THE INNOVATION OF MICRO, SMALL, AND MEDIUM ENTERPRISES:A CASE STUDY OF LAWEYAN BATIK VILLAGE – INDONESIA

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ABSTRACT

The main disadvantage of micro, small, and medium enterprises (MSMEs) is limited resources. Facing competition from large companies, MSMEs must have a new resource to survive, which is innovation. Innovation has a good impact on MSMEs to enhance stability and increase profitability. This research is conducted to study innovation in small enterprises, especially small batik firms in Batik Laweyan Village. This paper answers two questions: (1) What kinds of innovation have been done by small batik enterprises in Laweyan Batik Village? (2) How is the performance of small batik enterprises in Laweyan Batik Village that have done innovations?

The research concludes that: (1) The innovation in small batik enterprises in Laweyan Batik Village is focused on products, and the type of innovation is incremental. Moreover, the source of innovation comes from the skills of its owners/managers and employees. (2) The impact is an increase in quality and the obstacle is how to put innovation into practice. By doing innovation, small firms' revenue and profit have increased.

Keywords*: innovation, MSMEs, industrial cluster.*

Introduction:

In developing countries, MSMEs (micro, small, and medium enterprises) are found as the most innovative enterprises (Keizer et al., 2002). Research in India explained that the 6-8% improvement in India's economy is due to the small enterprise sector that continually develops. The 2007 NKC (National Committee Knowledge) research mentioned that the small enterprise innovative activities stimulate economic growth, starting with increasing employment and forming a culture for entrepreneurship. In addition, innovation also enables small enterprises to compete with large companies.

The Indonesian economy is closely related with the role of small enterprises; economic growth has a positive relationship with the growth of small enterprises. However, there are many small firms in Indonesia that are unaware of the important role of innovation. They assume that innovation can only happen in large firms, as they have enough money and an R&D department. However, other research emphasizes that innovation is needed by firms to make them able to compete and survive. For small firms, innovation can be found in the product, process, or organization (McKeown, 2008). Small firms do not need to innovate by making fundamental changes but may innovate only by adding something to the old product (Drucker, 1991). In many industrial clusters where various small firms gather together, innovation becomes a factor that stimulates the growth of the cluster. One of the important industrial clusters is Laweyan Batik Village (LBV).

This research intends to answer the following questions: (1) What kinds of innovation are done by small firms in LBV? (2) How is the performance of these firms which do innovation?

Theoretical Framework:

MSMEs Innovation, Performance, and Industrial Cluster:

Innovation is an important competitive factor for firms in facing a dynamic market. Schumpeter (1934, in Andadari 2008) defines innovation as "the commercial or industrial application of something new – a new product, process, or method of production; a new market or source of supply; a new form of commercial, business, or financial organization." Innovation is an action which provides strong resources and new abilities to create welfare. Innovation creates resources which are economically advantageous (Drucker, 1991:33). Innovation will take the form of a discovery like a new product; new production process; new market; or new form of a commercial organization.

The performance within an organization is the answer to the success or failure of an organization. Bernardin and Russel (in Ruky, 2002) provide an understanding of performance as "the record of outcomes produced on a specified job function or activity during a time period". Simanjuntak (2005) suggests performance is the level of achievement for the implementation of specific tasks. Therefore, the performance of the company is the level of achievement of results in order to realize the firm's goal. Firm performance is the result of a process at the expense of resources. In other words, performance is manifested in a variety of activities to achieve company goals. Because each of these activities requires resources, performance will be reflected in the use of resources to achieve firm objectives. The performance of an organization is an indicator of success and failure in the management of the organization, as seen from the achievement of organizational goals that have been set. Performance measurement is important for management to evaluate the company's performance and future planning purposes. Many factors affect the performance of firms, one of which is innovation.

According to Rabelloti (1995), a cluster (an industrial cluster) is a group of small enterprises that are located in a district and have relationships based on a market, non-market, information, and society. Schmitz and Nadvi (1999), for instance, define a cluster as a sectoral and spatial concentration of firms. Porter (1998) gives an advanced definition by specifying clusters as groups of companies and institutions co-located in a specific geographic region and linked by interdependencies in providing a related group of products and/or services. Although Porter stresses the importance of interdependence, he does not explicitly mention the cultural and social characteristics of a cluster. Interdependence distinguishes an industrial cluster with a proximity/concentration of a group of firms, also confirmed by Rabellotti (1995). Rabellotti states that a key factor required in an industrial cluster is specialization and the division of labor between firms in the cluster. A cluster has the same cultural ties and has signs which are understood by a certain cluster. Within a certain cluster, a certain general and special network with a goal as an activity supporter within the cluster can be found. In a cluster, innovation is conducive.

Types of Innovation:

All innovation is something new (McKeown, 2008), but it has several levels associated with the type of innovation. The type of innovation involves incremental, radical, and revolutionary innovation.

- Incremental innovation. This innovation takes a small step within the innovation process. An innovation does not have to produce something which is completely new. Innovation can add additional functions to a certain product without having to change the shape of the product to become a completely new product.
- Radical innovation. This type of innovation takes a big step, creates a solution, or makes a way out that is very different. Radical innovation changes almost everything about a certain product, process, or organization.
- Revolutionary innovation. This is an innovation which discovers a new breakthrough, which was previously not there, and is usually related with technology like electrical and telephone discoveries.

An incremental innovation can influence the appearance of a radical innovation, and a radical innovation can also stimulate the appearance of a revolutionary innovation.

A firm that does innovation will certainly focus on a target. The target or focus of the innovation includes the product, process, and organization.

- Product. The innovation includes a new product and new characteristics from an existing product. The process that makes a product changes incrementally or radically.
- Process. The process of an innovation refers to a new way to do something. Within the production, it may be done with the same way but better, more efficient, and more reliable.
- Organization. Innovation in an organization finds something new from the organizational structure and management of personnel. The product and processes may be the same, but the way to organize people can be different, like a bureaucracy.

An innovation will certainly go through the above stages, whether it is only an additional innovation, or takes a big step to become a radical innovation, or makes a breakthrough to change something non-existent to become existent.

Sources of Innovation:

Innovation does not occur spontaneously, but has to go through planning that will produce a positive result (Skogen, 2007). This signifies that one must know the sources of innovation before determining the goal to do an innovative activity. Innovation can originate from several factors, which are:

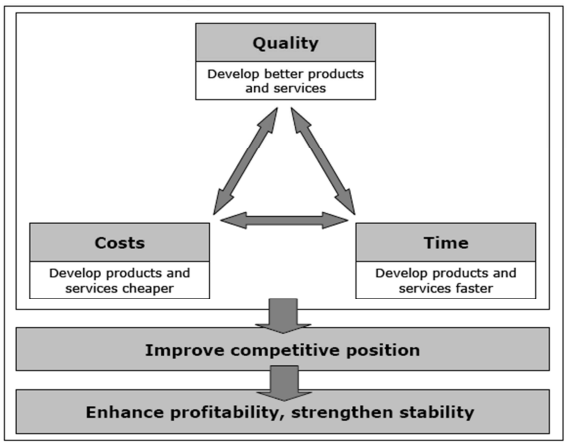
- Government partnership. Several explicit programs to handle the direction of innovation from various kinds of enterprises have been formed in advanced and developed countries. An NCK (National Committee Knowledge) survey in 2007, in India, proves that an enterprise that participates in a government program is far more active and innovative. Several government programs which are put into action can strongly influence an innovation. The government plays a big role, including providing laboratory facilities for research and development, opening a new market, and funding. A public-private partnership program becomes an instrument that can then become a culture for an enterprise to innovate.
- R&D labs and universities. The role of educational institutions in doing R&D cannot be denied. Research done by Tiwari and Buse (2007) found that a cooperative effort between small firms with university or R&D labs can be said to be a "powerful and competitive tool", an instrument that supports small firms which are limited in resources. It was also explained that an enterprise that cooperates with R&D labs or universities is more innovative in their operations compared to those which do not have a cooperative effort. Output produced by universities or R&D labs can be used or commercialized by small firms faster and cheaper. This collaboration is a vehicle for the economic advancement of small firms.
- Skills of managers and employees. A difficulty that is usually faced by a small enterprise is in finding a skilled and creative workforce. Reinberg and Hummel (2004) mention that the scarcity of a workforce is due to different growth areas, which causes differences in the educational levels, and interest of academicians in knowledge and technology. However, a survey done by Tiwari dan Buse (2007) explains that innovation mostly arises from skilled and creative workforces owned by small firms.
- Networking (Cluster). An industrial cluster or networking indirectly influences the appearance of an innovation. Frequent contact with competitors, buyers, and suppliers, lets small firms easily copy or modify innovation and adjust accordingly. This process is known as an adoption (Skogen, 2007), a strategy frequently applied by small firms to stay competitive in an industrial cluster. The greater the number of networks, the more innovation will appear. A small enterprise that is located in a strong industrial cluster tends to be more innovative and dynamic compared to a small and medium enterprise that is isolated (Baptista and Swann, 1998).

Effects of Innovation:

The primary goal of an innovation is to improve the firm performance. The effect of innovation depends on the firm itself; the available human resources, finances, and ability to take advantage of the available opportunities. In terms of process, performance from a small enterprise is seen from the production process that is more efficient, an increase in market shares, and a higher profit (Dangayach, 2005). In an internal production process, the performance effort can be measured in three variables that are quality, cost, and time (Tiwari and Buse, 2007).

Quality is emphasized in developing the good and service being produced. Cheaper is stressed in developing effective production costs, and faster is stressed when developing time in the production process. These three variables: quality, cost, and time, can be modeled as goals of innovation. The model is called a "BCF Model" for innovation of MSMES, which means better, cheaper, and faster.

Figure 1: BCF Model



Source: Tiwari and Buse, 2007

The purpose of all development is to be able to compete with other competitors or secure a company's position in the market. When firms are able to compete with competitors, there will be an increase in profit and a strengthening of stability.

Barriers to Innovation:

Usually an obstacle will originate from an internal and external factor. An internal factor is limitations in knowledge and comfort level of an enterprise that result in a resistance to change. External factors originate from outside the enterprise and involve cultural norms or rules that cannot be changed, which will hinder an enterprise to do innovation.

Barriers to innovation can also be classified into 3 categories: psychological, practical, and value and authority obstacles.

- Psychological obstacles. These obstacles are found when the psychological condition of an individual becomes a factor of refusal. Psychological barriers happen when people and a system reject a change. An example is the dimension of trust/safety versus distrust/discomfort. This is chosen because it is viewed as a very important innovative element. Other psychological factors which can result in refusal of a change are: feelings of guilt, need to confess, or desire to control.
- Practical obstacles. Practical obstacles are refusal factors that are more physical in nature like time, resources, and system. These factors often prohibit or slow change in an organization and social system.
- Value and authority obstacles. Value and authority obstacles are a fact that an innovation is in sync with the values, norms, and traditions that are followed by a certain party or area. If the innovation conflicts with the values and authority, then clashing will ensue and refusal toward innovation will appear.

Indonesia Literature on MSME Innovation:

In general, innovation is highly dependent on the technology used by a company. The technology involves production technology and information technology. Innovation in production technology may occur in the process, product, or function, while the information technology allows for innovation outside the above areas such as marketing. In many developed countries, small firms are the source of innovation in both the manufacturing of the product and process, where commercialization is then carried out by a large business. These conditions generate a mutual relationship between small firms and large firms.

Sharif (2008) argues innovation by small firms in Indonesia is very limited and even minimal. The production technology applied to small firms in manufacturing is generally low-tech. It is the same with innovation. If innovation happens, the level of sophistication in the innovation is also low. In production technology, one of the characteristics of small firms is that many businesses use local resources. Since the type of product produced is not very sophisticated, the type of technology used is not too advanced. Given the level of technology used, the utilization of local resources is not done optimally. In addition, small firms also face the problem of low productivity, in which the technology does not function efficiently and does not support an increase in a small firm's competitiveness.

Sutrisno (2011) identifies problems and constraints faced by small firms associated with their technology: (1) low capital ownership and access to capital results in small firms being unable to buy / create technology; (2) a low quality of human resources to deploy the technology; (3) a lack of information technology; (4) low protection against the technological innovations among small firms; (5) a lack of capacity building in technology; and (6) a lack of available facilities to support technological applications. Meanwhile, Sharif (2008) emphasizes that the low productivity and product quality of small firms causes low incomes. This situation is a vicious cycle because the low-income makes it difficult for small firms to increase savings, making them unable to obtain the desired technology.

For micro firm technological mapping done by the Ministry of Cooperatives and SMEs in 2008, it shows that only a small percentage of small firms (21.34%) were able to apply technology, and they are limited to small firms in manufacturing and transportation. There are several reasons why small firms do not take advantage of technology in the production process: (1) a lack of human resource skills; (2) difficulty in obtaining a loan to purchase technological equipment; (3) a lack of information about required technology; (4) research and development institutions do not have an optimal role to support technological innovation; and (5) government programs are not effective (Sutrisno, 2011).

Meanwhile, regarding information technology, Iswari and Wahid (2007) found that the adoption of information technology (IT) by small firms is still low. Many factors are obstacles to the adoption of IT, such as there is no need for IT to support business processes and a lack of financial support. The adoption of IT by some small firms is still at the operational or opportunistic level, and has not yet been applied at the strategic level. The low adoption of IT by small firms in Indonesia is affected by many factors. These factors are largely internal.

From the description above, it can be concluded that innovation in small firms is still low in both manufacturing technology and information technology. Besides the type of technology used by small firms is low, it is also due to many obstacles faced by small firms, primarily from internal sources.

Research Method:

This research is a qualitative research. It discusses innovation conducted by small firms. The data is collected from batik business people in LBV in Solo. In 2010, the population of the LBV is about 60 firms, and there are 30 batik firms taken as the sample. Interviews are conducted using semi-structured questionnaires. Observations are also conducted during visits to the cluster location.

In measuring the firm performance, classification of the score of indicators is based on the following categories.

1.00 to 1.80 = Dropped a lot

1.81 to 2.60 = Dropped slightly
2.61 to 3.40 = Same
3.41 to 4.20 = Increased slightly
4.21 to 5.00 = Increase a lot

Innovation in Laweyan Batik Village:

In Indonesia, batik products are produced in many places. Among many cities that are famous as batik producers, one of them is Solo. Based on the production process, there are many types of batik: handmade or manual, stamped, and printed. Some people do not consider printed batik as batik since the method applies advanced technology, whereas original batik relies on a handmade method. The batik industry suffers from competition of printed batik, not only because of the cheaper price but also better quality.

Laweyan Batik Village is an area located in the northern part of Solo, which recently is getting much attention because of the development of its batik industry. Solo batik is famous with its traditional designs and patterns. During the 19 century, Solo batik was developed and many people earned their income from batik as entrepreneurs or employers. However, when printed batik was introduced extensively in 1970, LBV started to decline and become stagnant. Many batik enterprises, including firms in this village, went bankrupt and many people lost their jobs.

Concerned with the development of LBV in the past, in 2004, the local government revitalized LBV by integrating the policy of industrial cluster development with tourism. Since then, the batik industry in this village has been developing together with the development of tourism.

In 2004, a Laweyan Batik Village Development Forum (FPKBL) was set up. This forum was established to discuss how to optimize all of the potentials of the batik enterprises. FPKBL is a forum for enterprise owners to discuss about how to advance the village of Laweyan as a well-known batik industry. Competition with China batik is considered to be a serious problem that must be faced together. Through this forum, many ideas were brought to the forefront such as to create events to draw tourists. By having events, it can increase sales and better introduce Solo batik products to tourists and local consumers.

In 2010, there are about 60 enterprises found. According to Widyaningrum (2012), there are 5 types of enterprises in LBV:

(1) Those who are producers and showroom owners: 20 business people
(2) Those who are producers only: 8 business people
(3) Those who are batik garment producers: 6 business people
(4) Those who are batik garment producers and showroom owners: 11 business people
(5) Those who are showroom owners or traders: 15 business people

However, in general these firms can be divided into two groups, producers (manufacturers) and traders.

Profile of Sample Firms:

The profile of firms taken as a sample covers firm size and type of business.

Firm Sizes:

Based on BPS classification that used number of workers, the sample of firms is distributed in Table 1.

Table 1: Firm Sizes Based on Number of Workers

No	Number of Workers	Innovation		Non-Innovation	
		Absol	%	Absolu	%
1	>=5 Workers (Micro)	10	33%	4	13%
2	6-20 Workers (Small)	11	37%	0	0%
3	>20-100 Workers (Medium) (Medium)	5	17%	0	0%
	Total	**26**	**87%**	**4**	**13%**

Source: *primary data*

From 30 firms in the sample, 14 or 46% are classified as micro enterprises, 11 or 37% are small enterprises, and 5 or 17% are medium-sized enterprises. The enterprises which did not engage in innovation were 4 or 13%, of which all are classified as micro enterprises. Limited resources (human and finance) at micro firms may have caused a barrier for innovation.

Most of the workers have more than 3 years experience working for the firms and even many of the workers spent more than 20 years with the firms. The long involvement of workers in batik firms lets them get more experience. Besides experience concerning batik from the enterprise, workers are frequently sent to attend training when the entrepreneurs cannot attend the training. Through this training, the capability of workers from the firms increased. Through training, small and medium enterprises empower their workers to be innovative. Meanwhile, enterprises which do not do innovation only utilize their workers to watch or serve customers in selling products.

Types of Business:

Table 2: Firms Based on Type of Business

No	Type of business	Innovation		Non-Innovation	
		Absolute	%	Absolute	%
1	Manufacturers	16	53%	0	0%
2	Traders	10	34%	4	13%
	Total	**26**	**87%**	**4**	**13%**

Source: Primary Data

As mentioned above, the main activities of enterprises are classified into two types: producers/manufacturers and traders. Producers may have their own showroom, but traders focus on buying or ordering products from suppliers and selling them. Products produced by batik entrepreneur vary from cloth, bed covers, pillow covers, bags, and handicrafts. The larger the scale of the firm the more various products are produced. On the other hand, small producers that usually have smaller capital focus on specific products. Large firms usually have their own production plants located close to their houses where the batik production is done by laborers. For small firms, most of the production is outsourced to surrounding neighborhoods.

The table shows that all firm producers conducted innovation, whereas not all traders conducted innovation. The risks faced by producers may have caused these firms to be more innovative. Specifically for firms that perform only as producers, they are highly dependent on traders. Traders may not repeat their orders when producers offer the same products over time. Meanwhile, those who do not conduct innovation are traders who receive products from suppliers. Usually this job is a side job in which the owner will not rely heavily on this business.

Characteristics of Respondents:

The characteristics of the respondents cover gender, age, education, and previous job.

Gender and Age:

Table 3 shows the distribution of respondents according to gender.

Table 3: Respondents Based on Gender

No	Gender	Innovation		Non-Innovation	
		Absolute	%	Absolute	%
1	Male	19	64%	1	3%
2	Female	7	23%	3	10%
Total		**26**	**87%**	**4**	**13%**

Source: primary data.

As seen in Table 3, about 67% of the respondents are males and 33% are females. The 13% of the enterprises that do not do innovation consist of 1 enterprise owned by a male and 3 enterprises owned by females. Most of the firms in LBV are privately-owned businesses managed by the owner and helped by their family members. Although males have a higher percentage than females in firm ownership, the fact shows that enterprises are run by a family system, which means the role of the wife is considered very influential towards the continuation of the enterprise. In decision making, they get inputs from the family members. The uniqueness is all of the decisions or everything that is related with the future of the enterprise is under the husband's authority. The influence of Javanese culture considers males to have a higher position than females.

A large majority of businessmen are between 40-60 years old (80%). Only 27% of respondents are under 40 years of age. It seems that in the batik business, experience is an important factor that influences innovation. Many businesspeople who conduct business are more than 50 years old, whereas those who do not do innovation are under 50 years old. Some entrepreneurs start their businesses on their own and some others continue the business from their parents. But those who start on their own, start from scratch and have a higher fighting spirit. The businesses of these kinds of people usually grow faster.

Education and previous jobs:

Table 4 shows the distribution of respondents' education.

Table 4: Respondents Based on Education

No	Education	Innovation		Non-Innovation	
		Absolute	%	Absolute	%
1	Middle School	1	3%	0	0%
2	High School	5	17%	1	3%
3	Academy/Diploma	12	40%	2	7%
4	Undergraduate/Graduate	8	27%	1	3%
Total		**26**	**87%**	**4**	**13%**

Source: primary data

Table 4 shows that the majority of owners' education is university level (academy/diploma are 40%, whereas undergraduate/graduate are 27%). From those who do not do innovation, there are 3 enterprise owners (10%) who have a university education, and the other one has a high school education. Although we believe that education has a relevant influence on innovation, it does not happen in batik enterprises in LBV. One of the possibilities is that experience in this business has a more important role in conducting innovation. There are some businessmen who have a high education with no innovation, as they just moved to this business several years ago.

Regarding previous jobs, 30% of the respondents have focused on the batik business since the beginning of the business, 60% have held a previous job from a non-batik business, and 10% are batik workers. From those who do not do innovation, there are 3 firm owners (10%) who have had previous jobs as non-batik entrepreneurs, and 1 owner (3%) was a non-batik private employee. It seems these findings

support the argument that experience plays an important role in innovation. Entrepreneurs who do innovation that have previous jobs as government officers have experience working with batik entrepreneurs, and others are entrepreneurs with previous jobs as batik workers.

The role of FPKBL:

Before FPKBL was established, firms in LBV faced declining demand, marketing problems, and human resource difficulties. As mentioned above, a Laweyan Batik Village Development Forum (FPKBL) was set up in 2004. This forum was established to discuss how to optimize all of the potentials of the batik enterprises. FPKBL is a forum for enterprise owners to discuss about how to advance the village of Laweyan as a well-known batik industry.

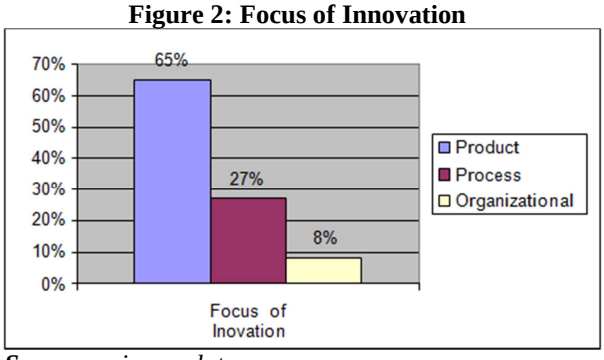
In order to overcome the limitations of firms in this village, various activities have been done; one of them is training. The training covers production (batik production or process using batik products such as handicrafts), entrepreneurship, personnel management and financial management, and marketing. This training is done in cooperation with other parties but mostly with the local government. Besides training, this forum also helps business person in marketing such as encourages them to go to a trade fair. The forum program also covers taking entrepreneurs on business visits.

With the increasing demand of batik in this cluster, competition among members has decreased and cooperation has increased. Many firms acknowledge the important role of FPKBL. Most entrepreneurs feel the program offered by this forum caused their production, marketing, and revenue to increase. There is a firm that increased its production from 5 pieces to 100 pieces a day. Some others previously only produced cloth, but now produce garments.

Innovation of Small and Medium Enterprises of the Laweyan Batik Village:
Focus of and Types of Innovation:

Concerning innovation, an enterprise can focus on the product, process, or the organization (see Figure 2).

Figure 2: Focus of Innovation



Source: *primary data*

It can be found that 65% of enterprises tend to do innovation that focuses on the product, 27% of enterprises focus on the process, whereas only 2 enterprises (8%) focus on innovation in the organization.

The majority of enterprises choose to innovate for products that are directly seen by consumers. The innovations are cover designs and colors. One example of a design is making a model that was made in the past, such as adding a pocket or a new attribute like clip style buttons. Besides making their own designs, businessmen also take into consideration colors that are appropriate with trends in consumer demands. The innovation can be done by owners/managers themselves or with workers who are already experts in coloring. Every batik motif is an innovation that cannot be copied precisely by competitors. It can be argued that the specialty of a batik product, in terms of design and color cannot be copied exactly like the original.

> *"Every product like shirts, women's blouses, women's pants and skirts, etc. will have a higher selling value when given the touch of a new or unique design," expressed Mrs. Eny, the owner of "HY" Batik enterprise.*

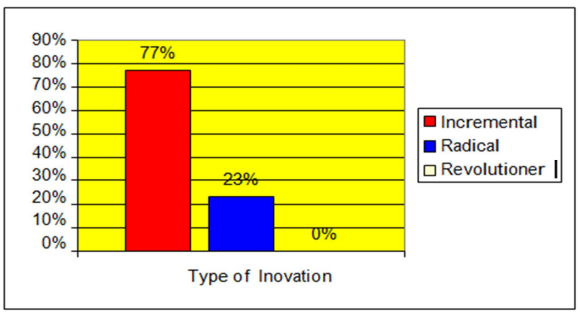
Regarding a product, the color in fact means the "soul" of the batik itself. Color can also differentiate where a batik design comes from. For example, Solo batik tends to have softer colors. This stimulates enterprise owners to delve more into the color to make their products seem more alive.

In the production process, business person have changed the production technique that used a manual method in the past, but now apply stamped methods. Some business person combine gas with kerosene in the heating process because of soaring oil prices. Kerosene is the primary item used in making batik because the temperature can be adjusted.

Innovation in an organization is rarely found. Organization innovation is conducted by creating new divisions that perform marketing or sales. Although it seems to be very simple, adding something to a product is an innovation in which the goal is to increase company profit.

Regarding the type of innovation, it can be classified as incremental, radical, or revolutionary.

Figure 3: Types of Innovation



Source: *primary data*

The type of innovation that is most often used is incremental conducted by 77%, while radical innovation is done by 23%. However, none of the enterprises have been engaged in revolutionary innovation. The Head of the Laweyan Batik Development Forum, Mr. Alfa, said that every enterprise has a different way in viewing an innovation. Innovation that just adds an attribute to a product or process is valued as being enough to improve sales, but several enterprises do innovation where they change almost everything about their product, process, or organization that is very different from the old version.

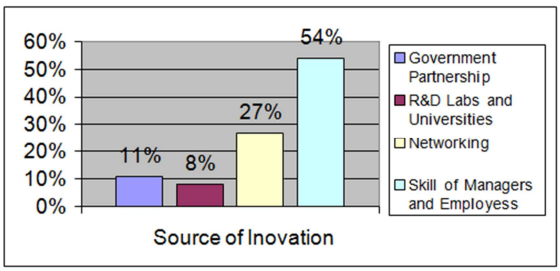
Innovation which just adds something without making total changes is considered as very appropriate for SMEs because they are very economical or easy and cheap. Only by adding a picture design on batik clothes, it is an innovation that can be sold and provides added value. In the process, innovation is clearly found in changes to printed batik which is always different in a one-week time frame. This is also true for an organization, which just adds a certain part that has a certain function.

Radical innovation, like producing sandals from batik, curtains, or bed sheets is rarely found. Rarely are businessmen brave enough to move from their traditional line of products.

-Sources of Innovation, Its Effects and Obstacles:

The focus or type of innovation does not depend on the size of the firm but rather how brave or creative a businessperson is. This is also influenced by where the source of the innovation comes from, like from the government, a manager or employee, a university and network (competitor, consumer, and supplier).

Figure 4: Sources of Innovation



Source: *primary data*

Figure 4 depicts the sources of innovation which most often come from the skills of managers and employees done by 14 enterprises (54%) followed by networking (7 enterprises). Only 3 enterprises (11%) rely on the source of innovation from government partnerships and 8% or 2 enterprises rely on R&D labs and universities.

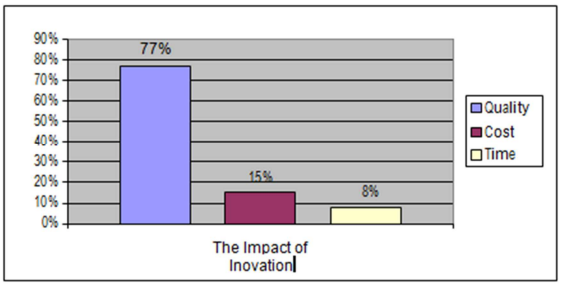
The dominant role of skills of managers and employees as the source of innovation reflects the important role of FPKLB. In order to develop the cluster, this forum conducts many types of training that involve enterprise owners or their employees. According to Mr. Azia (Manager of Putra Laweyan Enterprise), the ability to do innovation is an intuition that is different from one to another like in making a new batik color and pattern. Usually innovation that originates from the ability of the owner and employees is focused on the product. The majority of innovation happens in making a new color and batik pattern. This kind of innovation is the easiest to do without having to spend a large cost.

The other important source of innovation is networking. This innovation may come from competitors, consumers, or suppliers. An innovative idea may appear when one visits a competitor's showroom or production plant, from consumer suggestions, or from an offer by suppliers. However, this source of innovation is only used by a few firms.

The role of a university as a source of innovation is very limited, mostly in organization arrangement. However, the government indirectly performs as a source of innovation. The government has created an organization (called FEDEP – economic and development forum) that performs as a mediator, facilitator, dynamist, and negotiator.

The effects of innovation can improve quality, reduce costs, or make time faster (Figure 5).

Figure 5: Effects of Innovation



Source: *primary data*

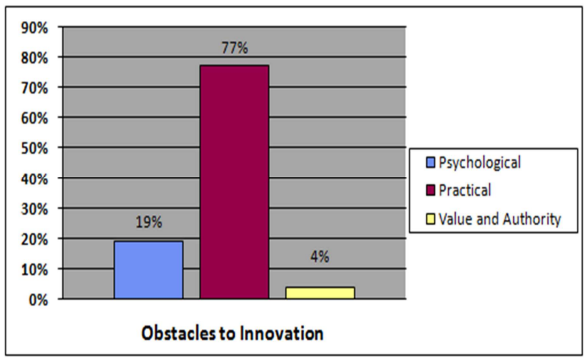
After conducting an innovation, most firms have improvements in the product quality (20 enterprise units or 77%). Only 4 enterprises stated that innovation resulted in savings or cost efficiency (15%), and 2 enterprises (8%) stated that innovation caused time efficiency in the production process.

Quality as a result of innovation means increasing the product quality which starts from the materials to making the product better, the design more appropriate with consumer requests, and the brightness of the coloring appropriate with the orders. These are all targets of an enterprise in doing an innovation; the goal is to increase consumer interest to buy more expensive products. Besides increasing the profit, a company can also have a stranglehold on consumers so they become fanatic about certain

enterprises.

The obstacles of innovation are presented in Figure 6.

Figure 6: Obstacles to Innovation



Source: *primary data*

It was found that the biggest barrier faced by Laweyan Batik Cluster enterprises is practicality, as experienced by 77% or 20 enterprises. Human resources often become constraints, as designs are oftentimes planned not in accordance with expectations. Mistakes in sewing and brightness in coloring are examples of practical obstacles that often happen. Meanwhile, psychological obstacles are felt by 19% of firms. These obstacles are concerns that the innovation will result in a big cost and worry that the innovation will not be liked by consumers. These eventually become hindrances to doing innovation.

-Performance of MSMEs in Laweyan Batik Village:

An impact of innovation is performance, which is measured in terms of sales and profit.

-Sales:

Table 5: Sales after Innovation

Answer	Score	Sales level		Average
		f	Score x f	
Increases a lot	5	7	35	4.08
Increases slightly	4	14	56	
Same	3	5	15	
Decreases slightly	2	0	0	
Decreases a lot	1	0	0	
Total		**26**	**106**	

Source: *processed primary data*

From Table 5, it shows that after innovation, half of the firms (14 enterprises) increased sales but only slightly. There were 7 enterprises which increased their sales greatly, whereas 5 enterprises revealed their sales remained the same. Overall, the LBV enterprises which engage in innovation have a slight increase in sales at 4.08.

- Profit:

Table 6: Profit after Innovation

Impact	Score	Profit Level		Average
		f	Score x f	
Increases a lot	5	4	20	3.96
Increases slightly	4	17	68	
Same	3	5	15	
Decreases slightly	2	0	0	
Decreases a lot	1	0	0	
Total		**26**	**103**	

Source: *processed primary data*

From Table 6 above, it can be seen that after innovation, 17 enterprises (more than half) show a slight increase in profit. Only 4 enterprises have a great increase in profit, whereas 5 enterprises experience the same profit even though they have undergone the innovation activity. The average level of profit for enterprises after innovation is 3.96, which means the enterprises obtained a slight increase in profit.

To summarize, the innovation of firms in LBV has a positive correlation with sales and profit, as shown by increasing sales and profit although only a slight amount.

Conclusion:

1. The firms in Laweyan Batik Village are aware that innovation is important for the survival and sustainability of the firms. This has caused the majority of firms in this cluster to conduct innovation. Several firms have not done innovation; they are classified as micro scale and all of them are traders.
2. Even though most firms have conducted innovation, they do not optimally take advantage of opportunities available for innovation. Most firms only focus on the product innovation, and the type is an incremental innovation. This innovation is obtained from the abilities of owners and employees. Although it has confirmed the effective role of the industrial cluster forum and the government, not all opportunities available in the industrial cluster are exploited.
3. Innovation has an effect on improving the quality of products, but firms face frequent obstacles on a practical aspect, which is perceived as greatly hindering innovation. Furthermore, although the innovation has a positive impact on performance, sales, and profit, the increase in both is only slight.

Recommendations:

Several suggestions are proposed for LBV enterprises:

1. Laweyan Batik Village enterprises need to broaden insights about innovation. As mentioned, innovation may take many forms not just related to the product. Innovation in the process or organization is also important in contributing more to performance.
2. The source of innovation obtained is best from more than one source. The owner and worker skills and creativity are important, but government partnerships and cooperation with universities should be taken into account. The cluster industrial forum can serve as a bridge between enterprises and universities or the government.
3. The effect of innovation is still focused on improving product quality. The enterprises have not given much consideration to how innovation can reduce costs and make time more efficient.

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