

# Entrepreneurship Marketing Through the Marketplace for Sorghum Based Alternative Food

Endang Noerhartati\*

Universitas Wijaya Kusuma Surabaya, Indonesia  
endang\_noer@uwks.ac.id

Nia Saurina

Universitas Wijaya Kusuma Surabaya, Indonesia  
niasaurina@gmail.com

Herfa Maulina Dewi Soewadini

Universitas Wijaya Kusuma Surabaya, Indonesia  
herfasoewardini\_fbs@uwks.ac.id

Lusy Tunik Muharlisiani

Universitas Wijaya Kusuma Surabaya, Indonesia  
lusy\_fbs@uwks.ac.id

Dina Chamidah

Universitas Wijaya Kusuma Surabaya, Indonesia  
dinachamidah\_fbs@uwks.ac.id

**Abstract.** The importance of market potential in entrepreneurship activities, especially for sorghum-based new products as alternative food, one of which is through a marketplace that will determine the peak of immense sorghum market success. The purpose of the research popularizing sorghum products nationally, where the economic revival of a country is determined by how many entrepreneurs take part. The method used with the research method used secondary data from significant marketplaces in Indonesia, including “Lazada” (X1), “Shopee” (X2), “Bukalapak” (X3), and “Tokopedia” (X4), followed by statistical analysis. Observations include the type of product, benefits, price, rank, year of entry, and brand. The results showed that market place: 1) as a possible means of information for new healthy food products based on sorghum, 2) as a potential marketing tool, 3) can be used as a trigger to push upmarket segmentation, eventually enlarging the business capacity and scope of marketing.

**Keywords:** *Sorghum product, alternative food, entrepreneurship marketing, marketplace, market potential*

## INTRODUCTION

Marketing is the key to the success of a business that making and holding a product is not easy. Still, the real marketing problem is more complicated than making or procuring the product. Many producers can produce goods, but if they are not able to market their products, then only a 'business downfall' will surely be reaped [1]–[3]. Marketing activities are activities that are interconnected as a system, not just for selling products, including businesses of companies that begin by identifying consumer needs, determining the product to be produced, determining the price of the product accordingly,

determining ways of promotion and distribution, or sale of the product [4]–[6].

The starting point for marketing problems is a model of external stimulation provided by entrepreneurs as producers of answers issued by consumers. The marketing stimulus consists of four elements, namely, product, price, place, and promotion. In this regard, marketing must learn what kind of products consumers want, besides marketing must also know how, when, where, and why consumers buy. By interpreting the social and psychological effects of consumer practice, marketing can understand a person's decision to purchase and determine the needs for shape, appearance, price, and place [7], [8].

Online marketing is a new alternative in the industry 4.0 era, where all entrepreneurs and any product can use it. The marketplace is one of the online marketing of food and non-food products. Many conveniences when using marketing tips for this model, one does not have to provide a place to roll out their products. In Indonesia, there are four significant marketplaces, namely Lazada, Shopee, Bukalapak, and Tokopedia, various products are held, including sorghum products [9], [10].

This opinion can underlie the process of introduction and marketing of sorghum processed products as new products. Apart from that, as a food product, the entrepreneur must display the nutritional aspects contained in the product honestly and social elements, which include social traditions and eating habits of the community environment. These aspects can be used as information or input to explain marketing problems by carrying out an action or marketing research. The results of this marketing research can be used to formulate marketing strategies in seizing market opportunities [11], [12]. The purpose of this research is to examine the factors of online marketing and the development of sorghum-based new products.

**METHOD**

Researchers want to know the essential factors that affect online marketing of sorghum-based new product development. Therefore, this study exercises a qualitative-explorative type of research. This research was conducted in the largest marketplace in Indonesia as an independent variable consisting of four marketplaces, namely Lazada (X1), Shopee (X2), Tokopedia (X3), and Bukalapak (X4), and the dependent variable was a market opportunity (Y). Observations were made in 2019, including items contained in the marketplace, including types of products, benefits, prices, rankings, year of entry, and brands. Data analysis uses descriptive statistical analysis and is continued by evaluating the strengths, weaknesses, opportunities, potential threats of online marketing of sorghum-based new products [13], [14].

**RESULT & DISCUSSION**

Based on observations in four marketplaces, Lazada, Shopee, Tokopedia, and Bukalapak, the number of sorghum products, types of sorghum products, and the distribution of sorghum producers are presented in Table 1, Figures 1, and 2. Table 1, we can see that the highest number of sorghum products in the marketplace, Tokopedia, followed by Bukalapak, Lazada, and Shopee. This is also related to the most significant number of e-commerce visitors in 2019: Tokopedia with 66 million guests, followed by Shopee 56 million, Bukalapak 42.9 Million, and Lazada 28 Million guests. While the types of sorghum products (Figure 1), it is seen that raw materials, namely seeds, seeds, rice, and sorghum flour, occupy the highest percentage compared to processed products from rice and sorghum flour. The processed product of sorghum rice in the marketplace is sorghum soy sauce, which is a product produced from the fermentation process of sorghum rice. Processed products from sorghum flour are sorghum cookies, sorghum noodles, and sorghum cereals. There are also products from sorghum stems, sorghum sugar, where sorghum stems contain “nira”, which can be processed into sugar/sorghum syrup. Then there are more preserved sorghum flowers that can be used as decoration.

Table 1. Number of Products Sorghum

No	Marketplace	Number of Products Sorghum
1	Lazada	69
2	Shopee	64
3	Tokopedia	105
4	Bukalapak	76

Source: Secondary marketplace 2019 data

Figure 2, distribution of sorghum product sellers in Indonesia, the highest percentage in Java is DKI Jakarta, followed by West Java, East Java, Banten, Central Java, DI Yogyakarta, South Sulawesi, followed by overseas, namely the RRC, Bali, South Sumatra, and East Nusa Tenggara.

Sorghum is one of the cereals, as potential non-conventional food for plant food. The potential of sorghum as an alternative food is supported by its nutritional characteristics which can hold compared with rice, which is as follows: calorie content of rice 360 calories and sorghum 332 calories; protein content of rice 6, 8 g and sorghum 11 g; 0.7 g rice fat and sorghum 3.3 g; carbohydrates 78.9 g rice and sorghum 73 g; calcium from rice 6 mg and sorghum 28 mg; iron from rice 0.8 mg and sorghum 4.4 mg; rice phosphorus 140 mg and sorghum 287 mg; and vitamin B1 rice 0.12 mg and sorghum 0.38 mg [15], [16]. Another advantage of sorghum is gluten-free; more fiber, including policosanol and plant sterols, can reduce LDL cholesterol, contain tannin as an anti-oxidant, and have a low glycemic index. All parts of the sorghum plant are useful and can be appropriated as an entrepreneurial product, in the form of seeds, rice, flour, rice bran, and various preparations of rice and sorghum flour. All parts of the sorghum plant are instrumental, ranging from sorghum seeds, stems, sorghum, and leaves. One of the sorghum seeds' uses is by processing it into flour, which is a semi-finished product directed to enrich the potential of sorghum. Sorghum seeds can be transformed into rice, flour, bran, and bran. Sorghum rice jam consumed directly can also be fermented into Tempe, tape, and others. Sorghum flour can be applied as a substitute for flour, rice flour, and glutinous rice flour as ingredients for making various cakes, cookies, cakes, and bakery [17], [18].

The use of other sorghum seeds can be prepared into bioethanol, animal feed, and others. Sorghum stems, which are very large and contain about 25-40% sap with Brix 10-15%, can be used as a natural sweetener (syrup) sorghum stem which is a product similar to honey and can be directly consumed, or can also be dissolved with water, sweet, and nutritious. Other uses of sorghum stems are processed into bioethanol, animal feed, silage, fuel (bagasse), and others. While the use of sorghum leaves is used for animal feed and is prepared in the form of organic compost. Based on observations from online marketing data of sorghum products in four marketplaces, an evaluation of the strengths, weaknesses, opportunities, and potential challenges of the sorghum products is carried out. The evaluation results found that the advantage of sorghum products is not all in online marketing there are many variations on the market products besides cookies, there are cakes, bakeries, wet cakes, and various preparations of sorghum rice namely fermented “tempe” products, tapes, and multiple

variations of sorghum rice [18], [19].

Based on observations from online marketing data of sorghum products in four marketplaces, an evaluation of the strengths, weaknesses, opportunities, and potential challenges of the sorghum products is then carried out. The evaluation results found that the advantage of sorghum products is not all in online marketing there are many variations on the market products besides cookies, there are cakes, bakeries, wet cakes, and various preparations of sorghum rice namely fermented “tempe” products, tapes, and multiple variations of sorghum rice. Apart from food products, sorghum can also be processed into functional beverage products. Based on the distribution of actual seller locations, there are still no visible locations of sorghum production centers in Indonesia, namely for East Java, in Lamongan, Bangkalan, Sampang, and Pamekasan, Sumenep, Tuban, Bojonegoro, Malang, Probolinggo, and Pasuruan Regencies. The production centers in Central Java are located in Jepara Regency, as well as in Lampung and West Nusa Tenggara.

The first step of marketing a product is undoubtedly departing from the product characteristics. A product must be clearly described in its specifications. A marketing person is even more keen to see the idea of the product that makes consumers interested and then voluntarily spend money to buy. So there are values of a product that can encourage people's awareness to accept an idea. Values and ideas of sorghum products such as sorghum are suitable for diet, sorghum is a gluten-free flour, sorghum is an environmentally friendly agricultural cultivation, or finally, that sorghum is an alternative food, all ideas that make sense and are in line with the general view. Precise segmentation makes it easy to do the right promotion. The use of promotional media offline and online becomes a consideration to adjust to the available budget constraints, especially in the initial stages of the business. Along with the product cycle, promotion costs can be adjusted according to sales turnover. Other strengths and opportunities of sorghum products are gluten-free; more fiber, including policosanol and plant sterols, can reduce LDL cholesterol, contain tannin as an antioxidant, and have a low glycemic index, making it an excellent alternative product for health. Based on raw materials that can be developed into products, namely rice, flour, sorghum rice bran, and sorghum stems, there are still many products that can be designed to support the development of food diversification and sweetener ingredients.

Weaknesses of sorghum products are the availability of raw materials, where raw materials cannot be available in large quantities. This is

because planting sorghum is not all year long, but planting is carried out after rice and corn. The next weakness is the storability of sorghum raw materials, which cannot be maintained its water content, so it is easily attacked by fleas, which causes a decrease in the quality of sorghum. Based on the strength of sorghum products, there is an opportunity for sorghum marketing as an alternative food, by providing training to farmer groups in sorghum production centers on online marketing and product development. The potential challenges ahead are that sorghum products as alternative food must be able to compete with other products to support food security and food sovereignty.

Marketplace opportunities as a means of information and potential marketing tools allow for new sorghum-based products as healthy food. They can be used as a trigger to encourage upper-class segmentation, which in turn increases business capacity and marketing scope. The success of marketing activities is not enough to improve product quality, but producers must be able to communicate with their customers. This includes when manufacturers launch new products in the form of products that are innovations, as well as products that are diversified from existing ones. Manufacturers must understand how potential buyers know about new products, try them out, and accept or reject them. Knowledge about this process needs to be owned by producers to find the most appropriate way to arouse curiosity and market desire to try to use the product. The advantages of these products are more benefits for consumers, such as nutritious, clean, and ready-to-serve, can be stored relatively longer, the shape is diverse, the shape and size are by consumer demand, and so on. Thus, the promotion of sorghum products needs to be done to raise the right image in the minds of consumers. In turn, this will broaden the scope of sorghum consumption and, of course, the overall volume of the road. The market response must be seen at all times; this is intended to find out what consumers desire; some criticisms and suggestions will be input for producers for the improvement and development of processed sorghum products [20]–[22].

## CONCLUSION

Based on the results of this study, it can be concluded that through the marketplace, online marketing is needed to develop new sorghum-based products are (1) very important as one solution to increase sales; (2) understanding of healthy alternative products; (3) knowledge of online marketplace marketing needs to be improved; (4) growing raw material supply network; and (5) marketing techniques and strategies.

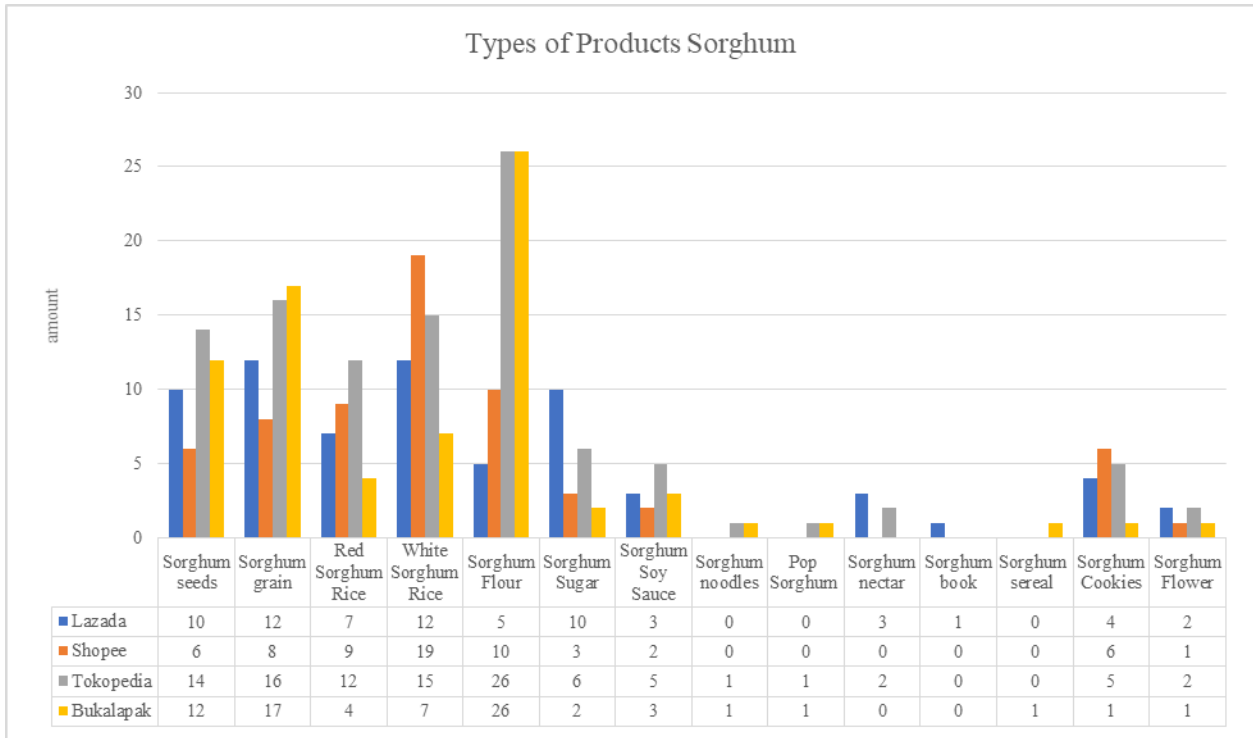


Figure 1. Types of Sorghum Products (Source: Secondary marketplace 2019 data)

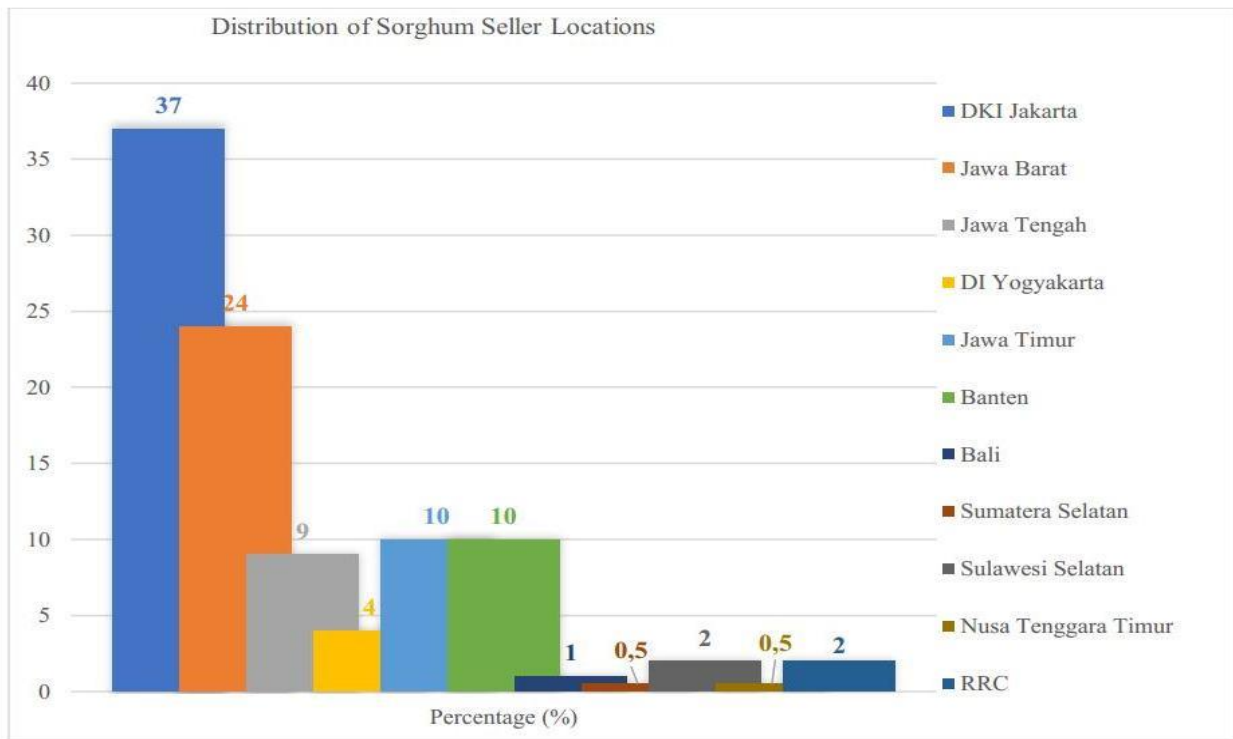


Figure 2. Distribution of Sorghum Seller Locations (Source: Secondary marketplace 2019 data)

**REFERENCES**

- [1] M. Bleda and J. Chicot, "The role of public procurement in the formation of markets for innovation," *J. Bus. Res.*, vol. 107, pp. 186–196, 2020.
- [2] A. M. Kiseleva and O. V. Gokova, "Marketing Strategies in the Formation of Tourism Clusters," in *International Conference on Economics, Management and Technologies 2020 (ICEMT 2020)*, 2020, pp. 592–597.
- [3] R. Brennan, L. Canning, and R. McDowell, *Business-to-business marketing*. SAGE Publications Limited, 2020.
- [4] A. D. Wahyuningrum, N. E. Kristanti, and K. H. Widodo, "Analysis of the Influence of Marketing Mix on the Sales Online of Processed Products Salak (*Sallaca zalazza* (Gaert.) Voss.)," in *IOP Conference Series: Earth and Environmental Science*, 2020, vol. 425, no. 1, p. 12027.
- [5] Y. Xie, "The Relationship Among Marketing Mix, Customer Satisfaction and Customer Loyalty of Chinese Tourists to the Budget Hotel of Central Bangkok," 2020.
- [6] S. Utomo, P. Saputra, and N. Nurfitriah, "Analysis of The Influence of Service Marketing Mix Strategy on Customer Satisfaction of Al Barakah Mudharabah Savings in Banjarmasin Sharia Branch Office of Bank Kalsel," *Eur. J. Manag. Mark. Stud.*, 2020.
- [7] T. Hilken, D. I. Keeling, K. de Ruyter, D. Mahr, and M. Chylinski, "Seeing Eye to Eye: Social Augmented Reality and Shared Decision Making in the Marketplace," *J. Acad. Mark. Sci.*, vol. 48, no. 2, pp. 143–164, 2020.
- [8] D. J. Cumming and L. Hornuf, "Marketplace Lending of SMEs," 2020.
- [9] I. A. Nasution, A. Fauzi, and R. P. Wibowo, "The Effect of Marketing Mix on Customer Satisfaction in Belawan Branch of PT Pelabuhan Indonesia 1 (Persero) Medan," *Int. J. Res. Rev.*, vol. 7, no. 1, pp. 237–243, 2020.
- [10] S. H. Maes, "Use of Marketplace Platform Instances for Reselling." Google Patents, 07-Jan-2020.
- [11] L. Meere and G. D. Epis, "Processing Payments for An Online Marketplace." Google Patents, 14-Apr-2020.
- [12] A. Warokka, H. Sjahruddin, S. Sriyanto, E. Noerhartati, and K. Saddhono, "Digital Marketing Support and Business Development Using Online Marketing Tools: An Experimental Analysis," *Int. J. Psychosoc. Rehabil.*, vol. 24, no. 1, pp. 1181–1188, 2020.
- [13] D. Holtz and S. Aral, "Limiting Bias from Test-Control Interference in Online Marketplace Experiments," *arXiv Prepr. arXiv2004.12162*, 2020.
- [14] H. T. Hoi, "Attractiveness of Online Marketing in the Age of Industry 4.0," in *Proceedings of 2020 The 6th International Conference on E-Business and Applications*, 2020, pp. 1–4.
- [15] E. Noerhartati, T. Widiartin, M. Maslihah, and N. W. Karyanto, "Strengthening Entrepreneurship for Sorghum Based Products by Training, Visit, and Online Extension (Tvo) System," *JBFEM*, vol. 2, no. 1, pp. 43–50, 2019.
- [16] E. Noerhartati, T. Widiartin, M. Maslihah, and N. W. Karyanto, "The Development of Market Segmentation of Sorghum Products as Functional Beverages," in *IOP Conference Series: Materials Science and Engineering*, 2018, vol. 434, no. 1, p. 12169.
- [17] E. Noerhartati and D. Puspitasari, "Flake Sorghum (*sorghum* sp): A Study on Type and Concentration of Sorghum Flour," in *Proceeding International Conference on Food Agriculture and Natural Resource*, 2016, pp. 83–94.
- [18] E. Noerhartati, P. D. Karyati, S. Soepriyono, and B. Yunarko, "Entrepreneurship Sorghum towards Industry 4.0," in *International Conference on Innovation in Research (ICIIR 2018)–Section: Economics and Management Science*, 2019.
- [19] Y. Deribe and E. Kassa, "Value Creation and Sorghum-Based Products: What Synergetic Actions are Needed?," *Cogent Food Agric.*, vol. 6, no. 1, p. 1722352, 2020.
- [20] S. Gupta, D. Gallear, J. Rudd, and P. Foroudi, "The Impact of Brand Value on Brand Competitiveness," *J. Bus. Res.*, vol. 112, pp. 210–222, 2020.
- [21] D. Boughton, J. Goeb, I. Lambrecht, D. Mather, and D. D. Headey, *Strengthening Smallholder Agriculture is Essential to Defend Food and Nutrition Security and Rural Livelihoods in Myanmar against the COVID-19 Threat: Elements for a Proactive Response*, vol. 2. Intl Food Policy Res Inst, 2020.
- [22] V. A. Qurrata, E. Yusida, V. Purnamasari, and W.-C. Huang, "Strengthening the Institution of Small-scale Online Market Seller Community to Improve their Social Welfare on Industry Revolution 4.0 Era," *Rev. Integr. Bus. Econ. Res.*, vol. 9, pp. 438–447, 2020.