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FERMENTED FOOD PACKAGING PROCESS: A CASE STUDY OF KHORIFF BY BONDA

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Abstract: *Packaging is to protect the product from damage that may occur during transportation, handling, and storage. It protects the product from moisture, light, heat, and other external factors. In addition, packaging methods also play an important role in describing the quality of the products produced. Product packaging process includes how the product is packaged and the characteristics of the materials used. This study is targeted on product packaging of fermented food (pekasam) by an enterprise named Khoriff by Bonda. The first purpose is to observe the current pekasam packaging process. Second, to investigate the challenges faced in pekasam packaging process. This study uses qualitative method in which data collection was conducted through interviews and observation. The results from the employees of the enterprise show that the process of pekasam packaging uses manual methods and the challenges of packaging the pekasam are the size of the raw materials, and the adoption of new technologies. With the proper use of automation, Khoriff by Bonda might be able to significantly increase the product productivity and profitability.*

Keywords: product packaging, packaging process, pekasam, fermented food.

1. Introduction

Pekasam or fermented food, is a product produced by Bumiputera who are well-known in the community in Malaysia. Before, pekasam is produced from the fermentation process that uses freshwater fish (Huda, 2016). Currently it has expanded, not only made for freshwater fish but meat, chicken, squid eggs, and beef lungs could also be found in the market. Generally, the process and ingredients for making pekasam do not use large capital where the process of fermenting the fish or meat is mixed with salt, sour slices, and fried rice. Pekasam is famous in

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the northern states of the Peninsula, the East Coast, and several other states especially those that are near to the beachfront. The reason why pekasam was created is that in the old days there was no electricity and no refrigerator. Therefore, one of the ways to store fish to be consumable for a long time is by means of fermentation.

Come modernisation, the small and medium enterprise has innovated pekasam from various raw materials such as squid eggs, fish, chicken, meat and beef lungs. In addition, flavours are also diversified from original salty flavor to spicy, black pepper, and tom yam flavours.

For this study, the enterprise chosen is Khoriff by Bonda which is an enterprise that produces traditional pekasam in Raub, Pahang. Raub is a rural area, and because of that, Khoriff by Bonda requires various suppliers from other states to innovate. The current pekasam packaging process is to be observed. Then, the challenges faced in pekasam packaging process is investigated.

2. Literature Review

Small and medium enterprises (SMEs) are important assets in the economy because they have managers and employees who can attract the attention of scientists and policymakers (Safar, Sopko, & Poklemba, 2018). SMEs are businesses regularly found in Malaysia to maintain income, assets, or several employees under a particular organisation. In Malaysia, SMEs play an important role in generating the economy. This makes the enterprise able to grow its business. Even though the scale of the enterprise is small in size, it can help to shape innovation of young entrepreneurs in expanding their business to the next level.

Khoriff by Bonda is an enterprise that produces traditional food-based products. The food products produced are varieties of pekasam, i.e., freshwater fish, meat, chicken, squid eggs, and beef lungs. Pekasam product is categorised as traditional food in Malaysia. Since its establishment in 2016, the founder of Khoriff by Bonda innovates the idea through the mixture of taste. The idea to produce this pekasam is to reduce the unpleasant taste of the original pekasam to attract customers from young generation. Therefore, the pekasam production goes through the innovation of diversed types of materials and flavours. Along the process, the pekasam goes through packaging process and use of technology.

The main step in the production of traditional meat products to make sure their quality and safety is the choice of the raw meat and its maturation (Karabasil et al., 2018). Food processing and packaging is a platform for innovative packaging engineers to improve existing packaging feature products, and to achieve cost reduction and performance improvement in the packaging process (Georgakoudis et al., 2018). The use of vacuum packaging, in non-gas and heat resistant materials, has many advantages and even low risk of post-pasteurization contamination, ease of handling, growth barrier of aerobic damage organisms, and inhibition or slowing of action. destructive oxidative reactions in food during storage due to the oxygen barrier (Ying & Anuar, 2019).

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3. Methodology

This study uses qualitative method in which data collection is conducted through interviews and observation. The first purpose is to observe the current pekasam packaging process. During observation, photos are captured along the process. Video recording is not allowed by the manager. The terms are noted in a notebook.

For the second purpose, interviews are conducted to investigate the challenges faced in the pekasam packaging process. The manager and the employees are the participants in the interviews.

4. Results and Discussion

From the observation, the process of pekasam packaging performed by Khoriff by Bonda uses manual operation from the beginning until the end. Every step is man-handled.

The seven steps in the packaging process are:

1. Prepare equipment and raw materials on the table.
2. Put the raw material and rice in the same container.
3. Mix the ingredients evenly.
4. Insert the ingredients into plastics and weigh according to the prescribed quantity.
5. Flatten the raw material.
6. Seal.
7. Insert the sealed package in the zip lock packaging.

Here are some photos captured during the observation.

Figure 1: Preparation for Packaging

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Figure 2: Employee Performing the Packaging Process

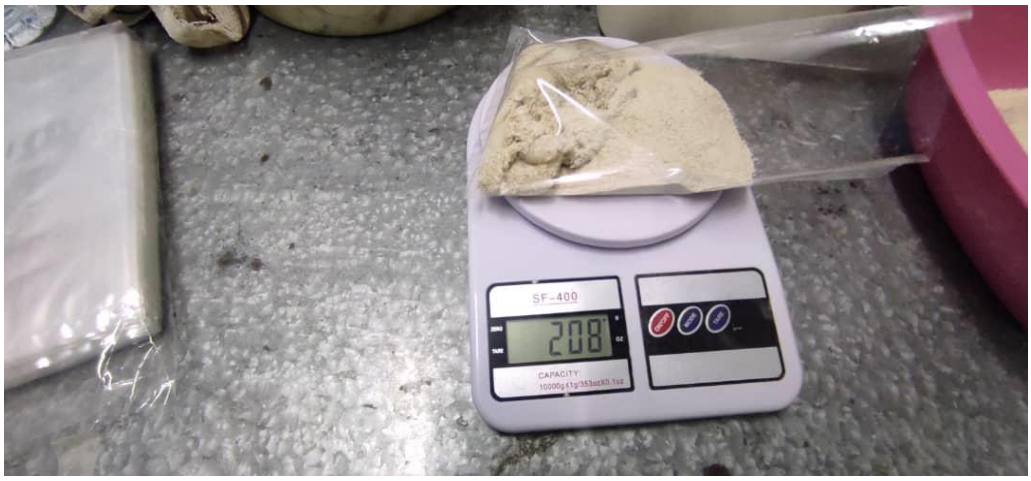

Figure 3: Weighing

Figure 4: Sealing

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Figure 5: Finished Product Packaging

From the interview, the challenges in the pekasam product packaging were queried. The employees stated that the size of the raw materials to be packed does not come in a standard size, which is ready for packaging. The materials they received usually are larger than needed, carrying the excess weight for a packet and do not fit the plastic seal. The materials cutting depends on the employee who handles the cutting. When this problem is faced, there is double handling where the packaging employee would need to do the another cutting process. This issue delays the processing time.

The interviewees also came up with the need of new technology adoption. An automatic sealer could be better than the manual sealer for sealing purposes. The manual sealer machine temperature is set at 168 degrees but in time, it drops, and the employee has to wait for some time to continue the sealing process. Although the materials are fermented, vacuum packaging machine is preferred to maintain the food quality that is free from germs, dust, air, bacteria, and yeast for a longer than usual duration.

5. Conclusion

Improvements in the packaging process from time to time is strongly encouraged to provide good and long-lasting product. With the proper use of automation, Khoriff by Bonda might be able to significantly increase the pekasam production speed and product yield. Automated system could also improve the consistency of packaging and reduce the error rate introduced during the packaging process. It could improve the quality of the pekasam and speed up the packing lines, which would lead to an increase in productivity and profitability.

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