pISSN: 1906 - 3296 © 2020 AU-GSB e-Journal. eISSN: 2773 – 868x © 2021 AU-GSB e-Journal. http://www.assumptionjournal.au.edu/index.php/AU-GSB/index

Confirmatory Factor Analysis of Consumer Decision Making for Buying Coffee in Gas Stations in Bangkok Metropolitan

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Received: April 08, 2022.

Revised: May 02, 2022.

Accepted: May 07, 2022.

Abstract

The objective of this research was to conduct confirmatory factor analysis of decision making for buying coffee in gas stations. The sample consisted of 493 consumers who buy coffee in gas stations in Bangkok Metropolitan Region. Convenience sampling method was used to select the sample. Data were analyzed using the second order confirmatory factor analysis. The results indicated as follows: The confirmatory factor model of decision making for buying coffee in gas stations had construct validity or congruence with the empirical data) GFI = ,0.987AGFI = ,0.969 RMR = ,0.011 RMSEA = 0.029 and $x^2/df = 1.42$), 10 indicators from 5 factors were decision making for buying coffee in gas stations, i.e. need recognition/problem recognition, information search, evaluation of alternatives, purchase decision, and post-purchase behavior.

Keywords : Component analysis, decision making for buying coffee, gas station

JEL Classification Code : C38, M30, M31, G15

1. Introduction¹

Coffee is one of the most popular beverages among Thais, particularly among the new generation of workingage people, including those residing in urban areas, who are increasingly turning to fresh coffee. In terms of coffee operators, during the past 4-5 years, coffee shops were found in many places like self-employed old-fashioned coffee shops or in the form of hawker stalls, small and large coffee shops including premium coffee shops, which is interesting for keeping monitoring in Thailand coffee market (Bangkok Bank PCL, 2016).

Coffee market, in particular fresh coffee, tends to grow continuously. The main factor is the fresh coffee consumption rate among Thai people is still low, compared to other countries. Namely, the average consumption rate is 1.2 kilograms per person per year, lower than people in Europe of which the consumption rate is around 4-5 kilograms per person per year while Japanese people consume coffee around 3 kilograms per person per year. These numbers reflect that fresh coffee market has a great chance to grow, which is probably 10% per year. Of course, the competition is continuously fierce as well due to a higher number of competitors. A chance for the growth of coffee market in 2020 was very high, triggered by the average coffee consumption rate among Thai people that reached 300 glasses per person per year, but lower than the average coffee consumption rates in developed countries, such as Japan where people consume coffee around 400 glasses per person per year or in European countries where people consume coffee around 600 glasses per person per year. Therefore, Thai coffee industry has potential to grow further.

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Importantly, government and private sectors should work in collaboration to develop Thai coffee industry in terms of quality and quantity from the upstream to downstream in conjunction with driving it to become a new cash crop after the growth of Thai coffee market reached 30,000 million baht. Though the coffee consumption in Thailand is higher every year, actually Thai people consume less coffee than people in other countries like in the United States of America, Europe, Japan, etc. Even the coffee consumption quantity among Thai people is not apparently high, the value of coffee shop business in Thailand since 2017 was as much as 2.12 billion baht and reached 2.34 billion baht in 2018. In 2019, it was expected that the value of coffee shop business perhaps reached 2.58 billion baht (data from Food Intelligence Center) while there have been a lot of new and old players ready to jump into the business to grasp the market share continuously. Due to a higher value of the coffee market that reaches ten billion baht, it shall be a cause encouraging investors to turn to invest in this business more and more, making international coffee chains and local brands step into this market while coffee shops or cafés are mushrooming in every corner of the city, in gas stations, department stores, standalone coffee cafés or even coffee hawker stalls (Montri Siriwong, 26 February 2020).

Currently, gas stations are more than just places where customers stop to refuel for a trip. Coffee shops are positioned at petrol stations, and they function similarly to a small shopping mall where travelers can "find some foods to fill them up." coffee shops mushrooming around are fresh coffee shops that play an important role in capturing the market share while the competition seems to be more intense, especially coffee shop chains that hold 75.0% of the market share of the total value coffee shop market that is 17,397 million baht worth. Each operator has its own outstanding character; for example, "Starbucks positions itself as a specialty premium coffee retailer, penetrating high income consumers. Target customers of Café Amazon are travelers or tourists since their coffee shops are mostly located in gas stations. True Coffee positions itself as a premium coffee brand for serving high income consumers. Its main strategy is expanding its branches to department stores, universities, community malls including community places. Generally, in coffee shops or cafés, the average price consumers pay for a glass of coffee ranges from 20-30 to 100 baht, depending on raw materials in coffee production and the quality of beverages. Coffee shop business market can be divided by price levels into premium market that shares 47.0% in the market, accounted for 8,240 million baht, the average growth rate is 10.8%. It is a coffee shop that gains much interest from foreign investors. With regard to middle and low-end coffee markets, the value is around 9,157 million baht. Most of them run the business independently under a single name like Café Amazon that is operated in the form

of coffee shop chain and it is considered a large operator that holds the biggest market share, 20.00% of the value of middle and low-end coffee markets. The significant factor driving the growth of middle and low-end coffee markets is the highest number of branches expanding in every province to ensure consumers access products and services easily (Bangkok Bank PCL, 2016). The coffee industry has been impacted by the Covid-19 outbreak for nearly two years. As more people work from home and are concerned about living outside the home, the market for coffee shops that serve coffee outside the home has shrunk by 30-40 percent. These factors, on the other hand, result in a 10% increase in coffee consumption at home. Overall, the coffee shop business is expected to recover in 2022 because Thai people have been vaccinated against COVID-19 at a higher rate, reaching 60-70 percent, which will aid in the development of good immunity (Savitree Rinwong, 13 November 2021).

From the study of purchasing decision theory, scholars have studied as follows: Meejinda (2010) investigating the following stages in the consumer decision-making process: 1) pre-purchase stage, 2) purchase stage, and 3) postpurchase stage. Kananurak (2013) studied the consumer decision-making model which can be divided into 3 stages: 1) input stage, 2) process stage, and 3) the output stage. According to a study by Smithikrai (2011), the pre-purchase process is a consumer decision-making process that takes place before the purchase and actual use of a product, which can be divided into four steps: 1) Identifying the problem/needs, 2) Searching information, 3) Evaluation of alternatives, and 4) Decision making. According to a study by Sukcharoen (2012), decision making is a process covering identifying problems and alternatives. Consumers will make a decision based on their familiarity if the decision is simple and uncomplicated. They, on the other hand, will weigh the various options available if the decision is difficult and sophisticated. The process consists of the following steps: 1) Identification of problem, 2) Identification of alternatives, 3) Evaluation of alternatives, 4) Choose alternatives, and 5) Outcome. According to the study on decision making concept and theory, they were studied about characteristics of components, consumer decision making process consumers go through in order to make a purchase but no studies have been conducted on components or factors of consumer decision making process for buying coffee in gas stations. Therefore, the researcher is interested in studying on such point. The objective of the research is to study confirmatory factors of decision making for buying coffee in gas stations in order to bring the study results to investigate decision making to use services of coffee shops in gas stations for developing marketing strategies in managing coffee shops in gas stations so as to increase competitive advantage and market share in the coffee business in gas stations accordingly.

2. Literature Review

2.1. Decision making concept and theory

Consumer decision making is the process under which consumers go through in deciding what to purchase, including learning, experience, and perception of things related to environment associated with decision making by collecting information to support their decision making to purchase based on their requirements or needs to use a certain product (Pham and Ahammad, 2017; Meejinda, 2010; Kananurak, 2013; WittayaUdom, 2013; Sukcharoen, 2012).

2.2. Decision making process

Consumers shall make a purchase when they demand or need to use that product. Thus, purchase decision making process is the steps of consumer decision making (Huang and Benyoucef, 2017; Karimi et al., 2018; Faulds et al., 2018; Simon, 1995; Liang and Lai, 2002; Meejinda, 2010; Sukcharoen, 2012) that comprise the following:

1. Pre-purchase stage is steps to find a product. Consumers realize their desire or need, they search for information about a product they would like to purchase through the process of information searching and information processing, they evaluate alternatives for making decision further, which can be divided into

Step 1 – *problem recognition* – consumers recognize differences between what they have and what they desire, probably caused by internal variables being psychological variables and external variables being social and cultural environment.

Step 2 – *Information search* – consumers search for information of products that can respond their desire using the process of information search and processing. This step includes disclosure of information and perceived information in memory. If their desire is strongly stimulated enough, consumers shall search for information increasingly. Sources of information are persons, sources of trade, experience, communities, and experimental venues.

Step 3 – Evaluation of alternatives – consumers evaluate each alternation after they search for information. They probably evaluate risks that possibly occur from using a product. It can be concluded that consumers evaluate perceived risks, relationship with benefits, and expected satisfaction.

2. Purchase decision is the 4^{th} step – consumers make a purchase decision after they perceive their demand; desired information is searched. Alternatives are evaluated in terms of benefits and risks before consumers make their decision to purchase. At this step, consumers shall make decision to buy the product they like most by asking themselves whether or not to buy, which brand they are going to buy,

from which seller they would buy, why they buy, when, where, how, how many, how often to buy and how much time spent in buying.

3. Post-purchase can be divided into

Step 5 – consumption or using is consumer consumption associated with consumption opportunities, places of consumption, methods of consumption, consumption quantities, consumption emotions, and whether or not consumption meets expectation and how?

Step 6 – post-purchase behavior is consumer experiences about satisfaction and dissatisfaction with a product. If consumers are satisfied with the product, loyalty shall occur, leading to good relationship and positive word of mouth.

3. Research Methods and Materials

3.1. Research Framework

The research conceptual framework, based on the literature review and the researcher's synthesis of the decision making for buying coffee at the gas stations, is used as a guideline for conducting the study on confirmatory factor analysis of decision making for buying coffee in gas station can be concluded as follow:



Figure 1: Research conceptual framework by the researcher

3.2. Methodology

3.2.1. Population and Sample

Population in this study was consumers buying coffee in gas stations in Bangkok and the outskirts of Bangkok where the population was unknown.

The sample in the study was consumers buying coffee in gas stations in Bangkok and the outskirts of Bangkok. In order to determine appropriate sample size for research analysis using LISREL model, a large sample size is required. As for determination of appropriate sample size, suggestions are from the following persons: Schumacker and Lomax (1996) as cited in Wiratchai (1999) concluded study results from previous studies that LISREL model required a sample size of 150-100persons to give satisfactory results. Besides, Schumacker and Lomax (1996) and Hair et al. (1998 as cited in Wiratchai, 1999) proposed to determine a sample size of 10-20 persons per variable for single-variable research. In this study, the minimum sample size of 150 persons was determined using convenience sampling method. Online questionnaire through social media that is Facebook Group "Help to Survey" was used to collect data and a total of 493 questionnaires were returned.

3.2.2. Research Instrument

Part 1 is questions about decision making for buying coffee in gas stations, in the form of 5-point rating scale. It consists of questions in 5 aspects, namely: Problem recognition, Information search, Evaluation of alternatives, Purchase decision, and Post-purchase behavior, totaling 10 items.

Part 2 is questions about demographic data in the form of multiple-choice questions, measured by nominal scale. It consists of gender, age, educational level and average monthly income.

Content validity of the questionnaire was measured using item-objective congruence index (IOC) by 3 experts. Measured by IOC, it was found that IOC of each question ranged from 0.5 - 1.00. The questionnaire improved according to experts' suggestion was pretested with 50 consumers buying coffee in a department store. Reliability and internal consistency were measured using Cronbach's Alpha coefficient as seen in Table 1.

Table 1: R	Reliability	measurement
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Latent feature	Indicators	Reliability (a)		
Purchase decision	Problem recognition	0.734		
	Information search	0.832		
	Evaluation of alternatives	0.733		

 Purchase decision	0.765
Post-purchase behavior	0.826

3.2.3. Data analysis

The obtained data were analyzed using the following statistics:

1. Descriptive statistics were used to analyze demographic data of questionnaire respondents, consisting of frequency and percentage.

2. Pearson's product moment correlation coefficient was used to analyze association between variables, in SPSS for Windows.

3. Second order confirmatory factor analysis was conducted to measure validity of measurement model of each variable using LISREL program.

4. Results and Discussion

4.1 Demographic data

Demographic data analysis results classified by age as a whole found that most of the sample was 20-30 years old (59.3%). Data analysis classified by age and gender found most men were 20-30 years old (56.1%) and women were 20-30 years old (61.2%).

Data analysis classified by the highest education level found overall the sample finished their education below a bachelor's degree (47.8%), followed by a bachelor's degree (43.0%), and a master's degree (9.3%) respectively. Data analysis classified by the highest education level and gender found most men graduated with a bachelor's degree (45.2%) and most women finished their education below a bachelor's degree (49.8%).

Data analysis classified by average monthly income found overall most of the sample had 15,000-30,000 baht monthly income (57.8%) while data analysis classified by average monthly income and gender found men had 15,000-30,000 baht monthly income (55.5%) and women had 15,000-30,000 baht monthly income (59.2%).

Data analysis classified by career as a whole found most of the sample was employees in private companies (37.0%) while data analysis classified by career and gender found men were employees in private companies (38.7%) and women were employees in private companies (35.9%).

4.2 Relationship among observed variables

Analysis results of relationship among 10 observed variables about problem recognition, information search, evaluation of alternatives, purchase decision and postpurchase behavior using Pearson correlation coefficient were shown in Table 2. It was found that the correlation coefficient ranged from 0.280 to 0.712. The correlation coefficient among 45 pairs of variables was significantly different from zero (P <.01), the correlation coefficient between variables with statistical significance ranged from 0.280 to 0.712 and every pair had positive correlation. Variables that had the highest correlation with statistical significance were correlation between variables about before buying products, you always receive information from searching for information, asking from acquaintances or sales assistants (Item 3) and you read product nutrition information before making purchase decision (Item4). Variables that had the lowest correlation with statistical significance were variables about you reading product

nutrition information before making a decision to buy (Item4) and you can afford this product (Item7).

According to Table 2, consideration of Bartlett's Test of Sphericity, the statistic used to test the null hypothesis that the correlation matrix is an identity matrix, found the value was 2,676.649 (p<.01), showing that the correlation matrix between variables was different from the identity matrix with statistical significance. It was consistent with Kaiser-Mayer-Olkin measure of sampling adequacy (KMO), the value was 0.909 which close to 1. The test results showed that various variables of this set of data shall be used for factor analysis of variables that are correlated.

Table 2: Mean, standard deviation and Pearson's correlation coefficient of variables in decision making for buying coffee in gas stations.

Variables	Item1	Item2	Item3	Item4	Item5	Item6	Item7	Item8	Item9	Item10
Item1	1.000									
Item2	0.472**	1.000								
Item3	**0.550	**0.399	1.000							
Item4	**0.467	0.355**	0.712**	1.000						
Item5	0.437**	**0.562	**0.377	0.331**	1.000					
Item6	0.457**	0.551**	0.507**	**0.411	**0.582	1.000				
Item7	0.400**	**0.506	0.332**	0.280**	0.623**	0.503**	1.000			
Item8	0.391**	**0.546	0.442**	**0.391	0.592**	**0.627	0.620**	1.000		
Item9	**0.379	**0.501	**0.453	0.380**	**0.567	**0.588	0.605**	0.640**	1.000	
Item10	**0.373	**0.491	**0.493	**0.408	**0.513	0.553**	**0.486	**0.598	0.705**	1.000
Mean	3.696	4.033	3.688	3.765	4.108	4.012	4.039	4.039	4.037	4.041
SD	0.824	0.689	0.821	0.837	0.700	0.770	0.707	0.710	0.686	0.729
Bartlett's Test of Sphericity = $2,676.649$ df = 45 p = .000										

Kaiser-Mayer-Olkin measure of sampling adequacy: (KMO) = 0.909

Note **p<.01

4.3 The second order confirmatory factor analysis of the model of decision making for buying coffee in gas stations

The second order confirmatory factor analysis results of the measurement model of decision making for buying coffee in gas station found the model was highly consistent with the empirical data, considered from Chi-square value $(x^2 = ,31.335 df = 22, p = 0.089)$ which the p-value was greater than 005., showing that the null hypothesis was not rejected that the theoretical hypothesis model was consistent with the empirical data. Goodness of fit index (GFI) was 0.987, adjusted goodness of fit index (AGFI) was 0.969 which close to1, standardized root mean squared residual (RMR) was 0.011, root mean square error of approximation (RMSEA) was 0.029 which close to zero. These statistics reflected that the measurement model of decision making for buying coffee in gas stations according to the developed research conceptual framework was consistent with the empirical data. Consideration of factor loadings of variable factors in the model found all variables were statistically significance (p < .001). Details of the analysis results are

shown in Table 3 and Diagram 2.

Table 3 presents the second order confirmatory factor analysis results of the measurement model of decision making for buying coffee in gas station, which comprised factor loadings in the form of raw score (b), factor loadings in the form of standard score (β), standard error (SE), factor score coefficient (FS) and prediction coefficient (R2). According to the consideration of the first order factor analysis results, the model analysis results showing relationship among factors about problem recognition, information search, evaluation of alternatives, purchase decision, post-purchase behavior and observed variables that indicate all 5 factors, it was found that factor loadings of all variables were statistically significant (p < .001), showing that all 10 variables were important indicators of problem recognition, information search, evaluation of alternatives, purchase decision and post-purchase behavior. Those variables had factor loadings in the form of standard score ranged from 0.503 to 0.738. The indicator with the highest importance weight was before buying a product, you always receive information from searching information, asking from acquaintances or sales assistants (Item3), followed by you read product nutrition information before

making purchase decision (Item4). The indicator with the lowest importance weight was you need to buy coffee and other beverages (Item1). Consideration of details in each factor found the following:

Problem recognition – Data analysis results found that factor loadings of all indicators were statistically significant (p < .001). All indicators having similar importance weight arranged in descending order to ascending order were raw materials, containers, and packaging that are clean, nice, and safe (Item2), the proportion of variance explained by problem recognition was 58.1%, followed by you need to buy coffee and other beverages, the proportion of variance

explained by problem recognition was 37.3%.

Information search – Data analysis results showed that factor loadings of all indicators were statistically significant (p < .001). All indicators having similar importance weight arranged in descending order to ascending order were before buying a product, you always receive information from searching information, asking from acquaintances or sales assistants (Item3), followed by you read product nutrition information before making purchase decision (Item4). The proportion of variance explained by information search ranged from 62.2% to 81.0%.

 Table 3: The second order confirmatory factor analysis results of the measurement model

	Factor loading					D ²	Factor score coefficient	
Variables	b(SE)	β		Т		R ²		
The first order factor analy	ysis		-					
Problem recognition								
Item1	0.503	0.503		<>	<> 0.373		0.238	
Item2	0.525(0.044) 0.525		***12.038	3	0.581	0.452	
Information search								
Item3	0.738	0.738		<>		0.810	0.939	
Item4	(0.048)0.660	0.660		***13.913	;	0.622	0.380	
Evaluation of alternatives								
Item5	0.526	0.526		<>	<> 0.563		0.269	
Item6	(0.036)0.605	5 0.605		***17.065	5	0.617	0.305	
Purchase decision								
Item7	0.510	0.510		<>		0.521	0.229	
Item8	(0.037)0.613	0.613		***16.586	5	0.744	0.634	
Post-purchase behavior								
Item9	0.591	0.591		<>		0.742	0.637	
Item10	(0.030)0.590	0.590		***19.517 0.660		0.660	0.422	
The second order factor an	alysis							
Indicator of purchase								
decision								
Factor1	(0.073)0.918	0.918		12.505***	¢	0.842		
Factor2	(0.049)0.622	0.622		12.681***	¢	0.387		
Factor3	(0.054)0.991	0.991		18.226***	18.226*** 0.983			
Factor4	(0.060)0.938	0.938		15.767***	15.767*** 0.880			
Factor5	(0.047)0.882	0.882		***18.975	**18.975 0.778			
Chi-square = 31.335 df = 22				P = 0.089				
GFI = 0.987 AGFI = 0.9		59		RMR = 0.	011		RMSEA = 0.029	
Correlation matrix betwee	n	Factor1	Factor2	Factor3	Factor4	Factor5	Decision Making	
variables								
Factor1		1.000						
Factor2		0.571	1.000					
Factor3		0.910	0.616	1.000				
Factor4		0.861	0.583	0.930	1.000			
Factor5		0.809	0.548	0.874	0.827	1.000		
Decision Making		0.918	0.621	0.991	0.938	0.882	1.000	

Evaluation of alternatives – Data analysis results showed that factor loadings of all indicators were statistically significant (p < .001). All indicators having similar importance weight arranged in descending order to ascending order were being satisfied with the taste of coffee or other beverages (Item6), followed by convenience for buying (Item5). The proportion of variance explained by evaluation of alternatives ranged from 56.3% to 61.7%.

Purchase decision – Data analysis results found factor loadings of all indicators were statistically significant (p < .001). All indicators having similar importance weight arranged in descending order to ascending order were a variety of drinks is available for your desire (Item8), followed by prices of products are affordable (Item7). The proportion of variance explained by purchase decision ranged from 52.1% to 74.4%.

Post-purchase behavior – Data analysis results showed that factor loadings of all indicators were statistically significant (p < .001). All indicators having similar importance weight arranged in descending order to ascending order were in the future you are going to use services and will recommend your friends and persons close to you to use services of fresh coffee shop definitely (Item10), followed by you are satisfied with products you receive (Item9). The proportion of variance explained by post-purchase behavior ranged from 66.0% to 74.2%.

From what mentioned above, all indicators according to the developed conceptual frame of decision making for buying coffee in gas stations were statistically significant and all of them had positive factor loadings. That means service receivers had a high level of characteristics of those indicators, it shall affect an increase in decision-making for buying coffee in gas stations. On the contrary, if service receivers had a low level of characteristics of those indicators, it shall affect a decrease in decision-making for buying coffee in gas stations.

According to the second confirmatory factor analysis results which are the model analysis results showing correlation between overall factors about decision to buy coffee in gas stations, the second factor, and the 5 factors, namely, problem recognition, information search, evaluation of alternatives, purchase decision and postpurchase behavior, it was found that factor loadings of all 5 factors were statistically significant (p < 0.001) in all aspects. The factor loadings were in the form of standard score ranging from 0.622 to 0.991. It means that all 5 factors were indicators of decision to buy coffee in gas stations with statistical significance. The factor with the highest importance weight to indicate decision to buy coffee in gas stations was evaluation of alternatives, followed by purchase decision, problem recognition, post-purchase behavior and information search. Each factor shared variance with decision to buy coffee in gas stations as a

whole. It was found that each factor was positively correlated at a moderate level to high level. The correlation coefficient ranged from 0.548 to 0.991, showing that problem recognition, information search, evaluation of alternatives, purchase decision and post-purchase behavior were correlated, not independently separated. Results from decision making to buy coffee in gas stations shall occur when service receivers have problem recognition, information search, purchase decision, post-purchase behavior that lead to an increase in decision making as a whole.

4.4 Outcomes of the development of purchase decision index

According to the model analysis of purchase decision index as mentioned earlier, a scale of factors related to decision making for buying coffee in gas stations to show importance of 5 factors, i.e. problem recognition (Factor1), information search (Factor2), evaluation of alternatives (Factor3), purchase decision (Factor4) and post-purchase behavior (Factor5) shall be made according to the following equation:

> Factor1 = 0.24(Item1) + 0.45(Item2) Factor2 = 0.93(Item3) + 0.38(Item4) Factor3 = 0.27(Item5) + 0.31(Item6) Factor4 = 0.23(Item7) + 0.63(Item8)Factor5 = 0.64(Item9) + 0.42(Item10)



Chi-Square=31.34, df=22, P-value=0.08946, RMSEA=0.029

Figure 2: Factors related to decision making for buying coffee in gas stations based on the second order confirmatory factor analysis results.

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5. Conclusion

5.1 Discussion Summary

The confirmatory factor analysis results of decisions making to buy coffee in gas stations based on studying relevant documents and research studies, according to the second order confirmatory factor analysis, found that decision making to buy coffee in gas stations comprised the following factors: problem recognition, information search, evaluation of alternatives, purchase decision and postpurchase behavior. It is consistent with Liang and La (2002), Sereerat et al. (2000), Chivatrakulkit, (2005) mentioned that the process of decision making to buy products and services of consumers included 1) need recognition, 2) information search, 3) evaluation of alternatives, 4) purchase and 5) postpurchse evaluation. Purchase decisions were influenced by consumer behavior, which were influenced by the thoughts, feelings, and expressions of each consumer's lifestyle, which were not always the same. Each person has different attitudes, incentives, experiences, perceptions, and responses to various internal and external stimuli. These factors have an impact on the emotions that drive purchasing decisions and post-purchase behavior. Consumers do not always follow the five steps of purchase decision-making; instead, depending on their level of commitment to specific consumer-related problems, they may skip or reduce certain steps.

5.2 Receommendations

5.2.1 Recommendations for research application

In this study factors related to decision making to buy coffee in gas stations were analyzed. The obtained decision making shall be used as a guideline to determine a marketing strategy for coffee shop business in gas stations in order to stimulate customers to buy coffee in gas stations in greater numbers.

5.2.2 Recommendations for future research

1. This study was conducted using a quantitative research design. Future research should be conducted on the basis of qualitative research design using an in-depth interview with service receivers in gas stations.

2. Future research should be conducted on a comparison between decision making to buy coffee in gas stations and in other places to see how different it is. Besides, other variables related to consumer behavior should be studied through the causal factor model.

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