Using Shopping and Time Attitudes to Cluster Food Shoppers: An Empirical Finding from Indonesia

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Abstract. Retail market is claimed to be an important interface in channel management as it bridges the manufacturers and consumers. In Indonesia, retail industry has increased significantly. One of the main characteristics of this market is its heterogeneity. This heterogenous market could be segmented into different segments of consumers which have different characteristics, behaviours, and needs. This requires retail market to set proper marketing strategies by analyzing each segment. This research attempted to conduct market segmentation for food shoppers in Indonesia based on attitudes to shopping and time. Four clusters have been constructed, namely, apathetic but regular, convenience seekers, hedonist, and time-pressured convenience seekers. The ANOVA test confirmed that those four clusters were appropriate as it created more differentiated and consistent clusters. This research could give contributions to the theoretical perspective and empirical point of view on market segmentation where different marketing strategies could be generated for each segment.

1. Introduction

Retail industry in Indonesia is showing a substantial growth as the number of retailers has increased significantly by 11% for minimarket and 10.6% for super/hypermarket. This statistic is influenced by the growth in number of families. Middle income families are estimated to expand from 36% in 2015 to 58% in 2020. More than 60 million low income population is projected to join this middle class in the coming decade. Not surprisingly, with the huge number of populations, consumers spending in Indonesia are growing substantially for 11.8% per year in average for the period of 2012-2015 [1].

Among various products, food product is considered promising. In 2015, consumer spending on food is estimated at IDR 1.930 trillion, while the food product is amounted at IDR 4,369 trillion [1]. These numbers mean that the competition is fierce for the retailers, especially for food retailers. This led the service providers to pay more attention to the consumers' needs and wants. In order to do so, food retailers have to realize that market is heterogeneous. The market could be segmented into different distinct groups which have different characteristics, behaviors, and needs who might require separate services or marketing mixes to be served [2]. Thus, analyzing demand by segmenting the consumers would let marketing strategies more efficiently. Once the market is segmented, the retailer could target which segment that it can be served best and set the competitive positioning for the particular service rather than trying to compete in an entire market [2]. Moreover, noticing the rapid growth of retail markets, shoppers nowadays tend to be more selective [3]. Thus, in allocating the limited resources, it is important to focus to a certain segment so the impacts that the retail market gains will be multiplied [4].

Market segmentation refers to the process of dividing the whole market into a number of smaller, more homogeneous submarkets, i.e., segments [5]. It is widely used as it can help marketers, to develop better products and services that are targeted for a specific segment of customer [6]; see for example: [3], [7] used segmentation for identifying the particularities of shopping centers; [8], [9] utilized market segmentation in tourism sector; [10] for ecological products; while [11] in commercial fields.

One of the most important decisions when one segments a market is determining the most valuable variable that will be used to identify different groups of consumers. Some studies used the conventional socio-demographic characteristics [12], [13] and motivation [14], [15]. This research tried to utilize attitudes to shopping and time as they are noteworthy for their usefulness in the identification of consumer clusters or groups. Such attempt has been conducted to segment a market of food shoppers in the United Kingdom [16]. However, this paper sought to extend the scope of the previous study by conducting the research in Indonesia. Different attitudes of the consumers between two countries, could aid validating and generalizing those variables for segmenting food shoppers.

2. Research Design
The objective of this research is to perform market segmentation for food shoppers based on shopping and time attitudes. Such attempt has been conducted by [16] to segment food shoppers in the United Kingdom; thus, this research tried to make a generalization and validation of the selected variables, i.e., sopping and time attitudes, in the different sample. A total of forty-nine items from ten aspects related to attitudes to shopping and time were adopted from [16]. These aspects are: (i) future orientation, (ii) past orientation, (iii) time pressure, (iv) present orientation, and (v) succession from the time attitudes variable; and the rests are from the shopping attitudes variable, i.e. (vi) enjoyment, (vii) regular shopper, (viii) eating convenience shopper, (ix) shopping as an event, and (x) apathy.

A survey was conducted in Semarang, Indonesia. It is the capital city of Central Java Province. This city is considered as one of the cities that is believed to have a rapid development associated with the food business. The questionnaire that was used in this survey has two sections consisting of the respondent's personal information in the first section and then followed by the forty-nine questions. In the first part, the information conveyed are the respondent's name, age, gender, educational background, marital status, and income (in IDR) per month. The questions in the second section examine those ten aspects of food shoppers on a seven-point Likert scale. The participants were asked to show their approval or disapproval of the questions being asked. Score of 1 shows strong disapproval while score of 7 refers to a strong agreement. The list of those forty-nine items could be seen in the following section.

To do segmentation, *k-means* analysis [17] was performed to differentiate and specify the characteristics for each cluster by determining the relationship of variables, i.e., attitudes to shopping and time. This method partitions the information into the cluster so that the information that has the same characteristics are grouped into the same cluster and the information that has different characteristics are grouped into other clusters. The farther the distance between one to another cluster, the greater variant characteristics among groups.

3. Findings
To make generalization and to validate the selected variables that those could be used as a basis for segmenting food shoppers, a survey-based research was conducted in Semarang, Indonesia. We performed an online questionnaire to collect the data. The potential respondents are approached at first and requested if they were willing to partake in the survey. We have gathered 251 valid answers from the respondents. The profile of the respondents is shown in Table 1. As has been mentioned previously, the non-hierarchical *k-means* was used to explore the cluster solution. The number of clusters was found to be four as they have the greatest differences among the clusters. Validation procedure using ANOVA test shows that the four clusters was the best solution. The largest cluster member was cluster 3 (33.50%), followed by cluster 2 (26.30%), cluster 1 (21.50%), and the last is cluster 4 (18.70%). Table 2 shows the mean of the respondents' answers for the corresponding cluster. Note that the differ-

ences were statistically significant since all of *p-value* (sig.) are 0.000 or less than significance level of 0.05.

Table 1. Profile of the respondents.

Variables	Categories	Percentage
Gender	Male	91.63
	Female	8.37
Age	Under 15	0
	15 – 24	13.15
	25 – 34	34.66
	35 – 44	25.90
	45 – 54	22.31
	55 – 64	3.98
	Over 64	0
Marital status	Single	18.73
	Married	81.27
Educational background	Elementary school	1.20
	High school	37.45
	Diploma degree	19.82
	Undergraduate	37.85
	Master	3.19
	Ph.D.	0.40
Employment status	Student	9.16
	Civil servant	20.72
	Employee	24.70
	Self-employee	15.54
	Housewife	26.29
	Retired	0.40
	Others	3.19
Income per month	< IDR 1 million	19.92
	IDR 1 – 3 million	39.44
	IDR 3 – 5 million	27.89
	IDR 5 – 7 million	7.17
	IDR 7 – 9 million	2.39
	> IDR 9 million	3.19

The characteristics of the four constructed clusters are as follows. Cluster 1 is called apathetic but regular. It has 54 respondents. The members have characteristics such as they spend their time regularly for shopping; or in the other word, they consider shopping as a traditional activity as it is viewed as part of an everyday routine. However, they have low scores for convenience. It means that they tend to dislike shopping but not as much as the fourth cluster. Cluster 2 is called convenience seekers. It has 66 members which most of them are female (92.42%). The members of this clusters are concerned with convenience shopping as they got the highest scores in this aspect. Conversely, they do not see shopping as a regular activity as their scores in regular shopper aspect are the least one. Since they will not be influenced by traditional views about food shopping, they are therefore less past-oriented. Cluster 3 is hedonist. This cluster has the largest number of respondents. They have high scores in enjoyment and shopping as an event. The members of this cluster like to go to several stores to get the best value for money, spend time carefully comparing prices before buying items, and purchase different foods for special occasions. They do not see shopping as a traditional activity, and they concerned with what is happening now. Cluster 4 is called time-pressured convenience seekers. It has

47 members. This cluster usually tends to rush while shopping, delays spending for future needs, views time as a series of events and finds comfort while shopping. The members have lowest scores on regular shopping among other clusters since they do not have much time for shopping.

Table 2. Segmentation of food shoppers based on shopping and time attitudes.

	Variable and item questions	Sig.	Cluster 1 21.50%	Cluster 2 26.30%	Cluster 3 33.50%	Custer 4 18.70%	Total 100.0%
Future Orientation	The future is more important than the past to me	0.00	3.33	6.21	6.18	5.60	5.47
	The future is less interesting than the past	0.00	3.70	2.97	3.30	5.38	3.69
	I prefer to keep myself free and ready to go wherever the future may lead	0.00	3.74	4.91	5.73	5.91	5.12
	I spend less time thinking about last year	0.00	3.91	5.41	5.71	5.38	5.18
	I plan on a day-to-day basis	0.00	3.83	5.26	5.56	5.68	5.13
	I like thinking about what will happen in the future.	0.00	3.70	5.11	5.69	5.66	5.10
	I feel better of my life now than I did five years ago	0.00	3.89	5.71	5.96	5.77	5.41
Past Orientation	I like listening to old people talk about the "old days"	0.00	5.31	4.08	4.81	2.89	4.37
	Children should be taught the traditions of the past	0.00	5.81	4.61	5.51	3.06	4.88
	One's family history is important thing to know	0.00	5.76	5.35	5.86	3.38	5.24
	I like society the way it was	0.00	5.70	3.76	4.71	2.89	4.33
	I like to think about the past and to look back on what I have done	0.00	5.70	3.09	4.31	2.77	4.00
Time Pressure	I am always in a rush	0.00	2.19	3.23	4.56	5.26	3.83
	There is often not enough time in the day for me to do what I want to do	0.00	2.37	3.29	4.83	5.40	4.00
	I often feel I have no time	0.00	2.35	3.23	4.64	5.74	3.98
	Doing things fast is vital	0.00	2.46	4.98	5.86	5.74	4.88
	I always look for ways to save the time	0.00	2.52	4.77	5.64	6.00	4.81
	I regularly look at my watch	0.00	2.39	3.61	5.06	5.98	4.27
Present Orientation	I think mostly about what is happening here and now	0.00	2.81	3.82	4.35	4.60	3.92
	It is no use worrying about the future	0.00	3.33	4.00	4.42	4.62	4.11
	I live for today	0.00	3.44	4.38	4.98	4.77	4.45
	The best way to do new tasks well is to rely on what has been done in comparable occurrences	0.00	3.15	3.77	4.63	5.28	4.21

	in the past						
	I am mostly concerned about how I feel now	0.00	3.30	4.47	5.44	5.17	4.67

Table 2. Segmentation of food shoppers based on shopping and time attitudes (*Continued*)

	Variable and item questions	Sig.	Cluster 1 21.50%	Cluster 2 26.30%	Cluster 3 33.50%	Custer 4 18.70%	Total 100.0%
Succession	I use calendar to plan	0.00	2.50	4.24	4.27	5.23	4.06
	I use calendar to schedule well ahead of time	0.00	2.35	4.64	4.70	5.64	4.35
	I plan on a weekly basis	0.00	2.37	4.45	4.57	5.53	4.25
	Time is priceless	0.00	4.46	5.85	6.26	6.19	5.75
Enjoyment	I like going to many stores to get the best value	0.00	4.26	4.48	5.56	5.45	4.98
	I spend time cautiously comparing prices	0.00	4.63	3.94	5.19	5.68	4.83
	Food shopping is recreation	0.00	4.54	4.35	5.58	5.64	5.04
	I like to go to other stores for fresh products	0.00	4.63	4.65	5.13	5.85	5.03
	Food shopping is fun	0.00	4.46	4.42	5.50	5.47	4.99
	I spend time selecting the best quality food	0.00	4.59	4.55	5.42	5.57	5.04
Regular Shopper	I go shopping on a specific day of the week	0.00	5.48	3.09	4.44	2.51	3.95
	I go shopping for the same time of the day	0.00	5.78	3.08	4.04	2.45	3.86
	I take the same amount of time when I shop	0.00	5.81	3.82	4.93	2.94	4.45
	I never go shopping during busy hours	0.00	5.70	4.47	5.29	2.81	4.70
Eating Convenience	Buying take-away meals is saving the time	0.00	2.83	3.53	4.71	5.26	4.10
	I save time by buying convenience foods	0.00	2.67	3.15	4.01	5.68	3.81
	Eating out is saving time	0.00	2.69	3.23	4.01	5.68	3.83
	I shop quickly, buying the first product or brand I find	0.00	2.67	3.52	4.39	5.70	4.04
Shopping as An Event	I am not aware about time when shopping	0.00	5.15	3.94	4.43	3.38	4.26
	I have as much time as I need for shopping	0.00	5.37	3.95	4.44	3.19	4.28
	I spend much energy and time in shopping	0.00	5.22	3.35	3.90	3.53	3.97
	I am continuously buying different foods for special events	0.00	5.13	4.35	5.23	3.72	4.69

Apathy	Shopping is timewasting	0.00	3.07	3.26	3.85	4.68	3.68
	I get annoyed if I can't find what I need	0.00	3.22	3.71	5.07	5.11	4.32
	I prefer shopping where there are no lines	0.00	3.44	4.85	6.04	5.36	5.04
	I make a food shopping trip only when I need to	0.00	3.33	4.59	5.18	5.72	4.73

Table 3. Classification of the four clusters according to socio-demographic variables (in percentage).

Variables	Categories	Cluster 1 21.50%	Cluster 2 26.30%	Cluster 3 33.50%	Custer 4 18.70%	Total 100.0%
Gender	Female	98.15	92.42	84.52	95.74	91.63
	Male	1.85	7.58	15.48	4.26	8.37
Age	Under 15	-	-	-	-	-
	15 – 24	-	16.67	21.43	8.51	13.15
	25 – 34	11.11	28.79	30.95	76.60	34.66
	35 – 44	61.11	16.67	17.86	12.77	25.90
	45 – 54	27.78	25.76	27.38	2.13	22.31
	55 – 64	-	12.12	2.38	-	3.98
	Over 64	-	-	-	-	-
Marital status	Single	-	16.67	33.33	17.02	18.73
	Married	100.00	83.33	66.67	82.98	81.27
Educational level	Elementary school	-	4.55	-	-	1.20
	High school	64.81	24.24	44.05	19.15	37.45
	Diploma degree	12.96	9.10	26.19	31.91	19.82
	Undergraduate	22.22	50.00	33.33	46.81	37.85
	Master	-	10.61	1.19	-	3.19
	Doctorate degree	-	1.52	-	-	0.40
Employment status	Student	-	9.09	19.05	2.13	9.16
	Civil servant	16.67	21.21	20.24	25.53	20.72
	Employee	24.07	24.24	19.05	36.17	24.70
	Self-employee	18.52	15.15	8.33	25.53	15.54
	Housewife	40.74	25.76	27.38	8.51	26.29
	Retired	-	-	1.19	-	0.40
	Others	-	4.55	4.76	2.13	3.19
Income per month	< IDR 1 million	16.67	18.18	28.57	10.64	19.92
	IDR 1 – 3 million	51.85	42.42	32.14	34.04	39.44
	IDR 3 – 5 million	27.78	18.18	23.81	48.94	27.89
	IDR 5 – 7 million	3.70	6.06	10.71	6.38	7.17
	IDR 7 – 9 million	-	6.06	2.38	-	2.39
	> IDR 9 million	-	9.09	2.38	-	3.19

After segmenting food shoppers based on their shopping and time attitudes, additional information could be added based on socio-demographic variable of individuals, i.e., gender, age, marital status, employment status, educational background, and income (see Table 3 for the detail). It can be seen that the majority of respondents in this study are women (91.63%). Cluster 1 has the most female respondents (98.15%). In terms of age, the respondents of this survey are most widely between 25-34 years (34.66%) and followed by 35-44 years old (25.90%). Cluster 4 presents the greatest number between 25-34 years old (76.60%) and cluster 1 presents the greatest number between 35-44 years old (61.11%). In cluster 1, all respondents have married (100%). The cluster that has the highest percentage of single respondents is cluster 3 with 33.33%. In terms of educational background, most of the

respondents in clusters 1 and 3 are high school graduated, while in clusters 2 and 4 have the largest percentage in bachelor's degree. In terms of employment status, cluster 1 is the only cluster that does not have members of student, while the others share variety of employment status. The majority of the respondents based on income ranged from IDR 1 million to 3 million (39.44%), followed by IDR 3 to 5 million (27.89%). There is no respondent with income of IDR 7 to 9 million and more than IDR 9 million in cluster 1 and 4.

4. Conclusion, Limitations, and Future Research Directions

The objective of this study was to determine the segment of food shoppers based on time attitudes (past, present, and future orientation, as well as succession and time pressure) and shopping attitudes (convenience, enjoyment, apathy, shopping as a routine activity, and as an event). Based on practical perspective, this study could give such insight to the retail store managers since establishing strategical plans based on customers segmentation is considered as essential [18], [19]. Based on the theoretical point of view, this study could give such contribution toward the related literature of segmentation study especially for segmenting food shoppers in Indonesia.

The result of this research stated that there are four clusters of Indonesia food shoppers, i.e., apathetic but regular, convenience seekers, hedonist, and time-pressure convenience seekers. The members of the first cluster consider shopping as a traditional activity since they spend their time regularly for shopping. The second cluster enjoys shopping as a convenience activity as there is no time pressure for doing it. The third one has the highest score of enjoyment as the members of this cluster consider shopping as an event. The last cluster tends to rush while shopping since the members seem to do not have much time for shopping.

Limitations of this study are twofold. First is related to the selected variables, i.e., time and shopping attitudes. For the upcoming research, more variables have to be considered, such as demographics, shopping motivation, and distance as [16] stated that there was no evidence that those two selected variables are better than the later variables to segment food shoppers. The second limitation is related to the area (location) of this research, i.e., the study was conducted in Semarang, Indonesia. As suggested for the future research is a research with a larger sample size so that a more detailed analysis would be obtained. In addition, a more nationally representative sample, not only geographically but also demographically, could provide higher generalizability. Therefore, to make a generalization, the upcoming research should broaden and expand the research area.

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