Survey on Consumers' Shopping Behavior in Jakarta, Indonesia[*]

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1. Introduction

In Indonesia, there has been the rapid growth of the modern market since 1980s. The first mode of retailer is supermarket. The first supermarket was registered in early 70s but there was no further development within ten years. Along with the early stage of economic growth and income per capita marked as the beginning of the green revolution era, the supermarket was growing rapidly since around 1983. In the period of 1983-1987, supermarket grows with the rate of 85% per year although the growth was declining but remains increasing by 12 % per year between 1993 and 1997. This rapid development was very prominent especially in DKI Jakarta and in its suburban areas (Natawidjaja, 2005). After the rapid growth of supermarket declined, they were hypermarket and minimarket that remarkably grew in modern retailer. Especially hypermarket is with very good performance in the past 5 years (from 2004 to 2008). Hypermarket's turnover grew significantly at average 21.5% per year (from 2004 to 2008) (Pandin, 2009). This drastic change in retail industry has great influence on the traditional market. The traditional market had shared the major part for the long time. However, after the hypermarket rapidly increased around the early 2000s, the share of them started to decrease gradually. From 2000 to 2004, the modern retail market was taking over traditional market by 1-3 % per year. At the stage of 2004, the modern market's contribution in terms of sales turnover is 25% of the total market although the contribution of modern trade in the number of stores is only about 1 % (Natawidjaja, 2005). This suggests that the rapid growth of hypermarket may impact the consumer's choice of local retailers including the traditional market.

Then, this paper aims to collect the data regarding the consumer's choice of stores in Jakarta and to analyze its characteristics. It highlights the impacts of hypermarket on their choice. Our survey focuses on shopping food. This is because the food is one of the most fundamental goods consumed by local people.

2. Types of local stores in Jakarta

In Indonesia, the local stores are categorized into five types: Hypermarket, Supermarket, Minimarket, Passar, and Warrung/Toko. The Hypermarket is defined as a superstore which combines a supermarket and a department store. Very large retail facility which carries an enormous range of products under one roof, including full lines of groceries and general merchandise. The Supermarket is defined as a self-service store offering a wide variety of food and household merchandise, organized into departments. It is larger in size and has a wider selection than a traditional grocery store. The Minimarket is defined as a small store or shop that sells items such as candy, ice-cream, soft drinks, lottery tickets, cigarettes and other tobacco products, newspapers and magazines, along with a selection of processed food and perhaps some groceries. The Passar is defined as a permanent merchandising area, marketplace, or street of shops where goods and services are exchanged or sold. Some of them are official market organized by government while others are informal market. Finally, the Warrung/Toko is defined as a local small store established

Figure 1: Photos of five types of local stores in Jakarta

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primarily for the retailing of food. Toko is permitted for its business by the government while Warrung may not be permitted.

3. Household survey on shopping behavior

3.1 Design of household survey

The study team including the authors made the local survey on the shopping behavior of local households. The survey collects the data of sample-based shopping-destination-choice in Jakarta. The areas where the survey was implemented were 10 areas, including 5 areas in DKI Jakarta and 5 areas in the suburban regions. The 5 areas in DKI Jakarta include Central Jakarta: *Jakarta Pusat*; East Jakarta: *Jakarta Timur*; North Jakarta: *Jakarta Utara*; South Jakarta :Jakarta Selatan; and West Jakarta: *Jakarta Barat*, whereas the 5 areas in suburban regions include Bekashi city: *Kota Bekashi*; Depok city: *Kota Depok*; Bogor city: *Kota Bogor*; South Tangerang city: *Kota Tangerang Selatan*; and Tangerang city: *Kota Tangerang*. They are shown in Figure 2. These areas cover the Jabodetabek where the penetration of the modern market, especially of hypermarket is very remarkable.

The respondents are randomly selected in the above areas on the basis of the settlement type: Kampung, Urban Settlement, Government Housing, Gated Community, and Apartment. It is assumed that the settlement type represents the income level of the residents.

The questionnaire sheets in the survey request the respondents to answer: (1) individual attributes including gender, age, occupation, birth place, ethnic identification, household members, monthly household salary, number of the car and motorbike that he/she owns, type of the settlement, and travel time to the nearest public transport stop; (2) a meal habit including the ownership of cooking

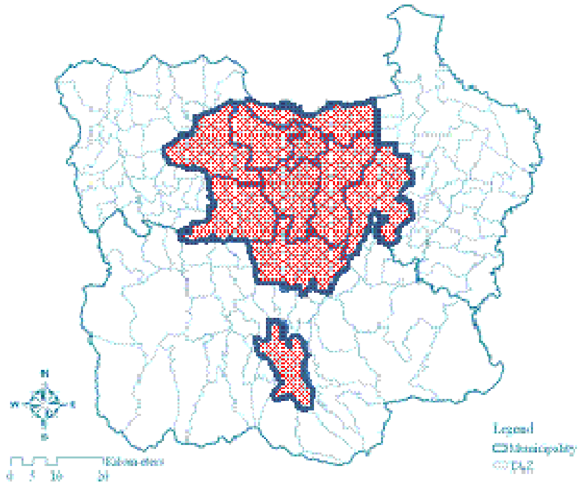

Figure 2: Survey areas of household survey in Jakarta

devices such as refrigerator, microwave oven, rice cooker; a person who cooks the meal, yesterday's dinner, frequency of meal activities such as eating out, buying ready to eat meals, delivery service; (3) a preference on stores including the five-scale evaluation of accessibility of the store, safety of the store, comfort of the store, communication with sellers, quality of goods, and prices of goods; (4) recent changes in the life style including the episode of starting to go shopping at hypermarket and how the shopping activity changes after the penetration of supermarket; (5) the location and frequency that the respondent buys the foods such as fish, meat, vegetables, egg, milk, beverage, seasoning/spice/souse, rice, processed food, non-food; (6) a choice set of stores the respondent visits frequently for shopping food; and (7) the information of stores visited frequently including type of the store, transportation mode used for accessing the store, reasons for choosing the transportation mode, travel time to access the store, travel cost to access the store, other activities than shopping during the visit at the store,

Table 1: Descriptive statistics of respondents' attributes

Settlement type of household							
Kampong	Urban settlement	Government housing	Gated community	Apartment			
151 (47.6%)	92 (29.5%)	57 (18.3%)	8 (2.6%)	4 (1.3%)			
Number of household members							
1	2	3	4	5	6	7	8
2 (0.6%)	11 (3.5%)	65 (20.8%)	84 (26.9%)	84 (26.9%)	37 (11.9%)	13 (4.2%)	14 (4.5%)
Monthly income of household							
~1,000,000	~2,000,000	~3,000,000	~5,000,000	5,000,001~			
87 (27.9%)	98 (31.4%)	63 (20.2%)	42 (13.5%)	22 (7.1%)			
Number of car(s) owned by household							
0	1	2	3				
226 (72.4%)	65 (20.8%)	19 (6.1%)	2 (0.6%)				
Number of motorbike(s) owned by household							
0	1	2	3	4~			
89 (25.8%)	138 (44.4%)	57 (18.3%)	23 (7.4%)	4 (1.3%)			
Travel time to the nearest stop of public transport service							
~5	~10	~15	16~				
211 (67.6%)	76 (24.4%)	22 (7.6%)	3 (1.0%)				

frequency of visiting the store, time of a day when respondent usually visits the store, day of a week when the respondent usually visits the store, evaluation of the store in the light of accessibility of the store, safety of the store, comfort of the store, communication with sellers, quality of goods, prices of goods, variety of goods, safety of goods; the type of the advertisement received by the respondent, and the influence of the advertisement on his/her choice.

3.2 Characteristics of respondents

The study team hired about 20 local surveyors, mainly the master-course students of the University of Indonesia. The surveys were implemented on November 9 to 15, 2009. They were all the non-rainy weekdays. 331 households were interviewed.

Table 1 shows the descriptive statistics of respondents' attributes in the household survey. First, 47.6 % of respondents live in Kampong area, followed by Urban settlement and Government housing. This reflects the share of population residing at each type of settlement in Jakarta. Second, 26.9% of households have 4 or 5 members. The average number of household members is 4.54. Third, 27.5 % of respondents own one or more automobiles while 74.2 % of respondents own one or more motorbikes. Finally, over 90 % of respondents can access the nearest stop of public transport service within 10 minutes. This shows that the accessibility to the public transport service is quite good.

Table 2 shows the descriptive statistics of cooking and meal of respondents in the survey. First, housewives take a role of cooking the daily meal in 79.5% of households. This may mean that the decisions on menu in meal are made mainly by housewives. Second, vast majority of respondents own refrigerator and rice cooker while 25.3 % of respondents have microwave oven. The low rate of owners of microwave oven may reduce the frequency of purchasing ready-to-eat food. Third, 77.9 % of respondents eat meals with family members whereas 16.3 % eat meals alone. As 92.9 % of respondents have dinners at home, considerable rate of respondents have meals alone at home. This may reflect the current lifestyle of local people in Jakarta. Fourth, 78.5 % of respondents had the last dinner at 18:00-20:00 whereas 16.3 % of respondents had the last dinner at 20:00 or later. Fifth, 3 to 5 % of respondents go out for meal or buy ready-eat meal every day. Interestingly, 25.9% of respondents buy ready-to-eat meals 2 to 3 times a week or more. Only 17.0 % of respondents answered that they never buy ready-to-eat meals. These may mean that the accessibility to ready-to-eat meal is so good that the local people prefer doing so to cooking at home.

3.3 Store choice results

Table 3 shows the respondents' choice of store type by type of goods. First, the majority of respondents choose Passar for buying fish, meat, vegetable, and spice. This means that the local people prefer the traditional store for buying the fresh food. This is probably because these goods sold by traditional stores are fresher than the modern stores. Second, the majority of respondents choose Warrung for buying eggs and rice. As for the rice, Warrung is preferred simply because the rice is too heavy to be brought. As for the eggs, Warrung is preferred probably because the eggs are easily

Table 2: Descriptive statistics on cooking and meal of respondents

Who cooks the daily meal?							
	Housewife	Maid	Housewife with maid	Others			
	248 (79.5%)	17 (5.4%)	28 (9.0%)	18 (5.8%)			
Ownership of cooking devices							
	Refrigerator	Micro oven	Rice cooker				
	265 (84.9%)	79 (25.3%)	282 (90.4%)				
Who accompanies you at meal?							
	Family	Friends	Alone	Others			
	243 (77.9%)	7 (2.2%)	51 (16.3%)	8 (2.6%)			
Where did you have last dinner?							
	Home	Restaurant	Warrung	Others			
	290 (92.9%)	9 (2.9%)	7 (2.2%)	1 (0.3%)			
When did you have last dinner?							
	~18:00	18:00~20:00	20:00~22:00	22:00~			
	13 (4.2%)	245 (78.5%)	46 (14.7%)	5 (1.6%)			
How often do you eat out, buy ready-to-eat meals, and use the delivery service?							
	Everyday	2~3/week	1/week	2~3/month	1/month	2~3/year	Never
Eat out	12(3.8%)	33(10.6%)	46(14.7%)	64(20.5%)	69(22.1%)	20(6.4%)	65(20.8%)
Buy ready-to eat meals	17(5.4%)	64(20.5%)	55(17.6%)	45(14.4%)	57(18.2%)	18(5.8%)	53(17.0%)
Delivery service	1(0.3%)	6(1.9%)	6(1.9%)	20(6.4%)	22(7.1%)	17(5.4%)	236(75.6%)

Table 3: Share of choosing the store for buying goods by purchased good

	Hypermarket	Supermarket	Minimarket	Warrung	Passar	Vender	Delivery	Other
Fish	12(3.7%)	10(3.1%)	0(0%)	55(16.9%)	167(51.4%)	78(24.0%)	0(0%)	6(1.8%)
Meat	34(10.6%)	12(3.7%)	0(0%)	49(15.3%)	185(57.6%)	33(10.3%)	0(0%)	9(2.8%)
Vegetables	3(0.9%)	5(1.5%)	0(0%)	77(23.5%)	144(44.0%)	91(27.8%)	0(0%)	3(0.9%)
Egg	19(5.8%)	9(2.7%)	24(7.3%)	195(59.5%)	71(21.6%)	7(2.1%)	2(0.6%)	1(0.3%)
Milk	128(41.7%)	28(9.1%)	72(23.5%)	48(15.6%)	21(6.8%)	2(0.6%)	3(0.9%)	9(2.9%)
Water	1(0.4%)	0(0%)	15(5.5%)	80(29.4%)	1(0.4%)	29(10.7%)	103(37.9%)	44(16.2%)
Spice	6(1.8%)	2(0.6%)	2(0.6%)	87(26.7%)	158(48.5%)	70(21.5%)	1(0.3%)	3(0.9%)
Rice	45(13.8%)	2(0.6%)	0(0%)	151(46.3%)	97(29.8%)	16(4.9%)	7(2.1%)	7(2.1%)
Frozen food	111(38.3%)	20(6.9%)	34(11.7%)	52(17.9%)	51(17.6%)	13(4.5%)	0(0%)	12(4.1%)
Non food	144(44.3%)	27(8.3%)	47(14.5%)	45(13.8%)	52(16.0%)	5(1.5%)	1(0.3%)	7(2.2%)

Table 4: Income class vs. chosen store

	Hypermarket	Supermarket	Minimarket	Warrung/Toko	Passar
~1,000,000	29(15.4%)	1(0.5%)	30(16.0%)	67(35.6%)	61(32.4%)
~2,000,000	39(17.1%)	12(5.3%)	31(13.6%)	71(31.1%)	75(32.9%)
~3,000,000	40(28.2%)	12(8.5%)	30(21.1%)	25(17.6%)	35(24.6%)
~5,000,000	28(26.4%)	12(11.3%)	18(17.0%)	17(16.0%)	31(29.2%)
5,000,001~	18(36.7%)	4(8.2%)	6(12.2%)	7(14.3%)	14(28.6%)

Table 5: Modal share for accessing the stores by store type

	Car	Motorbike	Aukot	Walk	Others
Hypermarket	63(39.6%)	43(27.0%)	28(17.6%)	20(12.6%)	5(3.1%)
Supermarket	12(31.5%)	11(28.9%)	8(21.1%)	5(13.2%)	2(5.3%)
Minimarket	7(6.7%)	34(32.4%)	1(1.0%)	63(60.0%)	0(0.0%)
Warrung/Toko	2(1.0%)	2(1.0%)	1(0.5%)	190(96.9%)	1(0.5%)
Passar	16(7.5%)	51(23.8%)	49(22.9%)	81(37.9%)	17(7.9%)

broken during the journey. Note that the Warrungs are usually located closest from the residential areas. Third, 41.7 % of respondents buy milk at hypermarket while 38.3 % buy frozen food at hypermarket. This is probably because the traditional stores do not install refrigerators to stock the cool/frozen food for a long period. Fourth, 37.9 % of respondents buy water from delivery service. This is simply because the water is too heavy to be brought. Finally, the non-food is mainly bought at hypermarket. This reflects the high variety of non-food goods sold at hypermarket.

Table 4 shows the share of choosing the store by income class. About 30 % of consumers in any income class choose the Passar. This means that the Passar is supported by many consumers in Jakarta. The higher the income is, the higher the share of choosing hypermarket is. Warrung/Toko is mainly chosen by low-income classes.

Table 5 presents the modal share for accessing the stores by store type. First, 39.6 % of Hypermarket users use cars to access there while 31.5 % of Supermarket users use cars to access there. This is first because they install large-scale parking space; second because they are located along the major roads; and third because they are used mainly by high-income consumers owning their cars. Second, 60 % of Minimart users walk to there. This is probably because the Minimarts are located quite close to the residential area. Third, 96.9 % of Warrung/Toko users walk to there. This is because Warrung/Toko is, in many cases, located in the residential area. Finally, Passar are accessed by various transportation modes, including motorbike, Aukot, and walk. This probably reflects the variety of consumers in their income level. Low-income consumers may choose Aukot or walk while middle-income consumers may prefer motorbike. Note that the consumers sometimes prefer the farther Passar then the nearest Passar if the level-of-service of the nearest Passar is worse than others.

4. Conclusions

This paper surveyed the consumer's behavior of shopping in Jakarta. Although the results show the local consumer's preference on shopping to some extent, further analysis is required to understand their characteristics more deeply, including an econometric analysis on the shop choice of local consumers.

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