necessary before the business starts

Nowadays, what is known as the Industrial Revolution 4.0 is when information technology, and art are very developed, so, managing standardization of batik will not experience problems. Kemala (2018) explained that the notion of information technology (IT) according to Haag and Keen is that IT is a set of tools that can help humans work by using information to do their work related to information processing. Whereas in the Oxford English Dictionary dictionary, IT is hardware and software, that includes networking and telecommunications usually in a business context (Kemala 2018). The functions of TI are:

- 1) Capturing

Capturing means input for example, receiving input from a scanner, mic, keyboard, and others.

- 2) Processing

Processing input data to become information, can be in the form of analyzing, converting, and calculating (calculation).

- 3) Generating

It generates information in the form of a report that can be understood by others. Examples include tables, charts, reports, and pictures.

- 4) Storage

Recording data and information into a medium can be used for many purposes such as saving to flash disk, hard disk, tape, and others.

- 5) Retrieval

It is browsing to retrieve information/copy stored data.

- 6) Transmission

Sending data or information through computer networks from location/place to another location.

One of the greatest inventions in the era of RI 4.0 is the internet and the development of smartphones. The internet makes IT grow. Based on the 6 IT functions mentioned above, by using IT

and the internet, marketing can be run quickly. The enlargement model using IT today is better known as Online Marketing/Sales. The development of science and technology does not all have a positive impact. Sometimes, it has a negative one. One of the negative impacts is the presence of a virus known as covid-19.

In <https://covid19.go.id/> (Satuan Kerja Penanganan COVID - 19, 2020) it was explained that WHO (World Health Organization) on March 9, 2020 officially declared or declared a pandemic of the corona virus (COVID-19). The corona virus has spread throughout the world. The term pandemic refers to the widespread spread of the virus. The corona virus can cause symptoms such as fever, shortness of breath and cough. However, it can recover in a few weeks. However, it is at high risk for the elderly who have congenital diseases such as high blood pressure and heart disease.

With the COVID-19 pandemic around the world, it has caused restrictions on society in carrying out activities. All countries carry out PSBB (Large-Scale Social Restrictions). This social restriction has a negative impact on the economy of all countries. Sri Mulyani (Indonesian Minister of Finance) on the web <https://www.cnbcindonesia.com/> (Mulyani 2020) stated that since the beginning of March 2020, the pandemic had a bad impact on the economy. In the second quarter of 2020, the economy immediately contracted to minus 5.32%.

Hawangga Dhiyaul Fadly and Utama Utama (2020) argued that the impact of the COVID-19 pandemic is the downturn in the world of economy and business. Therefore, marketers/entrepreneurs are obliged to find solutions in order to market their products/services to consumers. Businesspeople conduct digital branding and online marketing as a medium of communication for their target consumers.

Maskarto Lucky Nara Rosmadi (2021) revealed that business strategies that can be applied by MSME players, such as Micro, Small, and Medium Enterprises during the COVID-19 pandemic is through social media.

This research includes two fields, there are marketing and the field of art. (Rohidi and Rohendi 2011) explained that art data are generally in visual, auditory, and kinetic forms. However, it can be data that combines visual and auditory data or all three. The data are intra-aesthetic data that can be presented as facts accompanied by descriptive explanations. Meanwhile, data related to marketing can be presented in qualitative and quantitative forms.

The method used was direct exploration/practice and descriptive qualitative methods. The report was described in descriptive form. Data obtained were through observation, direct practice. Researchers acted as subjects and objects of research. Researchers were batik marketing actors and batik craftsmen. In addition, a literature review/internet source was also conducted, and in-depth observations were made. To find out the problems in sales, a direct practice method was carried out, such as product sales, development of motifs, development of fabric functions

3. Case Studies

In the era of the industrial revolution 4.0, this can be considered to be a modern era with the use of sophisticated technology tools. This condition harms the position of traditional products/services. This research would provide efforts to preserve, standardize, and TI 4.0 traditional batik/ gedog Tuban batik in order to be able to compete in marketing at this time (during the COVID-19 pandemic). The following will describe the results of research on efforts to preserve, standardize, and IT 4.0 traditional Gedog Tuban batik in order to be able to compete in marketing during the COVID-19.

A. Preservation of Batik Gedog

In 2015, researchers/writers had conducted research with the title *Batik Tulis Gedog Tuban: Pelestarian dan Ekspansi Pasar Untuk Menghadapi Masyarakat Ekonomi Asean* (Karsam 2015). From this research, it is explained that efforts in the preservation of Gedog Tuban batik are:

- 1) Loving and willing to wear batik made in Indonesia.
- 2) Supporting government efforts to wear batik on Fridays. Thus, Tuban can also conduct this by using gedog batik.

- 3) Increasing the use of batik materials/improving the quality.
- 4) Making motifs according to the global market
- 5) Holding promotion or exhibition

Besides those described above, one of the efforts to preserve the Gedog Tuban batik is to develop the benefits or functions of the Tuban gedog batik. Researchers know that in the field, in Kerek District, many woven fabrics for gedog batik fabric were not used properly by batik craftsmen. Based on this condition, the researchers tried to use the fabric for other objects.

In 2017, researchers conducted Community Service with the title *Tote Bag Berbahan Tenun Gedog Sebagai Produk Penunjang Bagi UKM Tenun dan batik Gedog Tuban* (Bramantijo, Karsam, and Totok 2017). The results of this dedication was extraordinary, the community is actively making Tote Bags not only using Gedog batik but also using Gedog woven cloth which is still plain. The result was able to increase the economic value of the Kerek community.

Other efforts that can be made to preserve or develop Tuban Gedog batik are *Pemberdayaan Ukm Batik Melalui Pengembangan Desain Motif Berbasis Kearifan Lokal* (Empowerment of SMEs Batik through the Development of Motif Designs Based on Local Wisdom).

In 2017 researchers have carried out Community Service with the title *Empowerment of Batik SMEs Through the Development of Motive Designs Based on Local Wisdom: Efforts to Build a Jombang Batik Brand Image* (Wibowo *et al.* 2019). From the results of this Community Service, this can be done by training and empowering batik craftsmen who join SME. Researchers provided training to develop local wisdom-based motifs. In addition, it was developed to use a batik pelorod machine. In which this *pelorod* machine did not reduce the values of traditional batik art. Community service was then developed towards accelerating production. During the rainy season, the batik craftsmen couldn't produce because there is no heat from sun. To overcome this case, the researchers made one effort. It was the creation of a batik oven room (Wibowo *et al.* 2020). After the creation of the oven room with a size of 3m x 3m, it was able to produce batik cloth quickly. How much is the number of increments depends on how much space the oven is made and the amount of labor of the batik craftsmen.

After the Gedog batik fabric could be preserved and in order to be able to compete with other batik, the Gedog batik cloth must meet the standards as batik made in Indonesia, such as batikmark made in Indonesia.

B. Batik Standardization

In 2019-2020, researchers had conducted research entitled *Batik Standardization as Batik Artisan Empowerment Model For Marketing Process* (Widiana, Karsam and Hidayati 2020), In this research, we have found a strategies to standardize batik. The strategies are:

1) Organization/Association/Group Formation

In quality assurance, we need a quality assurance agency/organization of a product/service.

To find out the quality of a batik product that meets the standardization of batik as "Indonesian batik, it must be tested in a lab." In Indonesia, batik quality assurance organization is managed by the Yogyakarta Batik and Craft Center (BBKBY).

2) Preparation of Standard Operating Procedures (SOP)

After quality assurance is carried out through a quality assurance organization, it is necessary to have a Standard Operating Procedure (SOP) that functions for the management and preservation of batik.

3) Licensing or Legality (Trademark and SIUP)

Directorate General of Intellectual Property, Ministry of Law (HKI) and Human Rights of the Republic of Indonesia (Direktorat Jenderal Kekayaan Intelektual Kementerian Hukum dan HAM Republik Indonesia 2020) explains that a Mark/Trademark is a sign/symbol embodied in the form of words, graphics in the form of names, logos, images, letters, numbers, color arrangements, in 2 (two) dimensional and/or 3 (three) dimensional forms can be in the form of sound, holograms. A

person/business entity conducting trade is required to have a business identity. This business identity is in the form of a trademark. With the existence of this Trademark or identity, business entity that has a trading business is expected to be able to safeguard the IPR of another person/ business entity.

4) Quality assurance

Customer satisfaction is the most important factor in creating customer relation that affects the success of the company (Jurnal manajemen 2019). The quality of products and services can affect customer satisfaction. Therefore, to be able to compete with other batik, the quality assurance of Gedog Batik must always be conducted. Quality assurance includes quality assurance of designs, services, infrastructure, and others. Quality assurance in this research is the quality assurance of batik cloth products. The quality assurance of batik cloth products can be presented by obtaining a batik label, namely "batikmark". In 2021, there are 3 types of Indonesian batik products that meet SNI as the Indonesian Batik Standard, such as written batik, printed batik and combination batik. This Indonesian batik standard label is known as the Batikmark. It is a sign that shows the identity/characteristics of batik made in Indonesia. The following figures of the batikmark label (Karsam 2019).

Figure 11. *Tulis/Handmade* Batik batikmark label



Source: Karsam 2019

Figure 12. Batik cap batikmark label



Source: Karsam 2019

Figure 13. Combined batik batikmark label



Source: Karsam 2019

5) Identification/labeling

After getting the Batikmark label, the label must be attached to the batik cloth to be sold.

The purposes of labeling batik products (Nugroho 2017) are:

- a) Consumers know/recognize that the product is Indonesian batik.
- b) Consumers are not wrong in choosing batik products
- c) Giving a guarantee of customer satisfaction
- d) Able to protect Indonesian products from IPR
- e) Giving confidence and comfort to consumers on the quality/image of Indonesian batik in the international level.

6) Socialization and promotion

There is a socialization about Batikmark to the Indonesian people. In accordance with the current era of 4.0, the socialization of batik marks is very easy to do. This socialization can be via the internet, whatsapp, web, youtube, TV, Instagram, Facebook, government regulations, and others.

The purpose of the socialization is to make Indonesian people know about batik "Indonesian batik". In addition to the business socialization that must be done is promotion.

7) Supervision of government, employers/private organizations

Government Regulation in lieu of Law Number 8 Year 1962 concerning Trade in Goods Under Supervision (Peraturan Pemerintah Pengganti Undang-Undang Nomor 8 Tahun 1962, n.d.). Article 5 paragraph (1) With/based on a Government Regulation it is stipulated that supervision can be controlled and undertaken by:

- a) Ruler;
- b) Joint rulers with entrepreneurs/private organizations;
- c) Entrepreneurs/private organizations.

For those who violate the Trade Law, their SIUP or business license certificate will be revoked and will be sanctioned. This is conducted with the aim of the marketing/trading process in Indonesia running smoothly. It has been explained above that various efforts to bring gedog Tuban batik to be competitive, is to preserve and standardize. Thus, the next step is to do promotion and marketing.

C. Online Promotion and Marketing

One of the efforts that can be made in increasing the marketing of batik cloth to be able to compete is through online promotion and marketing.

In 2017, researchers conducted research with the title *The Image Product of The Locality and Product Branding Towards Tuban Gedog Handmade Batik Trough Packaging* (Bramantijo, Hidayat, and Karsam 2017). In this research, it was explained that in order for batik to be sustainable and able to compete in market, it is necessary to have promotion and good batik packaging. Under no circumstances must promotion be carried out in marketing, especially in the Covid-19 pandemic. Promotion must be presented in a digital way (Fadly,Hawangga Dhiyaul Utama 2020). Online promotion and marketing can be done using applications such as the web, facebook, instagram, whatsapp, and line.

At present, the international world is facing the same thing called the covid-19 pandemic. Pandemic limits the movement or activities of all humans in this world. Even though human biology needs to live (eat). The need for food is related to economic needs, so the economy must continue to run during this Covid-19 pandemic.

Denny Santoso as Founder and CEO Tribelio.com in liputan6.com (Santoso 2020) stated that in pandemic conditions, businesses are more encouraged to optimize their online/digital sales. For online businesses, the right marketing strategy is needed in order to attract customers. In the marketing strategy, entrepreneur must pay attention to Segmentation, Targeting, and Positioning (STP).

Gedog Tuban Batik is a traditional batik with certain characteristics and characteristics. Batik Gedog Tuban has a clear Unique Selling Proposition (USP). Not everyone likes batik with this condition, so marketers/craftsmen must market intelligently. The segmentation or the target market/ consumer must be right on target.

Conclusion

The results of the research can be concluded that in order to examine the efforts to preserve, standardize, and IT 4.0 traditional batik/ gedog Tuban batik to compete in marketing (the COVID-19 pandemic era), it needs some efforts as follow

1. To preserve gedog Tuban batik, it can be run in a way:
 - a. Loving the gedog batik
 - b. Improving the quality of the fabric
 - c. Developing other functions by combining with other materials
 - d. Using technology such as machines for melting and color drying to speed up production
2. Standardizing the Gedog Tuban batik fabric consists of 7 aspects:
 - a. Organization/Association/Group Formation

- b. Preparation of Standard Operating Procedures (SOP)
 - c. Licensing or Legality (Trademark and SIUP)
 - d. Quality assurance
 - e. Identification/labeling
 - f. Socialization and promotion
 - g. Supervision of government, employers / private organizations
3. During the COVID-19 pandemic, marketing must be presented using digital promotion and online marketing with the right STP.

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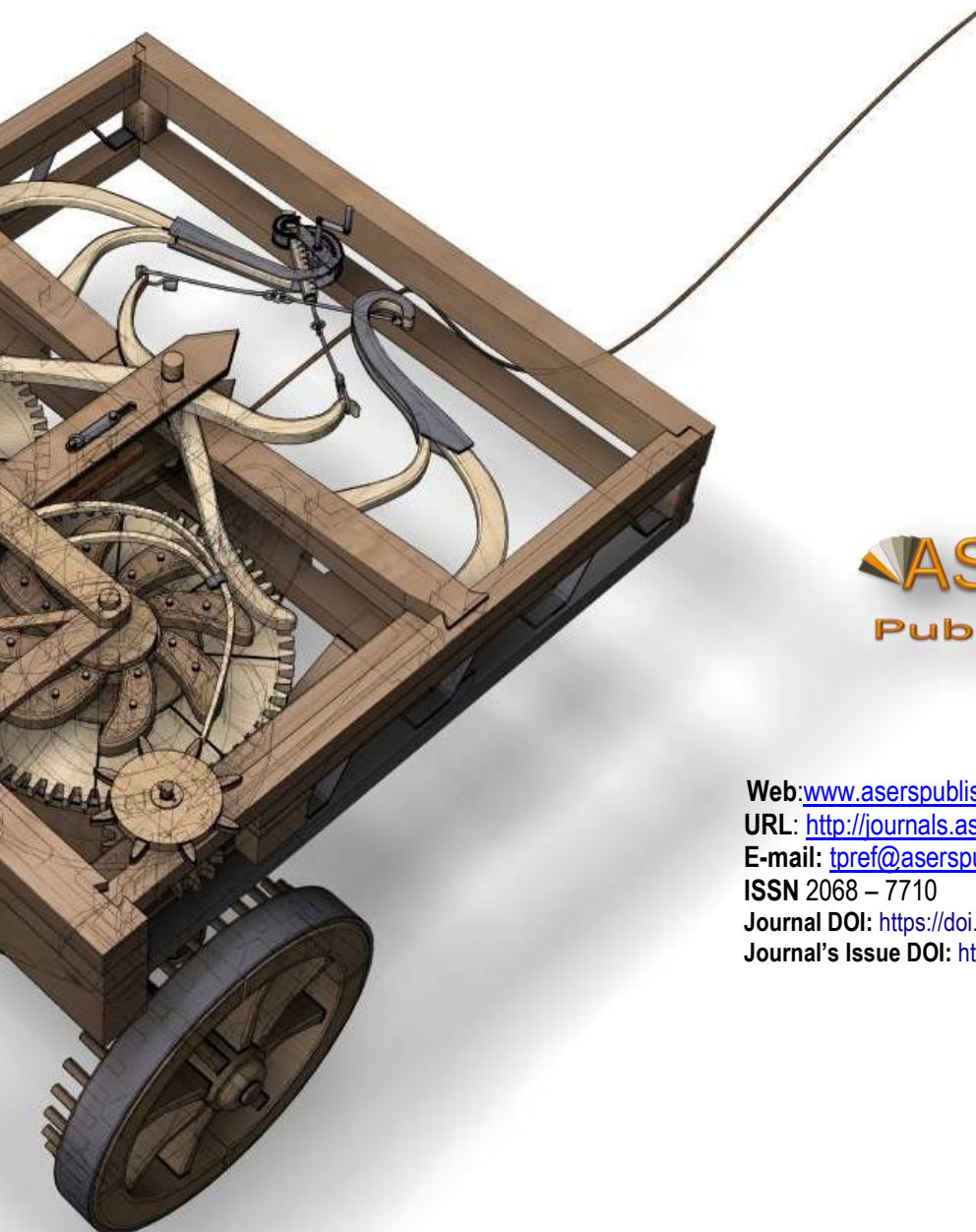
Derivative Contract: 005/AMD-SP2H/LT-MONO-TERAP/LL7/2021, 15 July 2021
003/VII/2021/LPPM/UBHARA, 19 July 2021.

References

- [1] Bramantijo, Karsam, and P Totok. 2017. "Tote Bag Berbahan Tenun Gedog Sebagai Produk Penunjang Bagi UKM Tenun Dan Batik Gedog Tuban." *Batoboh: Jurnal Pengabdian Pada Masyarakat* 2 (2 Oktober). Available at: <https://journal.isi-padangpanjang.ac.id> (in Indonesian)
- [2] Bramantijo, M Junaidi Hidayat, and Karsam. 2017. "The Image Product of The Locality and Product Branding Towards Tuban Gedog Handmade Batik Trough Packaging." In *6th International Seminar On Nusantara Heritage*. Denpasar Bali: Insitut Seni Indonesia Bali.
- [3] Bramantijo, M Junaidi Hidayat, Karsam, and Mahjudin. 2018. "Pengembangan Desain Motif Cocohan Dan Desain Kemasan Pada Batik Gedog Tuban Sebagai Upaya Revitalisasi Dan Meningkatkan Daya Saing Produk Ukm." (in Indonesian)
- [4] Djumena, N. S. 1990. *Batik and Its Kind*. Jakarta: Jakarta Djambatan.
- [5] Fadly, Hawangga Dhiyaul Utama, Utama. 2020. Membangun Pemasaran Online Dan Digital Branding Ditengah Pandemi COVID-19. *Jurnal Ecoment Global UGM. Kajian Bisnis Dan Manajemen*, 5 (2). (in Indonesian)
- [6] Fahrudin, Iman. 2018. "Mengenal Pengertian Standardisasi, Tujuan Serta Manfaatnya." *Www.Caraprofeser.Com*. 2018. Available at: <https://www.caraprofeser.com/mengenal-pengertian-standarisasi/> (in Indonesian)
- [7] Karsam. 2005. "Seni Membatik Tulis Di Kota Bharu, Kelantan, Malaysia Dan Di Kabupaten Tuban, Jawa Timur, Indonesia: Satu Kajian Perbandingan." Kuala Lumpur: Universiti Malaya.
- [8] Karsam. 2014. Pelestarian Dan Ekspansi Pasar Batik Tulis Gedog Tuban Di Era Globalisasi. *Jurnal Budaya Nusantara "Budaya Adiluhung"*, 1 (1): 41–53. (in Indonesian)
- [9] Karsam. 2015. "Batik Tulis Gedog Tuban: Pelestarian Dan Ekspansi Pasar Untuk Menghadapi Masyarakat Ekonomi Asean." In *Seminar Nasional Pengembangan Budaya Nusantara Berbasis Industri Kreatif Menyambut Era Masyarakat Ekonomi Asean (MEA)*. Surabaya: Universitas PGRI Adi Buana Surabaya. Available at: <https://karyailmiah.unipasby.ac.id/category/prosiding-2/page/6/>
- [10] Karsam. 2019. *Batik Dari Masa Keraton Hingga Revolusi Industri 4.0*. Surabaya: CV. Revka Prima Media. (in Indonesian)
- [11] Kemala, P. 2018. "Pengertian Teknologi Informasi, Serta Tujuan Dan Fungsinya." *Teknologi.Id*. 2018. Available at: <https://teknologi.id/insight/pengertian-teknologi-informasi-serta-tujuan-dan-fungsinya/> (in Indonesian)

- [12] Mulyani, S. 2020. Dampak PSBB: Luar Biasa Serious. Cnbcindonesia.Com. 2020. Available at: <https://www.cnbcindonesia.com/>
- [13] Nugroho, A. 2017. *Lebelisasi Batikmark "Batik Indonesia."* Yogyakarta: Balai Besar Batik Indonesia, Kementerian Perindustrian Republik Indonesia.
- [14] Peraturan Pemerintah Pengganti Undang-Undang Nomor 8 Tahun 1962. n.d. "Tentang Perdagangan Barang-Barang Dalam Pengawasan."
- [15] Rohidi, and Tjetjep Rohendi. 2011. *Metodologi Penelitian Seni*. Semarang: Cipta Prima Nusantara.
- [16] Rosmadi, M.L. N. 2021. Penerapan Strategi Bisnis Di Masa Pandemi Covid-19. *Jurnal IKRA-ITH Ekonomika* 4 (1). Available at: journals.upi-yai.ac.id
- [17] Santoso, D. 2020. Strategi Pemasaran Penting Demi Gaet Pelanggan Di Masa Pandemi. *Liputan6.Com*. 2020. Available at: <https://www.liputan6.com/bisnis/read/4411052/strategi-pemasaran-penting-demi-gaet-pelanggan-di-masa-pandemi> (in Indonesian)
- [18] Satuan Kerja Penanganan Covid - 19. 2020. *Apa Yang Dimaksud Pandemi?* Covid19.Go.Id. 2020. Available at: <https://covid19.go.id/> (in Indonesian)
- [19] Wibowo, Nugroho Mardi, Karsam, Yuyun Widiastuti, and Siswadi. 2019. Pemberdayaan Ukm Batik Melalui Pengembangan Desain Motif Berbasis Kearifan Lokal: Upaya Membangun Brand Image Batik Jombang. *Jurnal Sinergitas PKM & CSR*, 4 (1). Available at: <https://ojs.uph.edu/index.php/JSPC/article/view/2094> (in Indonesian)
- [20] Wibowo, Nugroho Mardi, Karsam, Yuyun Widiastuti, and Siswadi. 2020. "Penciptaan Keunggulan Bersaing Ukm Batik Melalui Penerapan Teknologi Pengering Batik Dan Digital Marketing." In *Prosiding PKM-CSR*. Available at: <https://prosiding-pkmcsr.org/index.php/pkmcsr/article/view/759> (in Indonesian)
- [21] Widiana, Muslichah Erma, Karsam, and Kusni Hidayati. 2020. "Batik Standardization as Batik Artisan Empowerment Model For Marketing Process." *European Journal of Business and Management*, 12 (27). Available at: <https://iiste.org/Journals/index.php/EJBM/article/view/54221>
- [22] Badan Standardisasi Nasional. 2014. "Pengantar Standardisasi (Ed-2)." Jakarta.
- [23] Bagian Proyek Pembinaan Permuseuman Jawa Timur. 1993. "Batik Gedog Tuban. 1992/1993."
- [24] BPS. n.d. "Kabupaten Tuban Dalam Angka. 2000. Tuban Badan Pusat Statistik Kabupaten Tuban." (in Indonesian)
- [25] Direktorat Jenderal Kekayaan Intelektual Kementerian Hukum dan HAM Republik Indonesia. 2020. "Pengenalan Merek." *Dgip.Go.Id*. 2020. Available at: <https://dgip.go.id/pengenalan-Merek> (in Indonesian)
- [26] Franchise Academy Indonesia. 2020. "Standarisasi Bentuk Dan Standarisasi Proses." Franchise Academy Indonesia. 2020. Available at: <http://franchiseacademyindonesia.com/>
- [27] Jurnal manajemen. 2019. "Manajemen Mutu : Pengertian, Tujuan, Proses, Manfaat Disertai ISO." *Jurnalmanajemen.Com*. 2019. Available at: <https://jurnalmanajemen.com/manajemen-mutu/>

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