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## Psychographic Segmentation of Saving Market

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### **Abstract:**

*The purpose of this study was to examine the possibility of saving market segmentation by identifying segments consumers using a combination of several dimensions, such as psychological motivations, perceptions, attitudes, and demographics. A sample of 1,800 age-appropriate savers, randomly selected, completed a structured questionnaire which contains more than 190 questions to determine an individual's psychological differences for each dimension. Data related to the key objectives were analyzed using Factor analysis, Cluster analysis, and multi-factor regression. Results revealed certain segments that differed in psychological and demographic characteristics. The further differences were examined among the segments based on the factors that impact on consumer's purchasing intention and choice of savings services.*

**Keywords:** Market segment, psychographic variables, motive, perception, attitude, demographic variable, intention

### **1. Introduction**

Market segmentation has been an interesting topic to many researchers, numerous studies have emerged and evolved through the years to come to today's development. Also, since the introduction of the mass marketing strategy, the market has been divided into small groups that are externally different but internally similar, and have started implementing differentiated marketing strategies for each of the selected target segments (Dibb, Stern, & Wensley, 2002). Researchers in many countries have studied the variables of market segmentation, the segmentation process, the data analyzing tools and methods, the selection and evaluation of target segments, doing the optimum positioning, and coming up with different proposals.

As a result, the most popular segmentation bases, geographic, demographic, psychographic, behavioral, have been further developed (Kotler, Armstrong, Saunders, & Wong, 2002) (Goyat, 2011). Many research papers still being published that determine the segmentation base chosen to subdivide a market will depend on many factors such as 'the type of product, the nature of demand, the process and scope of segmentation and method to select target market' (Gunter.B & A.Furnham, 1992) (H.Myers, 1996).

Marketers have traditionally chosen geographic and demographic dimensions for consumer market segmentation, but since the mid-20th century, researchers have found it more effective to use a combination of psychological and other dimensions to differentiate between consumer segments clearly and to select target market (Demby, 1974) (Vyncke, 2002). The use of psychological measures has become particularly common in the commercial banking sector (W.Gilber & E.Warren, 1995).

According to Kotler and Armstrong (2004), psychographic segmentation criteria divide consumers into different segments based on belonging to particular social classes, based on different lifestyles or types of personalities (Otuedon M. U., 2016). 'Psychographic (or lifestyle) segmentation [is] based upon multivariate analyses of consumer attitudes, values, behaviors, emotions, perceptions, beliefs, and interests' (Thomas, 2007) (Otuedon & Ukomatimi, 2016). Psychographic segmentation is today an essential tool for leisure marketers in order to create profiles of leisure participants with common needs, perceptions, attitudes and values and develop targeted marketing and communication strategies (Bouchet et al 2011; Liu et al., 2010; Tapp and Clowes, 2002) (Alexandris, 2013) (Yu, 2011). However, consumer market segmentation based on psychological indicators is still one of the most interesting research topics due to its rich content.

Since centered on applying psychological segmentation in marketing more efficiently, numerous segmentation approaches such as AIO, VALS and VALS II (Wells, Tigert 1971; Plummer 1974; Allred, Smith, Swinyard 2006; Aziz, Ariffin 2009; Hur, Kim and Park 2010) (Narang, 2009) were developed and has been actively used.

Recently, however, they have been criticized for their complex operation. Thus, while some have not yet grasped and applied the innovative approach to market segmentation, this concept is constantly evolving, but pluralism of

researchers is always in demand in the development of marketing science. The goal was to segment the consumer market into psychological factors such as motivation, perception, and attitude that could explain certain aspects of consumer decision-making, and tested whether it could be applied in business practice.

## 2. Literature Review

### 2.1. Psychographic Segmentation Variables

The variables used in psychological segmentation cover a very broad spectrum. Therefore, the study of the use of psychological measures in market segmentation is closely related to the development and direction of psychological theory (D.Wells W., 1975).

Darwin's theory of evolution is based on the idea that psychological concepts are related to biological principles. Psychologists have intensively developed a study of individual psychological factors based on this theory.

James, a proponent of the theory of evolution, first suggested in the late 1800s that survival consciousness could be a 'stimulus' that influenced functionalism. Wilhelm Wundt has done in-depth study on 'Structuralism' - or functions of consciousness and developed (B.Lahey, 2012) its own independent direction. Later, the concept of 'memory' emerged as important in individual psychology, and these theories developed independently until the mid-1900s but later merged to a form of cognitive psychology.

At the same time, Freud's theory became popular and the idea that 'unconscious actions' affect the human psyche, while Nobel laureate Ramón Y Cajal developed the science of neuroscience (Casini, 2017). With the introduction of the scientific discoveries of neuroscience into the science of marketing, the interdisciplinary science of 'neuro marketing' is developing rapidly. Some researchers have suggested the psychometric theory that states individuals' behavior and psychology can be measured by IQ.

Since the 1950s, psychology has been linked to social and cultural factors, and sociology, sociocultural, social learning theory, and humanism have been popularized by Abraham Maslow (M.Derobertis, 2013). The theoretical directions of psychology are interrelated, but have their own characteristics. These features are widely used by researchers in the science of marketing. In particular, Sigmund Freud's theory of psychoanalysis is considered to be an invaluable contribution to marketing research. Researchers interested and developed in the theory more of how an individual's unconscious actions affect purchasing decisions.

Kassarjian has co-authored a series of works by marketing and psychology scholars on how psychological theory relates to consumer behavior in his book, *Personality and Consumer Behavior: A Review* (H.Kassarjian, 1971), (H.Kassarjian, 1982).

Daniel Yenkelovich (1964) first proposed the concept of psychology as a 'market segmentation new base'. He argues that traditional demographic indicators such as age, gender, education level and income cannot provide a sufficient basis for market segmentation, instead non-traditional indicators, such as values, interests, and preferences have a greater impact on consumer purchases (Goyat Sulekha, 2011). From this point on, marketers began to pay close attention to the optimal definition of the variables that would determine the psychological characteristics of the consumer.

In the 1960s and 1970s, researchers have studied broadly the behaviorist approaches that have been applied systematically to market segmentation using psychological structuralism and cognitive psychology theory. Some of the most well-known and frequently used approaches are Edward's Personal Preference Schedule (Koponen, 1960; Frank, Massy, Lodahl, 1969), California Personality Inventory (Bruce and Witt, 1970; Robertson, Myers, 1969), Gordon's Personal Inventory (Tucker & Painter, 1961) and Thurstone's Temperament Schedule (Westfall, 1962) to measure consumer behavior and personality. Out of those, the most commonly used approach for psychological segmentation is Edward's 'Personal Values List' (EPPS, Edwards, 1959) (L.Piedmont, R.McCrae, & Paul T.Costa, 1992). This research method has been used by marketing researchers such as Massy, Frank, Lodahl (1968) (Massy, E.Frank, W, & Madison, 1969) and Kopenon (1960) (Koponen, 1960).

Therefore, some researchers have attempted to segment markets by the trait variable, while others have tried with the stimulus, response, and motive applying functionalism and behaviorism theory. The Stimulus Response theory's origins are in the work of Pavlov, Thorndike, Skinner, Spence, Hull, and the Institute of Human Relations at Yale University. Researchers of this generation used the above approaches developed by clinical psychologists to define individual behaviors as motive, stimulus, and habits, and to create segments of how they affect purchasing decisions. These approaches are similar in the process by which an individual's psychological test questionnaire is used to determine behavior and the results are expressed in statistical calculations.

Since the 1970s, new theories of psychology such as socio-cultural, humanism, and social learning theories, came up and people's perceptions of lifestyles have become more prominent in market segmentation, leading to the development of psychological segmentation systems or approaches. Researchers have defined lifestyle as the general state in which people spend time and money (Wind, 1971). There are two ways to measure an individual's lifestyle, (D.Wells W., 1968) one is through the product usage and purchase, and the second is through actions, interests, and perceptions of life (AIO). The concept of the life style patterns and its relationship to marketing was introduced by William Lazer (1963) (T.Plummer, 1974) and it was supported by many researchers, which led to recommendations for the use of the AIO model with demographic variables.

However, the AIO model is often rich but may lack reliability when applied to a mass audience and is difficult to implement, thus it has been suggested that 'Value' be used instead. Researchers have found that Value is more effective in segmenting markets because it is more related to an individual's behavior and motive rather than characteristic and attitude (Valette-Florence 1986, 1988) (A.Kamakura, P.Novak, E.M.Steenkamp, & M.M.Verhallen, 1993). The scientist who

developed the most important method of measuring Value was Rokeach (1973), who proposed a list of values composed of 2 chapters and 18 components (RVS-Rokeach Value System). Researcher Kahle (1983) (Vyncke, 2002) shortened the list to nine and proposed a 'List of Values - LOV'. Another important measure for evaluating Value system was developed by Schwarts and Bilsky (1990) (Vyncke, 2002) and they conducted a survey of 44 countries' individuals on 10 indicators of value in personal life.

The LOV model, and in particular the RVS, is the basis for psychological research to determine the value of life, based on which Arnold Mitchel (1978) introduced the VALS approach (Shih.V, 1986). This model was later redesigned in 1989 into 8 chapters (Macevoy & Bruce, 1990), known as the VALS-II system (Herrero & Perez, 2014).

Beatty, Homer and Kahle (1988) accomplished segmenting by 'mirror approach' and using VALS and LOV process showed that measuring psychographic variables with ranking the values and identifying most important values (Sarli & Tat, 2011).

Since the late 80's, the AIO model, LOV, and VALS systems have been using variables such as life activity, interest, opinion, value, and attitude. However, these variables have been the subject of much criticism recently.

Researcher Hawkins (1989) has made a valuable contribution to the study of psychological segmentation by optimally incorporating two variables into behavior patterns: behavior and lifestyle (Hawkins.D.I, Best.R.J, & Coney.K.A, 1989). Moreover, recent research work shows different points, for example, Kotler (1997) suggests that psychological segmentation divides the market into different groups based on consumer behavior and (Lin, 2002), while Straughan and Roberts (1999) suggest that the social class and political orientation, personal traits, compassion, and concern for the environment can be used (D.Straughan & A.Roberts, 1999). Also, Researcher Vencku (Vyncke.P, 2002) compared demographic and socioeconomic segmentation with psychological segmentation in four different markets. The research result shows that the psychological variables such as, lifestyle, value, attitude and interest, are more effective rather than the demographic variables, however, a combination of psychological and demographic variables is recommended. Some researchers believe that life activities, interests, views, values, and attitudes are considered as variables of psychological segmentation (Goyat Sulekha, 2011), while Schiffman & Wisenblit (2015) argue that motive, perception, and attitudes, which are human psychological factors, are key decision makers (Gunawan, 2015). In doing so, the researchers will support the idea that demographic variables are the most commonly used independent variables in psychological segmentation. Researchers believe that users could be different in age but may be similar in behavior and psychological characteristics.

## 2.2. Research Model

The research model was used to achieve the goal of determining the possibility of segmenting the market by psychological variables such as motive, perception, and attitude that could explain some certain reasons for consumer purchasing decisions.

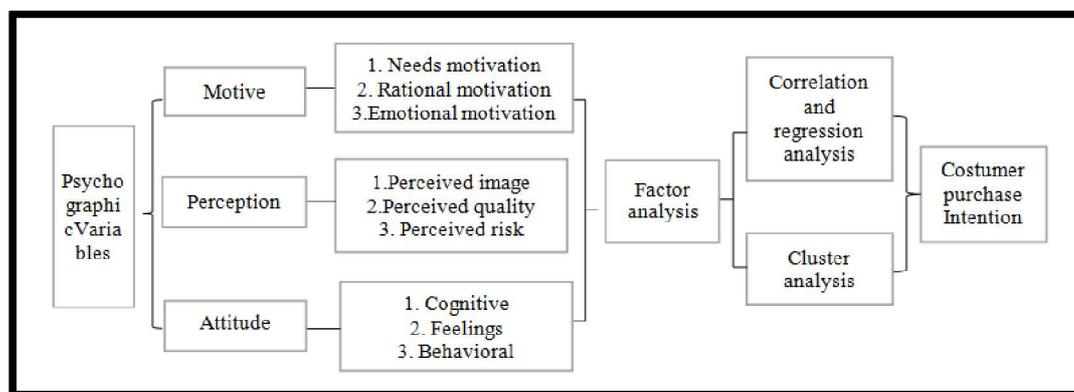


Figure 1: Research Model

- **Motive:** Motive originated from individual needs where there is a strong pressure to seek satisfaction and pleasure (Kotler & Armstrong, 2011, p. 147) (Gunawan, 2015). Motive depends on needs. Needs motivate people to take action and satisfy their needs. In addition to Maslow's Hierarchy of Needs, researcher Setiadi (2013) addressed rational motive (objectivity of product evaluation) and emotional motive (subjectivity of production evaluation) influence consumer purchasing decisions, and motive is measured by these dimensions.
- **Perception:** According to Schiffman and Wisenblit (2015), perception will create consumer imagery towards certain objects that affect consumer purchasing decision process. Consumer imagery is 'consumers' perceptions of all the components of products, service and brands and to how consumers evaluate the quality of marketers' offerings'. There are three issues of consumer imagery, which are perceived image (product positioning), perceived quality (quality of product, service, and price) and perceived risk (Ladero, Casquet, & Singh, Understanding factors influencing consumer attitudes toward cause-related marketing, 2015).
- **Attitude:** According to Schiffman and Kanuk (2004), attitudes are favorable or unfavorable behaviors that arise when buying a particular product (Gawronski, 2007). Attitude consists of three components: cognitive (knowledge and belief), affective (feeling), and behavior (action) and predict that attitude can be measured by

these factors (Wilkie, 1994; Hawkins et al., 2004; Chiou & Droge, 2006; Hawkins & Mothersbaugh, 2013) (Ladero, Casquet, & Singh, Understanding factors influencing consumer attitudes toward cause-related marketing, 2015).

### 2.3. Research Hypothesis

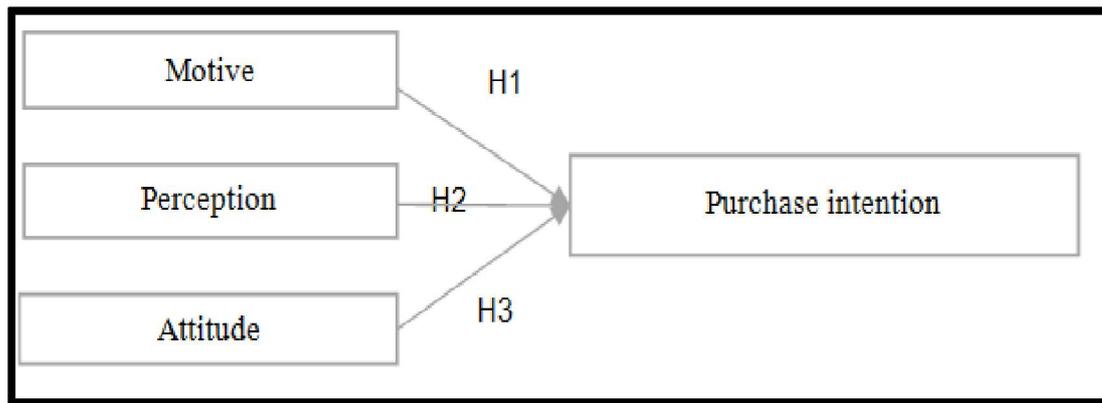


Figure 2: Research Hypothesis

- H1- Motive has a stronger effect on consumer purchasing.
- H2- Perception has a positive effect on consumer intention.
- H3- Attitude has a positive effect on consumer intention.

### 3. Research Methodology

Depositors of commercial banks are chosen to be the object of the study, and the sub-indicators to determine the psychological motive, perception and attitude of the individual were determined based on a comparative study of the works of many researchers.

These include:

- Motive: is measured by 1) 'needs motive' - physiological (meeting the basic needs of daily life), safety (receiving health care), social (obligations to family members), self-esteem needs (improving education, starting a business) and self-actualization needs 2) 'rational motive' - objectivity in evaluating products and services, such as interest rates, maturity, online account control or transactions; 3) 'emotional needs' - is defined by subjectivity in evaluating products or services, such as positive or negative perceptions and impressions.
- Perception: is measured by 'perceived image' (reliability of a commercial bank, design of a bank building, amenities, logo, address, publicity, etc.), 'perceived quality' (quality and price of products and services, requirements and value of deposit services, ease of use, etc.) and 'perceived risk' (savings risk, service difficulty, return, interest tax, etc.).
- Attitude: is measured by 1) 'cognitive' (future investment, security, diligence, etc.); knowledge (terms and conditions of the deposit agreement, differences in type, liability, etc.); information (information quality, reliability, information needs, attitude to information, etc.); 2) 'feeling' (product importance, benefits, future opportunities, guarantees, etc.), and 3) 'traits' (actions, personality traits).

Behavioral attitudes were determined using the Big-5 questionnaire model (Al-Hawari, 2015) developed by researcher McCrate (1986), which is used broadly in commercial banking market research and is suitable for countries with different societies. A questionnaire to measure five personality traits are selected from a short version of the International Personal Item Pool (IPIP) by researchers Bove, Mitzifiris, and Migliore (Bove & Mitzifiris, 2007), (Migliore, 2011). The main and sub-indicators are shown in Table 2.

In developing the survey questionnaire, we have reviewed about 100 research papers, tested on bank deposit services since 2010, from which a total of 189 questions were developed and pre-tested to select common and repetitive questions to determine the variables of motive, perception, and attitude. Factor analysis of the pre-test data resulted in a total of 161 questions, excluding some of the survey questions that were not categorized as factors representing the measure, and some of which were considered incomprehensible to the survey participants. Thus, a total of 195 questions were developed, including 15 questions related to consumer purchasing intention (adjustable variables), 9 questions related to commercial banks, and 34 questions related to control variables.

The survey included 1,801 users of the Mongolian Commercial Bank by random sampling and calculations were implemented on SPSS 21 software. To improve the quality of the survey, 234 users' data were excluded as 'outliers'. Improving the quality of the data increases the likelihood that the survey results will be realistic, so the final results of the survey were calculated from the data of 1567 participants.

### 4. Research Findings

The demographic data of the survey participants is summarized as follows.

Demographic Characteristics			Demographic Characteristics		
	n	%		n	%
Gender			Marital status		
Male	485	31.6	Married	992	64.6
Female	1051	68.4	Non married (single, Divorced, Cohabiter, Widowed)	544	35.4
Age (Years)			Employment status		
18-24	249	16.2	Government organization	310	20.2
25-29	246	16	Private organization	614	40
30-34	263	17.1	Businessman	183	11.9
35-39	196	12.8	International organization	12	0.9
40-44	225	14.6	Self-employed	112	7.3
45-49	147	9.6	Student	168	10.9
50-54	112	7.3	Retired	68	4.4
55-59	56	3.6	Unemployed	69	4.5
60+	42	2.7	Monthly Income		
Education			Less than 1 million tugrug		
Primary school certificate	6	0.4	1.1-2 million tugrug	465	30.3
Secondary school certificate	46	3	2.1-4 million tugrug	607	39.5
Tertiary diploma or certificate	371	24.2	4.1-6 million tugrug	310	20.2
Bachelor's degree	1071	69.7	6.1-8 million tugrug	83	5.4
Graduated degree	42	2.7	8.1- or more	24	1.6
				47	3

Table 1: Demographic Profile of the Sample

Note: For monthly income before taxes, 1 million tugrug is equivalent to USD\$ 350.

84% of the sample were served by two or more banks, 76% had savings, and 66.5% had two or more savings accounts. As 76% or 1177 of the total users were depositors, the results of future statistical calculations are based on the data of the users.

A factor analysis was performed on the relevance of the questions to determine the psychological variables, Cronbach alpha coefficient to assess the reliability of each question and KMO analysis to determine the sample are sufficient for survey questions. In terms of reliability, these values should be greater than 0.70 (Hair et al 2010). [37]

		Psychographic Factors		Items	Cronbach's alpha	KMO
Motive	Needs motivation	Self-Actualization Needs		6	0.902	0.945
		Safety and Security Needs		2	0.681	
		Self-Esteem Needs		2	0.901	
		Need for Stability		2	0.827	
		Functional Needs		5	0.89	
	Rational motivation	Based on objectivity in assessing the product		10	0.890	0.886
Emotional motivation	Positive emotion		11	0.940	0.939	
	Negative emotion		18	0.951		
Perception	Perceived image	Image of bank		10	0.902	0.938
	Perceived quality	Saving perception		6	0.870	
		Saving requirements		8	0.833	
	Perceived risk	Saving risk		2	0.828	
Saving Return		4	0.695			
Attitude	Cognitive	Information	Believe	6	0.925	0.965
			Information Quality	3	0.914	
			Information Credibility	4	0.912	
			Needs for Information	2	0.812	
			Attitude towards Information	3	0.905	
			Information usefulness	2	0.847	
			Information Adoption	2	0.892	
			Objective Knowledge	5	0.887	
	Subjective Knowledge	4	0.897			
	Feeling	Personal views on savings		10	0.949	0.959
Behavioral	Extraversion		4	0.729	0.95	
	Conscientiousness		6	0.874		
	Agreeableness		5	0.917		
	Emotional stability		7	0.912		
	Openness to experience		4	0.899		

Table 2: Consumer's Psychographic Variables and Sub-Variables

The KMO of each variable was sufficient for each factor, close to 1, and each Barlett test p (sig) <0.05 was considered significant. Cronbach's alpha also rated above 0.890, indicating that the scale of the study (1-5) was optimal. After checking these indicators, each factor was grouped into the nearest factor to determine the maximum value of the overlapping factors from the Rotated Component Matrix, and the factor-divided result was determined after the rotation with the Promax setting. (Cross Loading value 0.6)

To examine the study hypotheses, correlation and regression analysis were done between the unrelated (motive, perception, attitude) and related (purchasing intention) variables. Pearson's 'r' correlation coefficient method was used because the variables were measured on an ordinary scale (1-5 scale).

Variables	Mean	Std.Deviation	Std. Error mean	t	Sig. (2-tailed)
Motive	3.280	0.508	0.0316	2.160	.000
Perception	3.364	0.580	0.0361	1.835	.000
Attitude	3.609	0.505	0.0314	1.320	.000

Table 3: Correlation between Psychographic Variables and Customer Intention

		Intention	Motive	Perception	Attitude
intention	Pearson Correlation Sig. (2-tailed)	1			
motive	Pearson Correlation Sig. (2-tailed)	.357**	1		
Perception	Pearson Correlation Sig. (2-tailed)	.418**	.419**	1	
attitude	Pearson Correlation Sig. (2-tailed)	.526**	.480**	.449**	1

\*\* Correlation is significant at the 0.01 level (2-tailed).

Table 4: Pearson Correlation Analysis Result

P (sig) = 0.000 <0.05 of the quantities of motive, perception, and attitude is statistically significant, and motive, perception, and attitude are positively related to purchasing intention.

Model Summary <sup>b</sup>					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.507 <sup>a</sup>	.257	.255	.69410	1.977

a. Predictors: (Constant), Motivation, Perception, Attitude

b. Dependent Variable: Intention

Table 5: Regression Analysis Model

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	195.275	3	65.092	135.110	.000 <sup>b</sup>
	Residual	565.116	1173	.482		
	Total	760.391	1176			

a. Dependent Variable: Intention

b. Predictors: Motivation, Perception, Attitude

Table 6: ANOVA

Coefficients <sup>a</sup>								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-.098	.163		-.604	.546		
	Motivation	.216	.046	.137	4.652	.000	.727	1.375
	Perception	.351	.040	.253	8.692	.000	.748	1.337
	Attitude	.364	.044	.244	8.182	.000	.712	1.404

a. Dependent Variable: Intention

Table 7: Coefficients

Source: Authors

Based on the above results, the relationship between the factors can be expressed by the following equation.

$$Y = -0.098 + 0.216 \times X_1 + 0.351 \times X_2 + 0.364 \times X_3$$

Y - Purchase Intention

X<sub>1</sub> - Motive  
 X<sub>2</sub> - Perception  
 X<sub>3</sub> - Attitude

The regression equation is significant because the values of the t test that tested the coefficients showed that p (sig) was less than <0.05. For this study, a change in motivation by 1 unit explains the purchasing intention 0.216. Explains the purchase intention by 0.351 when the perception changes by 1 unit and 0.364 percent when the attitude changes by 1 unit. (Formula A)

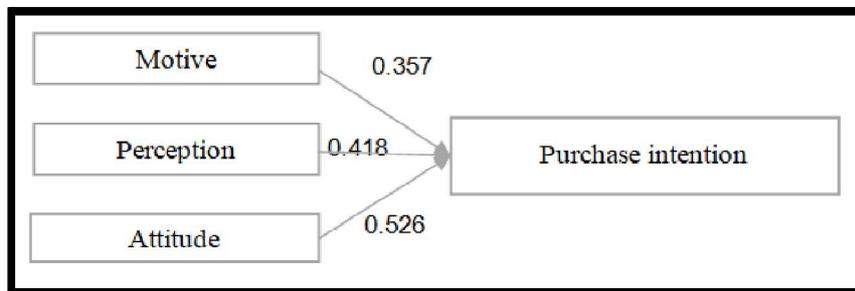


Figure 3: Results of research hypotheses

- H1- Motive has a positive effect on purchasing intention, but has not been the strongest variable of purchasing intention.
- H2- Perception has a positive effect on consumer intention.
- H3- Attitude has a positive effect on consumer intention.

Approving these assumptions will be effective in segmenting the consumer market into sub-variables of motive, perception, and attitude. (p <0.01) A two-step cluster analysis was performed on each of the psychological variables, and the results were shown in Figures 4, 5, and 6 using an Origin Lab program.

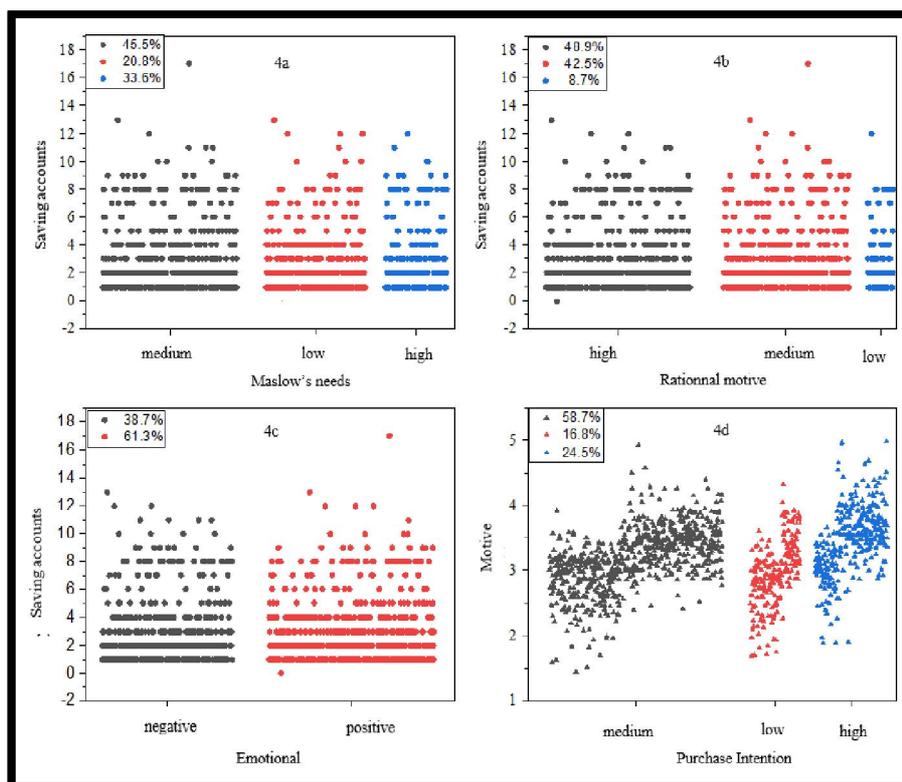


Figure 4: Results of Segmentation of Participants by Sub-Dimensions of 'Motive'  
 Source: Authors

Three different groups were formed when respondents rated 33.6% as high, 45.5% as medium, and 20.8% as low on the 'needs motive' measure. According to the optimal motive criteria, 48.9% rated it as high, 42.5% as medium, and 8.7% as low. In terms of emotional motive, 61.3% of all depositors were classified as positive and 38.7% as negative. (Figures 4a, 4b, 4c)

In terms of the 'motive' variable, the higher the motive, the higher the intention to buy compared to the total intention of all participants (Figure 4d), while the lower the motive, the lower the intention to buy. 79% of the participants make purchasing decisions based on motive. (Figure 4d)

Thus, using the 'chi-square test statistic' test, the following different segments were formed by comparing 8 different groups based on 'motive' in terms of demographics. These include:

Need motive-based segments differ in terms of employment status, for instance, employed people are the higher the need motive, while retirement age is lower. Self-employed people, on the other hand, prefer savings services for future needs, housing, and their children's education. Segments with single, married, 18-29 or 35-49 years old, and 2-3 children often choose savings services based on need motive.

Motive segments show different marital status, with cohabiting couples and single households focusing more on transactions such as service realities, interest rates, maturity, income growth, and spending.

Emotionally, self-employed people, as well as those with high incomes or marital status, were more negative than others.

Seven segments were selected from the total segments generated by the motivational sub-indicators and selected for the next study. (Figure 8)

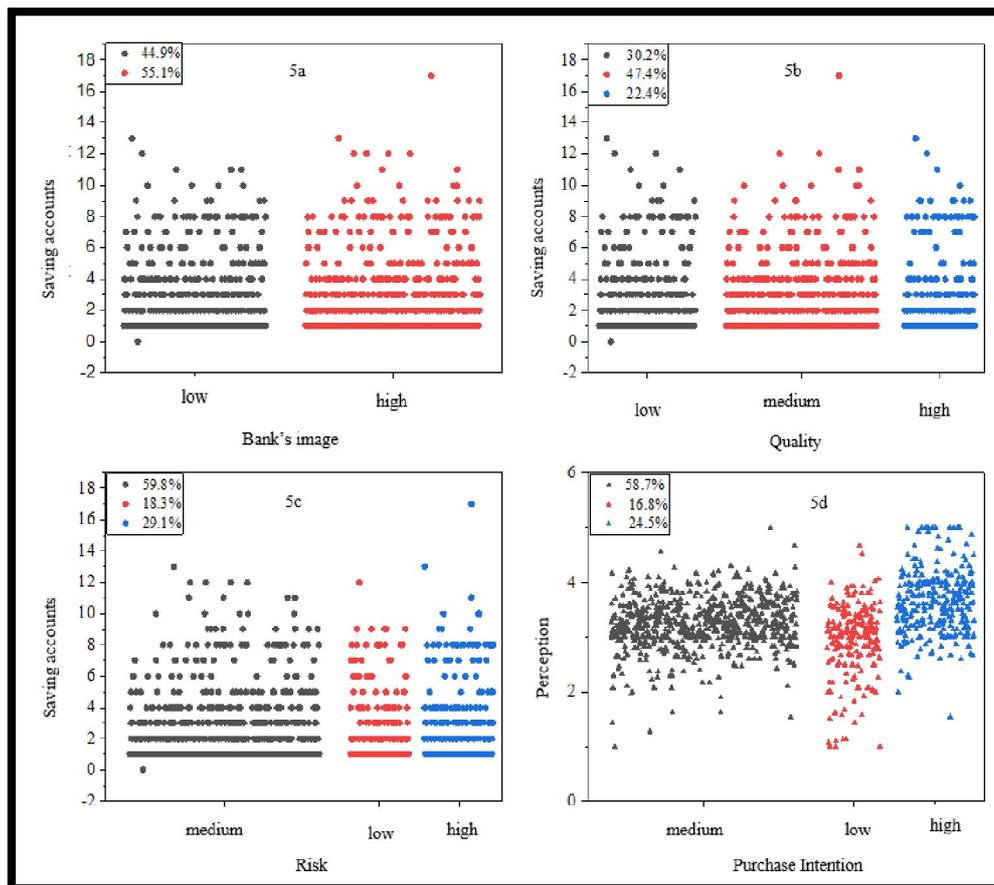


Figure 5: Results of Segmentation of Participants by Sub-Dimensions of 'Perception'  
Source: Authors

Participants were divided into two different groups on the 'Bank Image' measure, 55.1% with high ratings and 44.9% with low ratings, while they were divided into three groups on the 'quality' indicator, 22.4% were ranked high, 47.4% were medium and 30.2% were low ratings. On the other hand, 29.1% of participants rated high on the 'saving risk' indicator, 59.8% medium, and 18.3% low. (Figures 5a, 5b, 5c) People who rated high on 'perception' were more likely to buy. (Figure 5d)

Using the chi-square test statistic, the following different segments were formed by comparing eight different groups based on 'perception' in terms of demographics. These include:

In terms of perceived image variables, depositors are divided into two different groups, therefore women give more importance to the bank's image than men.

In terms of projected quality, consumers were divided into three distinct segments with low, medium, and high ratings, with women giving higher importance to the quality of deposit services (interest rates, terms) than men. However, as the level of education increases, consumers pay less attention to interest rates and terms.

About 60 percent of the participants rated the deposit risk as moderate, and in the age group, those over 40 considered the deposit to be riskier. However, as the income level increased, the value of deposit services as risky gradually decreased.

Of the segments formed by the sub-variables of perception, 3 segments were chosen as the most interesting and included in the next study. (Figure 8)

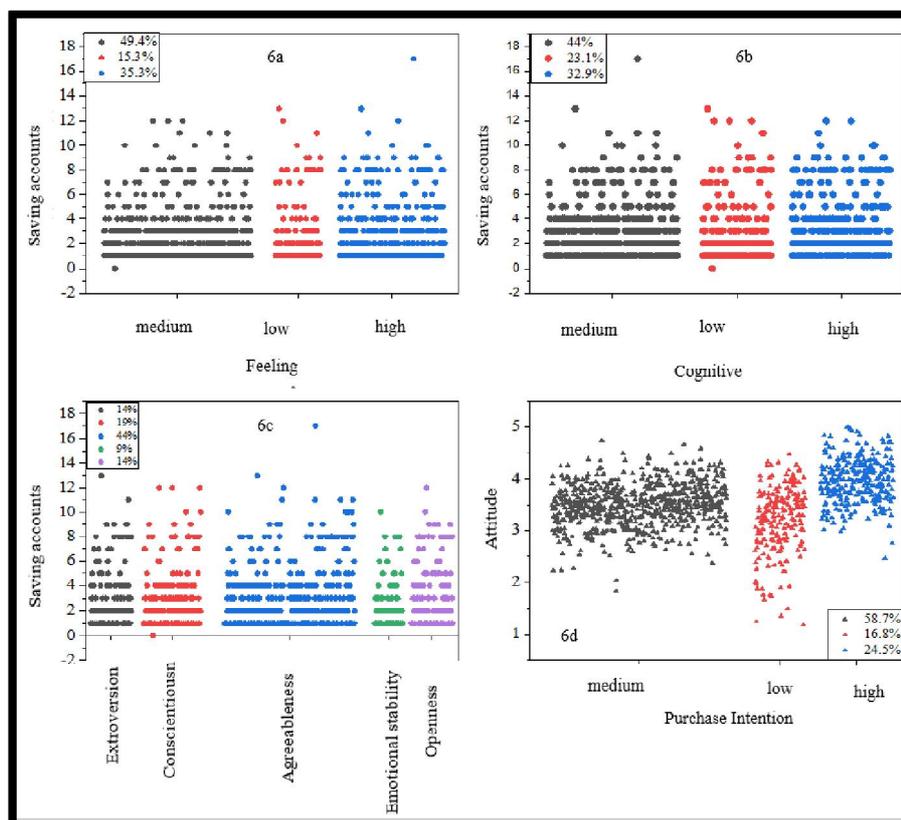


Figure 6: Results of Segmentation of Participants by Sub-Dimensions of 'Attitude'  
Source: Authors

Three groups differed in that 35.3% of the participants rated the sub-variable 'feeling' of the 'attitude' as high, 49.4% as moderate, and 15.3% as low. In terms of 'cognitive' measurements, participants rated 32.9% as high, 44% as medium, and 23.1% as low. In terms of 'behavior', depositors are divided into 5 behaviors: 44% agreeableness, 19% conscientiousness, 14% openness to experience, 14% extroversions, and 9% emotional stability. (Figures 6a, 6b, 6c)

The more positive the 'attitude', the more likely people were to choose a savings service compared to the 'attitude' measure. (Figure 6d)

Using the 'chi-square test statistic', the following different segments were formed by comparing 11 different groups in terms of demographics based on 'attitude'. These include:

In the feeling-based segment, women rated higher to compare men and they found savings services smarter and more important. As the age category of the participants increased, the choice based on feelings decreased, while those aged 25-29 gave the highest rating and agreed that the savings were exciting and a guarantee of life.

In terms of employment, retirement age and students rated the least on 'feeling', and specifically consumers in this segment agreed that savings services were not important.

Those who work in the private sector consider savings services to be and guarantee for rainy days and long-term effort, while people of retirement age have the lowest number of votes.

Single, married, and widowed users chose the savings service based on information or advertising and social content information, while those with the status of heads of households or cohabitants were the least likely to vote.

Self-employed or people who work for international organizations paid more attention to the knowledge of deposit service agreement, interest rate difference, term, and deposit value who make purchases based on the terms of the knowledge while unemployed consumers did not pay much attention to the knowledge of it. However, as income levels increase, consumers are more likely to make choices based on their knowledge of savings services. 15 segments out of the total segments generated by the sub-variable of 'attitude' were selected as the most interesting and included in the next study. (Figure 8) And a total of 25 segments were selected to influence the selection of savings services.

Segments by Motives	Purchase Intention High	Maslow's Needs						
		Functional Needs	Safety Needs	Need for Stability	Self-Esteem Needs	Self-Actualization Needs		
Needs motive high, ages 18-24 savers	9%	3.2525	3.9241	3.5050	3.6238	3.8832		
Needs motive high, ages 25-29 savers	8%	3.1809	4.0745	3.2234	3.7021	3.8766		
Needs motive high, ages 30-34 savers	7%	2.9915	4.1538	3.0449	3.6410	3.8410		
Needs motive high, ages 35-39 savers	6%	3.1310	4.0000	3.1357	3.7429	3.9457		
Needs motive high, ages 40-44 savers	6%	3.3032	4.0880	3.4375	3.7153	3.8444		
Needs motive high, single	7%	3.1944	3.8718	3.4359	3.6442	3.8205		
Needs motive high, married	17%	3.1945	4.1581	3.2568	3.7280	3.8930		
Rational segments of savers		Rational motive						
		External		Internal				
Rational motive high, married	33%	4.2506		4.4290				
Rational motive high, headed by a household	2%	4.0076		4.1477				
Rational motive high, cohabitant	2%	4.3125		4.6563				
Perceived quality segments of savers		Quality						
		Perception of quality		Personal	Organizational			
Perceived quality high, tertiary diploma or certificate	11%	3.4637		4.2308	3.8234			
Perceived quality high, people living in the ger	4%	3.5568		4.3045	3.8788			
Perceived risk segments of savers		Risk						
		Return		Risk				
Perceived risk low, ages 18-24 savers	6%	2.5352		2.5845				
Perceived risk low, ages 25-29 savers	7%	2.7393		2.6026				
Perceived risk low, ages 30-34 savers	6%	2.7053		2.5000				
Perceived risk low, ages 40-44 savers	6%	2.6000		2.5231				
Perceived risk low, people living in apartments	24%	2.6690		2.5480				
Perceived risk low, people living in a house	1%	2.7292		2.3438				
Cognitive Segments of Savers		Knowledge			Beliefs			
		Subject Knowledge	Object Knowledge	Striving	Patience	Commitment	Discipline	Security
Believe, knowledge high, people working in private organization	17%	3.9327	4.2802	4.9646	4.9381	4.9912	4.9823	4.9469
Believe, knowledge high, businessman	4%	3.9674	4.3953	4.9714	4.8571	5.0000	4.9714	4.9714
Knowledge high, people working in government organization	8%	3.9755	4.2245					
Cognitive segments of savers		Information						
		Attitude Towards Information	Information Credibility	Information Quality	Information Usefulness	Information Needs	Information Adoption	
Information high, single people	10%	3.9138	3.8966	3.9770	4.0948	3.9526	4.0172	
Information high, married people	25%	3.8259	4.0086	3.9943	4.0189	3.9072	3.9502	
Feelings segments of savers		Feelings						
		Guarantee	Possible	Important	Beneficial	Investments		
Feeling high, people working in private organization	18%	4.5646	4.5981	4.6364	4.6459	4.4976		
Feeling high, people working in government organization	9%	4.3818	4.5636	4.6545	4.5273	4.4273		

Table 8: The Results Are Compared with the Factors That Influencing the Purchasing Intention of the Selected Segments  
Source: Authors

Compared to the factors that influenced the purchasing intention of the selected segments, there are significant differences between them. Therefore, this feature can be a key factor in selecting the target market from the segments.

## 5. Conclusion

The aim was to segment the consumer market by psychological characters, and a model study was conducted on data from commercial bank depositors. As a result, the following conclusions and recommendations are made. These include:

- In the middle of the last century, many researchers began to focus on the factors that reflect the psychological characteristics of individuals which show the differences between market segments more clearly. This has led to the successful experimentation of individuals' psychological factors in market segmentation, resulting in models such as the AIO, RVS, LOV, VALS, and VALS-II.
- Research shows that the variables used in segmentation are very broad. Therefore, it is possible to study a wide range of personal characteristics, such as character, motive, perception, value, attitude, life activities, interests and views, and use them in segmentation along with demographic and other dimensions.
- Developing a questionnaire that fully conveys the segmentation dimensions is a very important process. The KMO of each of the selected variables was close to 1, the Barlett test  $p$  (sig)  $<0.05$  was significant, and Cronbach's alpha was greater than 0.890. The questions representing the variables used in the study, such as *motive, perception, and attitude*, were relevant, and the results of the Factor analysis showed that each factor was included in the appropriate factor.
- Motive (0.357), perception (0.418), and attitude (0.526) were positively correlated with the participants' intention in purchasing savings services in the Correlation and Regression analysis of how the irrelevant variables (motive, perception, attitude) are related to the relevant variable (purchase intention). In addition, increasing these variables by 1 point increased purchasing power by 0.216-0.364 points. The study rejected the hypothesis H1 (motive has the strongest effect on purchasing intention), but approved the hypothesis H2 (Perception has a positive effect on consumer intention) and H3 (Attitude has a positive effect on consumer intention). Therefore, it is appropriate to segment the market of bank depositors by sub-variables of motive, perception and attitude.
- Two-step cluster analysis generated different segments with different motive, perception, and attitude, and then used chi-square test to produce more specific segments for segmentation along with demographic factors. Each of the sub-variables of motive, perception, and attitude, were rated higher and an in-depth study of the segments of high intention in purchasing by the factors that influenced their purchases revealed the differences between the segments.

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