

Kaizen and Standardization of Indonesian Handicraft Products to Japan Market

Case Study: Atta Bags Craft from Bali

Indra Kesuma Nasution^{1*}, Sandi Rais²

¹Department of Political Science, Faculty of Social and Political Sciences, Universitas Sumatera Utara

²Department of Mechanical Engineering, Faculty of Engineering, Universitas Khairun, Ternate

*Corresponding author. Email: indraknasution@gmail.com

ABSTRACT

Kaizen is a tool to increase productivity of Toyota cars in large quantities and high quality. Kaizen is Toyota's way of thinking to make cars with better quality, good prices for the wider community, and available on demand. The basic philosophy of Toyota is customer satisfaction, good quality, and not wasteful. Furthermore, kaizen is not only applied to the automotive industry in Japan but also becomes an operational standard in other Japanese companies. Kaizen has an impact on increasing industrial productivity in Japan such as manufacturing, hotels, and tourism. If kaizen can be applied in the manufacturing and automotive industries effectively, how to use kaizen strategy to improve Indonesia SMEs product to Japan market. Indonesian SMEs product have great potential to Japanese market but there are obstacles such as an ineffective work system and non-Japanese standard product quality

Keywords: *Kaizen, Indonesia SMEs product, Atta Bags Craft*

1. INTRODUCTION

, the value of bilateral trade between Indonesia and Japan was 24.3 billion USD in 2020. During the 2018 to 2020 period, Japan consistently on 3rd ranks as Indonesia's main export destination with export values 13.6 billion USD. Furthermore, the value of Indonesia's exports to Japan has reached a value of USD 7.9 billion USD in 2021. In terms of investment, Foreign Direct Investment (FDI) from Japan to Indonesia around 12.9 billion USD in 2018-2021. Therefore, Japan became the 3rd largest foreign investment country in Indonesia during that period with more than 19 thousand projects. The Indonesian government hopes that foreign direct investment from Japan will be increasing by 2.6 billion USD in 2021. Currently, the increasing Indonesian economy has had a positive impact on the investment sector. Based on data from the Investment Coordinating Board (BKPM) explaining investment realization in the second quarter of 2021 increasing by 16.2% compared to the second quarter of 2020. Therefore, Indonesia has a high attractiveness for foreign investors especially Japan.

The question is, if Japan is a significant partner for Indonesia, how can Indonesian SMEs products be going

to Japan market. Indonesia has many competitors in Japan market, such as China in 1st ranked (26%), America in 2nd (11%), Australia in 3rd (6%). Meanwhile Indonesia was ranked 12th among countries exporting to Japan and contributed around 2% to the total import of Japan. Therefore, the Indonesian government has to encourage SMEs products to the Japanese market. Indonesia SMEs has to know the product standards and document requirements to the Japanese market. One of the strategies is kaizen to improve Indonesian SME products. If Indonesian SMEs products can be accepted in the Japanese market, likely, they will also be accepted in other international markets.

2. WHAT IS KAIZEN

The term of kaizen comes from the Japanese words KAI [改] and ZEN [善]. The word "KAI" has the meaning of "change" while "ZEN" means "good". Kaizen is "change for the better or continues improvement". In the manufacturing and automotive industry, kaizen is a strategy to continuous improvement for quality of services, processes, products, reduce operational costs and waste, and safety. Kaizen is a

change effort to improve processes that occur in an organization/company. Kaizen is a daily activity based on process and result oriented, thinking systematically, and continue to learn from mistakes that have occurred. The Kaizen philosophy has had a great impact on increasing organizational effectiveness and also produce high-quality products. According to Imai (1986), Kaizen is a continuous improvement process that involves the entire team from the manager to the employee level [1]. Williamson (1987) explains that kaizen is a philosophy that is generally practiced in manufacturing. It inspires to make a production process better [2]. Wickens (1990) focuses on the impact of teamwork [3]. Teamwork and commitment start from direct communication between individuals and their superiors. Teian (1992) explains that Kaizen stands for the daily activity that occurs in the work area [4]. Deming (1995) describes that organizations are developed at a greater rate than at any time in recorded history. Thus, a highly competitive and constantly changing environment recommends major managerial chances as well as challenges and kaizen to effectively tackle this situation [5]. Kaizen is more than repair but also requires improvement. Palmer (2001) explain Kaizen creates process-oriented thinking. Therefore, the process is improved to achieve maximum production [6].

The significant point of kaizen is the simplification and systematization of the work process. The simplification of work in improvement is an illustration of the application of the kaizen philosophy. Simplification of work is a traditional philosophy that has been around for a long time but is still effective today. The work simplification consists of three steps. First, eliminating unnecessary processes. Removing unnecessary steps will have a significant impact on the production system in the company. The elimination of unnecessary and wasteful things is an example of the ability to think. Second, combine all the interrelated steps is to analyse the possibility of a combination, consolidation, and process towards results. Things related to waste and do not add value have been removed. Third, checking all processes and cut the cost at all or minimal budget. It is necessary to make several changes in stages to obtain faster and better results.

3. KAIZEN METHODOLOGY

3.1. Characteristics of Elites in Indonesia

Muda is defined as reducing waste. Unnecessary things like waiting time, inefficient movements are examples of wasting money and time that need to be eliminated. *Muda* refers to processes or activities that do not add value. Some examples of *Muda* in manufacturing such as large excess production quantities even though there is no demand from buyers. Finding and eliminating

Muda is essential if you want to reduce costs, increase efficiency and profits.

Mura means irregular, unbalanced. irregular things will cause inconsistency of results. delay is one indication of the existence of *Mura* in terms of time. *Mura* is a problem caused by irregularities in production. It is also caused when standards do not exist or are not followed.

Muri means excessive burden. Examples of unequal division of tasks among employees will create unfavourable working conditions and reduce productivity.

3.2. PDCA Cycle

PDCA is an iterative four step management method used in business and product quality for the control and continuous improvement of process.



Figure 1. PDCA Cycle

The cycle of PDCA are as follow :

1. Planning means understanding what we want to achieve, how to do it, focusing on problems, creating solutions, and being able to plan a process.
2. Do is to implement or execute a plan that has been prepared. At the Do level we have to start doing things that have been planned precisely, such as small-scale testing to measure the results of the solutions that have been designed in a plan.
3. Check is implemented by controlling the execution and ensuring that the implementation is under the plan or not. Various problems that may arise in the Do level will be evaluated. Do and check level can be done many times until the results are perfect. The check level is reviewing and studying the results of the implementation in the Do level.
4. Act is the best result obtained from the long process of PDCA cycle and becomes a standard measure of product or process. This standardization becomes a measure to produce a product. The point is to take action to standardize or improve the process.

3.3. 5S (Workplace Organization)

It is a methodology for organizing, developing, cleaning and sustaining a productive work environment. It is one of the simplest Lean tools to implement, provides

immediate return on investment, crosses all industry boundaries, and is applicable to every function with an organization.

1. Sort (Seiri) is the first step for sorting the items that are needed and not or items that are still useful or not.
2. Set in Order (Seiton) means arranging and identify things properly or returning used items to their place and label them. A place for everything & everything in its place.
3. Shine (Seiso) means keeping the workplace clean. Clean everything, inside and out.
4. Standardize (Seiketsu) means create the guidelines, procedures, or rules for maintaining and controlling the first 3 S 's (Seiri, Seiton, Seiso).
5. Sustain (Shitsuke) means everything that has been repaired must be maintained and improved consistently without exception.

4. JAPAN POTENTIAL MARKET

Indonesian SMEs products have great potential for export to Japan. Indonesia has 64 million SMEs and has great potential if managed professionally through product quality training. Some of Indonesia's potential product that can be marketed in Japan such as fishery products, food, and handicrafts. Food preparations have a potential economic benefit of 43 million USD. Furthermore, handicraft, furniture has a potential of 22 million USD, agriculture has a potential of 6 million USD and so on. The potential of fishery products for the Japanese market is also huge. According to FAO (2017), Indonesia is the largest tuna producer in the world, which is 375,000 tons per year. Japan, is the second largest producer in the world and annually imports about 200,000 tons of tuna. Currently, Indonesia only export to Japan as much as 6,000 tons per year. This quantity is small compared to the export capabilities of Taiwan (68,000 tons), China (33,000 tons), and South Korea (19,000 tons). One of the reasons for the small export volume of tuna is post-catch treatment in Indonesia has not been able to completely Japanese standards. Actually, Japan is need tuna more than 100,000 tons per year. Japan's imports are still dominated by Taiwan and China. They already have cultivation and processing methods that are acceptable to the Japanese market. Beside tuna, fruit products such as pineapple, banana and durian also entered the Japanese market. However, pineapples and bananas are almost 90% from Philippines and durian is controlled by Thailand. Mango, mangosteen, melon, watermelon, papaya and other fresh fruit from Indonesia have not been able to enter Japan market, because there is no agreement between the two countries. Japan requires exporters to use vapor heat treatment (VHT) machines to remove fruit flies. On the other hand, Indonesia argue that it is enough

to use hot water treatment. Therefore, entering the Japanese market is increasingly

5. JAPAN STANDARD PRODUCT

Indonesian handicraft products have great opportunities, especially products from natural raw materials such as bags made from atta. However, it is not easy to enter the Japanese market. Indonesian SMEs must implement kaizen strategy on product improvement efforts through understanding Japanese product standards. There are three important things that must be considered for Indonesian SMEs to enter the Japanese market. *First*, understanding the characteristics of the Japanese market. *Second*, Indonesia SMEs must do a lot of research on the tastes and needs of the Japanese people. It is important to adapt SMEs products to Japanese market, for example Japanese people don't really like spicy or too sweet flavours. Furthermore, furniture should have a simple design and small size. In addition, most Japanese people like natural colours like brown. *Third*, preparation for administrative document. Business actors must completely administrative requirements for exports, permit documents and business legality. Each product has different administrative requirements to enter the Japanese market. Technical requirements from the Japanese government must also be completed, for example information on goods, raw materials, product quality standards, packaging, safety for consumption and lab results that explaining the chemical elements contained in the product. *Fourth*, maintaining quality and continuity. If business actors want to export their products to the Japanese market, they must have Japanese standard product quality. If the product quality has a Japanese standard, the product availability is a must. Indonesia SMEs must be ready to export the product continuously if they always get requests from Japan. The most problems are the inability of Indonesia SMEs to maintain product continuously and quality. The characteristics of Japanese people in business are difficult to give a trust to others if Indonesian SMEs fail to export products according to the agreement

6. CASE STUDY: ATTA CRAFT BAGS

Bags made from nature are popular in the Japanese market. However, Japan applies high product standards such as elegant designs, not use chemicals and so on. Therefore, Indonesia SMEs must be seriously to complete these standards. One of the strategies is the implementation of kaizen to produce quality products. Kaizen is an effective strategy to produce quality products because Japan is very well known for its high-quality standards. One of the most famous products is a women's bag that uses Atta as the basic material.



Figure 2. Atta Plant Stem

Most of Indonesians people may not be familiar with handicrafts made from atta from Bali. At a glance, atta woven crafts are similar to rattan. Atta has a long stem like rattan and grows in the forests of Bali. Atta used by Balinese craftsmen comes from outside Bali such as Java, Sumatra and Flores. Atta grows in Bali has a small stem size and it's not good for use as a craft material. Atta is a raw material for women's bags, furniture, clothes baskets which are popular in Japan and Europe. The atta process is very detailed, high precision and smooth. There are several rules that must be obeyed in the process of making export quality bags such as the bag have a good quality, perfect condition, nothing should be damaged at all. The bag must not use chemical elements and smell of paint.



Figure 3. Types of Atta Bags

Figure 4 is the examples of the craft products for women's bags made from atta. Atta crafts are made in Karangasem regency and able to provide a lot of job opportunities. This weaving activity has generally become a hereditary culture. Woven crafts by the local community in several villages such as Seraya Village, Karangasem. Woven craft is a special product of

Karangasem regency, made by hand, not use machines, has durable and long-lasting material properties.

Atta bag is environmentally friendly because the waste from woven atta is easily recycled naturally and does not cause environmental pollution. Although, local people of Bali are familiar to weaving atta, but the quality of their work is still not up to Japanese standards. However, there is a change in the way of working after they learn kaizen training. The impact from kaizen training such as the craftsmen work in more detail, high precision, smoother products and more elegant bag designs. Finally, the craftsmen began to understand the standard of the Japanese market. Kaizen training require seriousness, hardworking to learn, trial and error in many times. However, after they using kaizen strategies such as detailing work, making improvements, the final product can be accepted by the Japanese market.



Figure 4. Promotion in Shizuoka Hotel

Atta craft bags have been promoted in boutique shops and hotels in Osaka, Nagoya, Shizuoka, Fukuoka, and Tokyo.

6. CONCLUSIONS

Kaizen is an effective working strategy to use in the creation of quality products including handicraft bags from Bali. Detailed bag making process, high precision can be produced after receiving kaizen training to local community in Bali. Kaizen starts from planning the work, the weaving process, the use of materials that do not contain chemicals elements and maximum results.

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