

MSME Market Segmentation Analysis for Dessert Culinary Products in Malang Raya

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Abstract. The increasingly fierce competition in the culinary industry requires MSMEs to make various innovations. Hence, it is necessary to study market segmentation to map out market conditions and consumer profiles. This study aimed to analyze the MSME market segment for dessert, culinary products in Malang Raya based on geographic, demographic, and psychographic segmentation. The type of research applied is quantitative research. The object of this study is My Dessert Box, which is a new start-up business and has a sales area covering the Malang Raya area. The sample in this study was determined using the purposive sampling technique. The data collection method in this study employed a questionnaire, while the data analysis method employed cross-tabulation and k-mean analysis. The results reveal that in geographic and demographic segmentation cluster 1 in Malang City was dominated by female consumers aged 21-30 years, cluster 2 in Malang Regency had an equal number of female and male consumers with the age range of 21-30 years, and cluster 3 in Batu City is dominated by female consumers aged 17-20 years. Psychographic segmentation is divided into three clusters as follow, cluster 1 consists of consumers who seek information through testimonies before making a purchase, cluster 2 consists of consumers who consider prices and attractive offers before purchasing dessert products, and cluster 3 consists of consumer who emphasizes product innovation such as variation of flavors. The findings of this study could be used as a reference for MSMEs to map out market segmentation and consumer profiles.

1 Introduction

The development of entrepreneurial activity such as MSMEs in Indonesia has grown enormously. Today numerous people are competing to create their own business by trying to apprehend the demands of consumers. Data from the Ministry of Koperasi and Small and Medium Enterprises (KemenkopUKM) reveals that in March 2021, the number of MSMEs in Indonesia will reach 64.2 million (Kementerian Keuangan Republik Indonesia 2021). However, in running the business there must be consequences, specifically if the entrepreneurs create products demanded by consumers, which will initiate the emergence of many competitors. For business enterprises to survive in the competition, MSMEs need to do innovation. Furthermore, innovation is a process that seeks to re-create a business model and create new markets to satisfy unmet consumer needs [1]. MSMEs also need to have outstanding products that differentiate their products from competitors.

The culinary business is a business that is in great demand by SMEs because it requires an affordable amount of capital to start. [2] stated that the culinary business is in demand by entrepreneurs because food is a primary need. Furthermore, [3] explained that the culinary business is a promising business during the Covid-19 pandemic because it has a promising market sector for the basic needs of consumers. Moreover, data

from the Central Bureau of Statistics reveals that in the second quarter of 2021, the food and beverage industry in Indonesia grew 2.95% year-on-year which increase from 2.45% in the previous quarter [4]. Hence, it is clear that the culinary business is profitable and is experiencing growth due to increasing consumer demand.

However, there are difficulties encountered by MSMEs in running a culinary business. SMEs in the culinary sector must be able to adjust consumers' tastes. It sometimes results in SMEs being unable to survive in the culinary business. [5] state that changes in market conditions results in shifts in customer tastes and preferences in the culinary business, therefore product innovation is required to support business survival. The increasingly fierce competition in the culinary industry requires MSMEs to make various innovations. It implies the urgency to analyse market segmentation to map out market conditions and consumer profiles. This analysis could increase product sales and assist SMEs in the culinary business to survive in market competition. The market segmentation analysis will produce strategy formulations, so that MSMEs in the culinary industry can implement appropriate marketing strategies.

One of the culinary products currently experiencing increasing demand is dessert products. Research conducted by Mondelez International in 2019 revealed that Indonesia was ranked first in the consumption of snack products [6]. Moreover, a survey regarding

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MSME business trends conducted by Gojek Indonesia as a provider of culinary product delivery services predicted that desserts become favored culinary products in 2021 because of the increased number of menu searches on the food ordering feature by consumers [7]. Consumers consider dessert as a snack that is consumed numerous times. It stimulates consumer behavior to repurchase in a short time. One of the SMEs that produces dessert products is My Dessert Box. In general, My Dessert Box is a new start-up business in the form of MSMEs engaged in the culinary home industry. My Dessert Box' products are cakes served in a box with various flavors that use current signature sauce toppings. My Dessert Box' products have a soft texture, are available in premium sizes 10x10 (400ml), have attractive packaging in gold and pink shades, and provide birthday packages and hampers that are in great demand by consumers. My Dessert Box is located in Batu City, part of the Malang Raya area, East Java, Indonesia. My Dessert Box produces 14 product variants that have a distinctive taste to differentiate their products from competitors.

Business prospects and increasing sales performance are indicators of the success of My Dessert Box in marketing its dessert products in the Malang Raya area, even though My Dessert Box is considered a new start-up business. Hence, it is interesting to conduct a market segmentation analysis for My Dessert Box products in the Malang Raya area. It will contribute to the formulation of marketing strategies that can support the sustainability of the business. This study will analyze the market segment for dessert products in Malang Raya. This research has originality in the form of a research object that involves a start-up business such as MSMEs. The results of this study can be used as a reference for SMEs in the culinary sector to segment the market based on geographic, demographic, and psychographic aspects.

1.1 Objectives

The application of market segmentation can contribute to improving product sales. The market segment of dessert products needs to be analyzed so that it can endure in the long term. The market segmentation in this research is based on proximity to demographic, psychographic, and geographical aspects. Market segmentation analysis on these aspects can provide an overview of the needs of each different consumer group so that they can create product innovations and formulate marketing strategies to serve different consumer groups. Hence, this study aimed to analyze the MSME market segment for dessert, culinary products in Malang Raya based on geographic, demographic, and psychographic segmentation.

2 Literature review

Market segmentation is a process to divide consumers and potential consumers in the market into different groups or segments [8]. Furthermore, market segmentation is the core of the marketing concept,

which is relatively uncomplicated to explain [9]. Even [10] states that market segmentation is an adaptive strategy that aims to concentrate marketing resources to create a competitive advantage. Market segmentation can assist MSMEs serves consumers from diverse segments with the right marketing policies and appropriate products [11]. Market segmentation pays particular attention to the characteristics of consumers and potential customers. [12] explain that market segmentation can create several clusters to obtain consumer segments' information according to product attractiveness. In this study, the characteristics of consumers that form the basis for market segmentation will refer to the characteristics described in [10] based on proximity to demographic, psychographic, and geographical aspects.

Demographic segmentation is an effort to design products based on discrepancies in needs and preferences, especially those related to aspects of sensitivity, taste, price, and quantity [13]. The research from [14] reveals the influence of demographic segmentation on purchasing decisions. Regarding geographic segmentation, [15] states that if marketing activities is held online, then market segmentation based on geography related to consumer residence and business location does not influence consumer decisions in purchasing products. Related to psychographic aspects, research by [14] reveals the influence of psychographic segmentation on consumer purchasing decisions.

3 Methods

This research employs quantitative methods. The population in this research is the prospective My Dessert Box consumers and My Dessert Box customers in the Malang area Raya with unknown populations. The sampling technique in this study employs non-probability sampling. The researcher determines the sample by establishing characteristics relevant to the research objectives. With the 95% confidence level ($\alpha = 5\%$), the researcher assumes that the sampling error is only 5% and the margin of error is 10%. It means that the researcher only tolerates the respondent's errors. The amount of data collection should not exceed 10% of the total respondent's data. The characteristics of the segmentation defined in this study is displayed in table 1 below:

Table 1. Segmentation characteristic.

Type of Segmentation	Indicators	Decision
Geography	Marketing area of dessert products	Malang City
		Malang Regency
		Batu City
Demography	Age	17-20 year old
		21-30 year old
		31-40 year old
		>41 year old
	Gender	Female
		Male
	Education	Junior High School
		Senior High School
		Diploma/Bachelor
Income	Rp. 500.000 - 1.000.000	
	Rp. 1.000.000 - 3.000.000	
	Rp. 3.000.000 - 5.000.000	
	> Rp. 5.000.000	
Psychography	Consumers behavior	Activities
		Interest
		Personalities

The data analysis method in this study employs cluster analysis. The clustering method is searching and grouping similar data [16]. Calculations are using SPSS software to form the cluster analysis. Furthermore, cluster analysis in this study consists of two stages, such as hierarchical clusters and K-Mean clusters. Hierarchical clustering is done by grouping two or more objects that have the closest and most accurate similarity so that they will form a hierarchical construction based on a certain level. K-Mean clustering will determine the constraint on the number of clusters. This method divides data into groups. The data with the same characteristics are included in one group, while data with different characteristics are included in another group. In particular, this study will use the K-Mean clustering analysis method.

4 Data collection

The primary data in this study were obtained by distributing questionnaires to dessert consumers in the Malang Raya area. The secondary data were obtained from internal and external documentation of My Dessert Box. Secondary data in this study were also obtained from literature review, previous research, and other information that can support research analysis. Market segmentation identification will be carried out through an online questionnaire survey [17]. The questionnaire was distributed to respondents who were randomly selected and willing to answer the questionnaire.

5 Results and discussion

5.1 Numerical results

Respondents involved in this study were 116 respondents. The respondents were selected based on the characteristics of consumer segmentation in terms of age, gender, residence location, education, occupation, and income. The consumers who live in Malang City are 83 people or 71.6%. It indicates the majority of My Dessert Box consumers live in Malang City. If we examine the characteristics of the respondents based on the age range, most of My Dessert Box consumers are 21-30 years old, with a percentage of 55.2%.

When examining the characteristics of respondents based on gender, most of My Dessert Box consumers are women, with a percentage of 56%. In addition, if we examine the characteristics of respondents based on educational background, it is discovered that most of My Dessert Box consumers have a high school education background, with a percentage of 64.7%. Furthermore, if we examine the characteristics of respondents based on occupation, it is discovered that most of My Dessert Box is students, with a percentage of 81%. The respondent segmentation based on income shows most of My Dessert Box consumers have an income range between Rp.500,000 - 1000,000, with a percentage of 62.1%.

The geographic and demographic segmentation in this study will be divided into several groups based on demographic variables such as place of residence, age,

gender, education, occupation, and income. Table 2 summarize the result of geographic and demographic segmentation:

Table 2. Geographic and demographic segmentation.

Respondent's Characteristics	Demographist		
	Cluster 1 Malang City	Cluster 2 Malang Regency	Cluster 3 Batu City
Age	47 out of 82 respondents aged 21-30 years old	10 out of 18 respondents aged 21-30 years old	14 out of 15 respondents aged 17-20 years old
Gender	48 out of 83 respondents is female	The number of male and female respondents is equal, with the total respondents of 18	8 out of 15 respondents is female
Occupation	70 out of 83 respondents is students	14 out of 18 respondents is students	10 out of 15 respondents is students
Income	54 out of 83 respondents have income range of Rp. 500.000 – 1.000.000	11 out of 18 respondents have income range of Rp. 500.000 – 1.000.000	7 out of 15 respondents have income range of Rp. 500.000 – 1.000.000
Education	58 out of 83 respondents have education background of senior high school (SMA)	10 out of 18 respondents have education background of senior high school (SMA)	14 out of 15 respondents have education background of senior high school (SMA)

Based on table 2, the demographic composition in cluster 1 mostly consists of female respondents aged 21 -30 years, are students with high school education and having an average income of Rp. 500,000 – 1,000,000. In cluster 2, the demographic composition of the respondents is mostly aged 21-30 years with an equal number of females and males, are students with high school education, and has an average income of Rp. 500,000 – 1,000,000. Then, in cluster 3, the demographic composition consists of mostly female respondents aged 17-20 years old, are students with high school education and an average income of Rp. 500,000 – 1,000,000.

For the psychographic segmentation, it is determined based on consumer characteristics such as activities, interests, and opinions. The psychographic segment will be divided into three clusters as displayed in table 3:

Table 3. Psychographic segmentation.

Indicators	Question	Cluster		
		1	2	3
Activities				
A1	I am someone who seeks information first before making a dessert purchase.	4,53	3,59	4,55
A2	The strategic location of the dessert store is the most important factor in making a purchase.	3,28	2,22	4,18
A3	I will first compare similar products in making a dessert purchase.	4,19	3,30	4,54
Interest				
M1	I'm interested in buying dessert products if there are various product variants.	3,34	3,41	4,79
M2	I will purchase dessert products if the price is affordable.	3,81	3,36	4,75
M3	I'm interested in purchasing dessert products if the ads are interesting.	3,38	3,56	4,64
Opinion				
O1	When purchasing dessert products, I will choose to do online purchasing.	3,78	2,89	4,23
O2	When purchasing dessert products, I will choose to come directly to the offline store.	3,91	3,59	4,71
O3	I will more believe in the products if it is recommended by friends or family who purchase the desert.	4,09	3,74	4,63
O4	I'm the type of person who is picky when purchasing dessert products.	4,34	2,93	4,27
O5	I prefer to purchase dessert products that have numerous testimonies from customers.	4,59	3,59	4,46

Table 3 shows the results of the average value for each respondent. The determination of factors from each cluster will be selected based on the highest value from the three factors. Cluster 1 has the highest indicators such as the O5 indicator with 4.59, the A1 indicator with 4.53, and the O4 indicator with 4.34. In cluster 2, the

highest indicator is O3 with 3.74, while the O5 is 3.59, and the A1 is 3.59. Then, cluster 3 has the highest indicator on M1 with 4.79, whereas the M2 is 4.75, and the O2 is 4.71. These findings indicates that in cluster 1, consumers prefer to purchase desserts with many testimonies from customers. Furthermore, the consumers in cluster 1 will seek information before purchasing dessert because consumers in this cluster are typically picky when purchasing dessert products. In cluster 2, consumers will purchase dessert products if the price is affordable. In addition, the consumers in cluster 2 will be interested in purchasing desserts if the advertisements are attractive. Consumers in cluster 2 also tend to seek information before purchasing dessert products. Ultimately, in cluster 3, the characteristics of consumers are interested in various types of dessert products. Furthermore, consumers in cluster 3 are interested in purchasing dessert products with various variants. Moreover, consumers in cluster 3 prefer to purchase dessert products directly at offline stores.

The analysis of variance in this research also indicated that the significance value of all variables in each cluster was below 0.05. The greater the F value of the mean square, the greater the distinction between clusters in each variable. Hence, each cluster will have a significant difference. Table 4 below display the summary of the variance analysis for psychographic segmentation:

Table 4. Anova of psychographic segmentation.

Variables	Cluster		Error		F	Sig.
	Mean Square	Df	Mean Square	Df		
A1	9.385	2	.431	112	21.749	.000
A2	35.647	2	.851	112	41.872	.000
A3	14.027	2	.593	112	23.648	.000
M1	28.704	2	.510	112	56.237	.000
M2	16.475	2	.393	112	41.896	.000
M3	20.419	2	.616	112	33.132	.000
O1	16.437	2	.840	112	19.560	.000
O2	13.728	2	.488	112	28.126	.000
O3	7.807	2	.634	112	12.311	.000
O4	19.434	2	.786	112	24.720	.000
O5	8.891	2	.555	112	16.018	.000

5.2 Graphical results

Based on data analysis, there are three clusters namely cluster 1 with 32 respondents, cluster 2 with 27 respondents, and cluster 3 with 56 respondents. Hence, the total number of respondents was 116 respondents. Figure 1 display the summary of the number of respondents in this study:

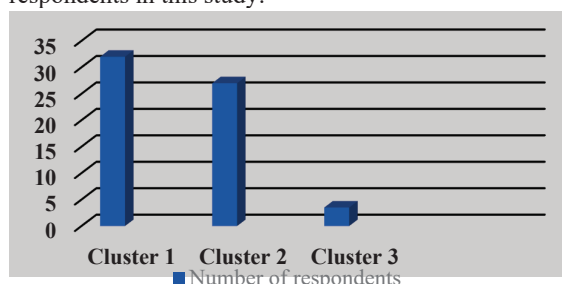


Fig. 1. Number of cases in each cluster.

Psychographic segmentation in this study creates three clusters. Consumers in cluster 1 are selective consumers because consumers in this cluster tend to seek information from other customers before deciding to purchase dessert products. Then, consumers in cluster 2 are economical consumers because they tend to give special consideration to the selling price and attractive offers before purchasing dessert products. Furthermore, consumers in cluster 3 are variative consumers because they emphasize innovation. Hence, they prefer dessert products with various flavor variants. Figure 2 display the clusters that emerge in this study:

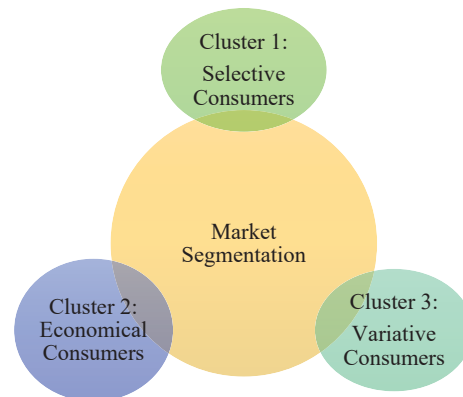


Fig. 2. Cluster of market segmentation.

5.3 Proposed improvements

The clusters that emerge in this study support the opinion of [12] that market segmentation can create several clusters so that they can provide information about consumer segments. In this study, psychographic segmentation formed clusters with different types of consumers. It is an insight for My Dessert Box regarding the profile and characteristics of consumers in the market. This information can assist My Dessert Box to formulate a suitable strategy to serve the types of consumers in each cluster.

The findings in this study also support research by [14], which state that the psychographic segment can impact consumer purchasing decisions. In this study, the emergence of three types of consumers, such as selective, economical, and variative consumers provides insight that psychographic aspects also affect consumer purchasing decisions for dessert products. My Dessert Box can also apply the opinion of [13] in terms of product innovation, i.e. utilizing the results of demographic segmentation to innovate the taste variants of dessert products based on consumer needs and preferences. Furthermore, My Dessert Box can also implement the proposal of [9], i.e. making marketing policies for selective, economical, and variative consumers who appear in this cluster study. Applying the marketing policies correctly will create the competitive advantage of My Dessert Box.

Based on the findings of this study, My Dessert Box should consistently evaluate market segmentation to reach its consumers. Market segmentation can guide the formulation of plans and marketing actions for My

Dessert Box. In addition, market segmentation can also help My Dessert Box to see opportunities in the market to meet consumer needs, and its products can be well received. My Dessert Box should also improve the quality of products, services and innovate in making a variety of dessert flavors. It will assist My Dessert Box to serve selective, economical, and variative consumers. My Desert Box should also expand the reach of consumers by intensively promoting through social media. These efforts will help consumers outside the Malang Raya area to acknowledge My Dessert Box products. Hence, it will increase consumer intentions in making purchases.

5.4 Validation

This study applies a validity test to measure the instrument by setting the conditions for the KMO value of 0.5. The validity test in this research will reveal to what extent the researcher measures what should be measured. The decision making criteria is valid if R-statistic > R-table. Table 5 summarize the validity test in this research:

Table 5. Validity test of segmentation questionnaire.

Question	R-statistic	R-table	Condition	Conclusion
Item 1	0,586	0,184	R-statistic > R-table	Valid
Item 2	0,690	0,184	R-statistic > R-table	Valid
Item 3	0679	0,184	R-statistic > R-table	Valid
Item 4	0,644	0,184	R-statistic > R-table	Valid
Item 5	0,666	0,184	R-statistic > R-table	Valid
Item 6	0,566	0,184	R-statistic > R-table	Valid
Item 7	0,555	0,184	R-statistic > R-table	Valid
Item 8	0,660	0,184	R-statistic > R-table	Valid
Item 9	0,603	0,184	R-statistic > R-table	Valid
Item 10	0,603	0,184	R-statistic > R-table	Valid
Item 11	0,519	0,184	R-statistic > R-table	Valid

Based on table 5, all questions have R-statistic value more than the R-table. Hence, the segmentation questionnaire validity test in this study was valid. The highest value of the R-statistic, which is 0.690, is found in question item 2. In addition, this study also conducted a reliability test to determine the consistency of the results. The reliability test in this study was carried out by statistical tests using the Cronbach Alpha formula. An instrument is said to be reliable if the Cronbach's Alpha value is more than 0.60. The reliability test revealed that Cronbach's alpha value for all segmentation variables was 0.861. Therefore the reliability level was very high. These results indicate that the segmentation variable meets the reliability requirements so that the measuring instrument used in this study is reliable.

6 Conclusion

The demographic segmentation of MSME consumers in Malang Raya for dessert products creates three clusters. Cluster 1 is Malang City, with the characteristics of consumers consisting of mostly women aged 21-30 years, are students with high school education and an

average income of Rp. 500,000 – 1,000,000. Cluster 2 is the Malang Regency with a balanced number of female and male consumers aged 21-30 years, are students with high school education and an average income of Rp. 500,000 – 1,000,000. Cluster 3 is Batu City with the consumer's characteristic consisting of mostly women aged 17-20 years, are students with high school education and an average income of Rp. 500,000 – 1,000,000. In addition to demographic segmentation, psychographic segmentation analysis for MSME consumers of dessert products in Malang Raya also constructs three clusters. Consumers in cluster 1 are selective consumers because they prefer to purchase dessert products based on the number of testimonies from customers. Consumers in cluster 2 are economical consumers because they will only make purchases if the selling price is affordable and the advertisements are attractive. Furthermore, they also prefer to seek information before purchasing dessert products. Consumers in cluster 3 are variative consumers because they are interested in dessert products that have a variety of flavors. They also prefer to buy dessert products directly at offline stores compared to making online purchases. The findings of this study could be used as a reference for MSMEs to map out market segmentation and consumer profiles. It will enable the MSMEs to implement appropriate marketing strategies. For further research, it is suggested to add targeting and positioning aspects to perform a more comprehensive market analysis.

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