

# EVALUATION OF CONSUMER REGRET IN TERMS OF PERCEIVED RISK AND REPURCHASE INTENTION

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## ABSTRACT

*Regret is among negative feelings experienced by consumers in purchasing processes. It is experienced more in post-purchase period. Many factors influence it. Perceived risk is one of the factors that influence post-purchase regret. It is considered that as perceived risk increases, the consumer will have more regret for his purchases. The consumer's regret, on the other hand, influences his repurchase intention. The purpose of this study is to determine the influence of perceived risk on regret and the influence of regret on repurchase intention. To this end, a survey was administered to new car buyers and used car buyers in Muş (Turkey). The results show that perceived risks and their influences on regret are different in new car purchases and used car purchases. While new car buyers perceive financial and social risks more, used car buyers perceive financial, physical, performance, and time risks more. According to the results, buyers in these two groups do not perceive any psychological risk, and this type of risk has an insignificant influence on regret. In addition, financial risk has a higher influence on regret after used car purchases, and new car buyers' regret has a higher influence on their repurchase intention.*

**Keywords:** *Perceived Risk, Regret, Repurchase Intention.*

## INTRODUCTION

In today's consumption world, what challenges consumers facing many alternatives most is to choose the right one among these alternatives. The consumer who has to make a choice and is not sure about the result of this choice gets uneasy when making a purchase decision. In other words, as the result of the choice will only be seen in future, the consumer feels some uncertainty due to his purchases. This causes him to perceive some risks (Suh et al., 2010: 890). Therefore, perceived risk is one of the factors influencing individuals' consumption of products and services. In general, perceived risk emerges as the consumer cannot predict the result of his purchase precisely and thinks that his purchase may lead to negative results. Consumers generally perceive financial, physical, time, performance, psychological, and social risks (Featherman, Pavlou, 2003). For example, the consumer may perceive a financial risk as he thinks after he purchases a product that it is too expensive or may perceive a physical risk as he notices that the product is not as well-equipped as he expected. No matter what types of risks the consumer perceives, they can cause him to feel regret after making purchases. The consumer who feels regret for the purchase he has made manifests this adversity in his purchase behaviors as well. As a result, he can engage in negative word of mouth communication, display complaining behaviors, have an intention to change the product, and, most importantly, not repurchase it in future (Zeelenberg and Pieters, 2004). As perceived risks have such an important influence on consumers' purchase decisions, the present study aims to determine the influence of perceived financial, social, physical, performance, time, and psychological risks on regret and the influence of regret on repurchase intention. To this end, a survey was administered to used car and new car owners in Muş (Turkey). This paper consists of two parts. The first part presents theoretical information and literature about risk and regret. In the second part, analysis results are presented; interpretations are made based on the findings obtained; and various recommendations are put forward in the light of the findings.

## THEORETICAL FRAMEWORK

### Perceived Risk Types

Perceived risk is defined as uncertainty felt by the consumer after purchasing something (Han, 2005: 12). In general, it is divided into two: (1) inherent risk, which reflects uncertainty about the product, (2)

handled risk, which is perceived when a particular brand is chosen. What exists in the very nature of a product is inherent risk. It comes out through considerations about the product class (Bettman, 1973: 184). In other words, there is a risk about product class if differences of quality are perceived between products (Bettman, 1973: 189). When cars are considered, it is possible to say that risks perceived by consumers are risks about product class. This is because quality evaluation in cars can be made based on product classes (e.g. new car – used car). Types of risks are indicated differently by different researchers (Conchar et al., 2004: 419). However, when a luxury product like car is in question, consumers can perceive all types of risks including performance risks, financial risks, physical risks, time risks, social risks, and psychological risks (Poel and Leunis, 1996: 361). Performance risk involves concerns about the product's incapability to bring the benefits expected from it (Featherman and Pavlou, 2003: 455); financial risk involves concerns about having a monetary loss as a result of wrong choice (Odabaşı and Barış, 2002: 153). Physical risk involves concerns about the product's possibility to harm the consumer's physical health (Weathers, 2002: 14). Time risk involves concern for losing time due to purchasing the product (Forsythe and Shi, 2003: 869). Time risk is about the time spent for learning how to use the product, repairing it, returning it, and changing it as well as about the time passing until it is delivered to the consumer. Social risk involves concern about the product's not being appreciated by social groups (Odabaşı and Barış, 2002: 154). This type of risk is about the product's not being liked by others, being taken by them negatively, and harming the individual's social image (Weathers, 2002, p.162). Psychological risk is about the product's possibility to be inconsistent with the individual's personality (Kaplan and Jacoby, 1972: 383). These risks are perceived to be higher in products that are technologically complicated, expensive, difficult to use, and costly to maintain (Assael, 1992: 270; Odabaşı and Barış, 2002: 154).

## Regret

Feeling of regret, within the context of purchases, is a negative feeling that comes out due to the opportunities lost although the consumer had a chance to use them, or the purchase of something although he should not have done so (MacInnis and Patrick, 2006: 227). However, regret may result from many reasons. Some causes of regret are as follows: being influenced by negative responses of other people, changing one's mind about the product purchased, noticing that the product has been discounted, seeing a product that is more affordable than the product purchased, noticing that one has made a very fast decision or purchased the product without thinking enough, and, most importantly, perceiving some risks (Engin, 2011: 160). Regret arising from these reasons is divided into two: outcome regret and process regret. The consumer having outcome regret feels regret for the choice he has made and the alternatives he has missed. Thus, outcome regret refers to two situations. One of them is the regret for the option not chosen and other is the regret due to the change in the importance of the alternative product chosen. The consumer feels this kind of a regret if the product has lost its initial charm and importance in the course of time (Lee and Cotte, 2009: 457). Shortly, outcome regret refers to the negative situation coming out as the consumer thinks that it would be better if he had chosen a different alternative (Zelenberg et al., 1996: 148). Process regret, on the other hand, is felt after the purchases the consumer has made based on his intuitions without thinking much (Chang et al., 2015: 1347-1349). The source of this type of regret is purchase without having adequate information about the product (Lee and Cotte, 2009: 458). The consumer can feel process regret also due to the inconsistency between intention and behavior, which mostly emerges when impulse purchases are made. However, as the consumer has complete control in luxury and expensive product purchases (e.g. cars) and makes the purchase based on long-continued thinking process, rather than impulses, these kinds of purchases are likely to lead to outcome regret, not process regret (Keaveney et al., 2007; Chen et al., 2011).

To sum up, while outcome regret refers to the consumer's feeling regret due to the product or brand he has purchased, process regret is experienced because of the way the product has been purchased (Lee and Cotte, 2009: 456). The consumer has outcome regret when he notices that the option he has not chosen is better and has process regret when he blames himself by finding his purchase decision illogical and cannot defend his purchase decision (Inman and Zelenberg, 2002: 118).

## Literature

Research on the influence of regret and perceived risk on consumer behaviors has been increasing recently. However, either only regret or only perceived risk has been focused on in such research. Studies dealing with regret alone have generally concentrated on the influence of service failure, product features,

quality, impulse purchase, and price on regret and the influence of regret on product change intention, complaint, word of mouth communication, return, loyalty, repurchase intention, and satisfaction (Zelenberg and Pieters, 2004; Heitmann and Lehmann, 2007; Chebab, 2010, Zhang and Yang, 2010; Kang and Chung, 2010; Liao et al., 2011; Garcia and Perez, 2011; Shih and Schau, 2011; Saleh, 2012; Kim, 2014; Zhou and Gu, 2015; Chang et al., 2015; Sandberg et al., 2016). Studies dealing with perceived risk alone have explored the influence of risk on consumer behaviors (Garbarino and Strahilevitz, 2004; Cunnigham et al., 2005; Yung, 2010; Bianchi et al, 2012; Faqih, 2013; Rose, 2015; Knight, 2012; Chiu et al., 2014; Sohn et al., 2016; Ghotbabadi et al., 2016).

There have been a very limited number of studies evaluating perceived risk and regret together in recent years. For example, Keaveney et al. (2007) investigated the regret felt after service purchases and the regret felt after car purchases and the difference between their influences on repurchase intention. They found out that inadequate product evaluation and information search cause more post-purchase regret in service purchases, whereas excessive information search leads to more regret in luxury car purchases. They note that the influence of the latter on repurchase intention is felt more. Nordgren et al. (2007) sought the mediating effect of regret on the relationship between volition and perceived risk. They determined that perceived risks increase as the consumer is defeated by his volition, and anticipated regret mediates this influence. Suh et al. (2010) searched the influence of time, social, and psychological risks perceived after impulse purchases on regret; strategies for coping with regret; and the influence of regret and strategies for coping with regret on positive and negative intention. According to their results, social and time risks have a significant influence on regret; as regret goes up, negative purchase intention increases; and as regret can be handled, positive purchase intention rises. Chen et al. (2011) explored factors influencing regret and the influence of regret on post-purchase behavior. They detected that risk and importance, difficulty, and irrevocability of purchasing a house are factors positively influencing regret, and regret leads to customer dissatisfaction. Kim and Lennon (2013) investigated the influence of fame and quality of a website on consumer responses. They found out that fame and quality have a significant positive influence on feelings but a significant negative influence on risk. Lagerkvist et al. (2015) sought the relationships between volition, control, perceived food risk, and regret. Their results show that volition is associated with perceived risk and regret; control is only associated with perceived risk; and perceived food risk is associated with consumer regret and has a significant positive influence on it.

As seen above, the literature contains no study dealing with the influence of perceived risk on regret on the basis of risk types. In addition, the above-mentioned studies mostly take regret as a feeling arising from external factors (e.g. following innovations, company's product, service, price, and quality failure). However, psychological factors such as perceived risk may cause consumers to feel regret due to their choices. The present study is expected to contribute to the literature in this respect.

## Research of Hypotheses

Regret is a result of making a decision under risk and emerges as the consumer notices that a decision which seemed right at the moment of purchase was indeed wrong (Tsiros and Mittal, 2000: 402). There is a relationship between perceived risk and the consumer's negative feelings about a product /brand/purchase (Akturan, 2007: 52). This is because the consumer cannot know the results of his purchases in the beginning, but then perceives various risks due to them, which leads to regret (Tsiros and Mittal, 2000: 404). Briefly, regardless of their types, the risks perceived by the consumer bring along the feeling of regret (Hur, 2002). Accordingly, hypotheses are below:

*H<sub>1</sub>: Perceived risks after purchasing behaviour positively affects outcome regret.*

*H<sub>1a</sub>: Perceived social risk after purchasing behaviour positively affects outcome regret.*

*H<sub>1b</sub>: Perceived psychological risk after purchasing behaviour positively affects outcome regret.*

*H<sub>1c</sub>: Perceived physical risk after purchasing behaviour positively affects outcome regret.*

*H<sub>1d</sub>: Perceived time risk after purchasing behaviour positively affects outcome regret.*

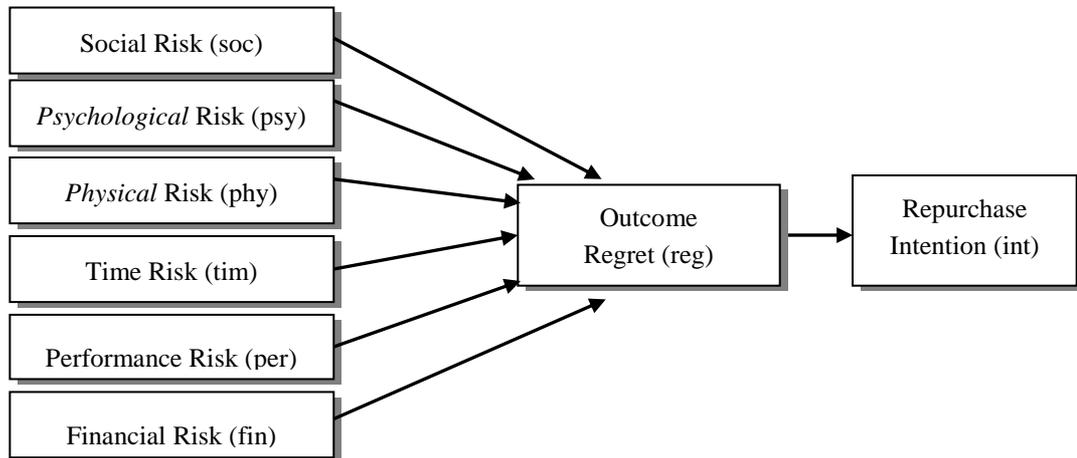
*H<sub>1e</sub>: Perceived performance risk after purchasing behaviour positively affects outcome regret.*

*H<sub>1f</sub>: Perceived financial risk after purchasing behaviour positively affects outcome regret.*

The consumer's feelings guide his thoughts and behaviors (Zaltman, 1997: 426). Regret is one of the feelings that influence the consumer's attitudes and preferences, word of mouth communication, complaining behaviors, product change intention, and, most importantly, repurchase intention (Zeelenberg and Pieters, 1999; Huang and Wang, 2007: 63, Kim, 2014: 17). For short, post-purchase regret may negatively influence the consumer's repurchase intention (McConnell, 2000: 294; Zeelenberg and Pieters, 2004: 445, Suh et al., 2010:2) which refer to the likelihood of using a brand again in the future (Şahin et al, 2012; 11194).

*H<sub>2</sub>: Outcome regret negatively affects repurchase intention.*

According to the hypotheses research model had shown as in figure 1.



**Figure 1. Consumer Regret Model**

## RESEARCH METHODOLOGY

### Sampling Method and Data Collection

Two main elements of regret are irrevocability of purchases and not knowing how to deal with the alternatives missed, which are also true for car purchases (Tsiros and Mittal, 2000). Moreover, car purchases are risky and may lead to regret (Keaveney et al., 2007: 1210). Regret and risk can be experienced together in expensive products with high involvement and importance like cars which require thinking a lot prior to purchase (Chen et al., 2011: 388). So, the scope of the study covers used and new car owners residing in Muş. The sampling method employed in this study is convenience sampling. 500 survey forms (n used car owners: 250 and n new car owners: 250) for used and new car owners were administered within a confidence interval of 95% and an error margin of 5%. After elimination of the survey, 445 survey were taken into account (n used car owners: 222; n new car owners: 223). The data were collected through face to face survey. The survey consisted of 2 groups of questions. The first group measured risk types, regret and repurchase intention while the second group measured demographic characteristics. Perceived risk types were measured using the scale developed by Kaplan and Jacoby (1972); Stone and Mason (1995); regret scale developed by Chang et al, (2015); repurchase intention scale was developed by Lam et al. (2004) and Yang and Peterson (2004). These scales were adapted to the car product group. The variables were prepared in a 5-point Likert scale. The data were analyzed using SPSS 20,0 and LISREL 8.7 statistical. They were subjected to descriptive statistics, confirmatory factor analysis, structural equation modeling. According to some researchers, regret because of missed opportunities is more effective on purchase decision. So, outcome regret is utilized in this study (Chang et al., 2015). In other words, consumers don't get expensive items such as cars without thinking and with the idea that they don't regret about the buying way, the process regret was not handled in the research.

## Analysis and Hypothesis Testing Results

### *Demographic Characteristics of Respondent*

**Table 1. Demographic Features**

Education	used car buyers		new car buyers		Income	used car buyers		new car buyers	
	N	%	N	%		N	%	N	%
Secondary/ high school	120	54.1	105	47.1	1500 TL -	51	23.0	31	13.9
Undergraduate	57	25.7	68	30.5	1501-3000 TL	73	32.9	35	15.7
Master	45	20.3	50	22.4	3001-4500 TL	42	18.9	38	17.0
<b>Job</b>	<b>N</b>	<b>%</b>	<b>N</b>	<b>%</b>	4501-5500 TL	38	17.1	66	29.6
Civil Servant	54	24.3	36	16.1	5501 TL +	18	8.1	53	23.8
Housewife	12	5.4	9	4.0	<b>Age</b>	<b>N</b>	<b>%</b>	<b>N</b>	<b>%</b>
Student	9	4.1	6	2.7	18-28	35	15.8	21	9.4
Worker	41	18.5	8	3.6	29-39	83	37.4	59	26.5
Self-employment	15	6.8	68	30.5	40-50	45	20.3	77	34.5
Merchant	35	15.8	37	16.6	51-61	36	16.2	41	18.4
Private Sector Employees	40	18.0	41	18.4	61+	23	10.4	25	11.2
Retired	16	7.2	18	8.1	<b>Gender</b>	<b>N</b>	<b>%</b>	<b>N</b>	<b>%</b>
<b>Marital Statue</b>	<b>N</b>	<b>%</b>	<b>N</b>	<b>%</b>	Men	145	65.3	198	88.8
Married	132	59.5	157	70.4	Women	77	34.7	25	11.2
Single	90	40.5	66	29.6					
<b>Total</b>	<b>222</b>	<b>100</b>	<b>223</b>	<b>100</b>	<b>Total</b>	<b>222</b>	<b>100</b>	<b>223</b>	<b>100</b>

### *Testing Scales for New and Used Car Owners*

In the present study, the reliability of the variables was checked for new car owners and used car owners in the first place. All the variables had high reliability, but the statement “phy 4: I am concerned about having an accident due to inadequate physical equipment” under the physical risk dimension of new car owners had low reliability and were removed from the model. Then confirmatory factor analysis was made to test types of risk, regret, and repurchase intention scales. The variables having a negative variance, exceeding standard coefficients (very close to 1.0), or yielding a very big standard error were checked, and unsuitable variables were eliminated (Hair et al., 1998: 610). In the analysis for used car owners, some scales were seen to have unacceptable model fit values. Based on the modifications recommended, the statement “1 (per 4): I am concerned about having an after-sales service that is not as promised before” under the “performance risk” dimension and two variables under the financial risk dimension (i.e. fin1 and fin4) were eliminated to make the scales within acceptable limits. In addition, as the t-value of the statement “phy 2: I am concerned about the model’s becoming old in a short time” was found to be insignificant in the confirmatory factor analysis, it was eliminated, thereby making the variable have a perfect fit value. In the analysis for new car owners, acceptable fit values were reached as the statement “1 (per 1): I am concerned about how safe my car is” under the performance risk dimension and four statements (i.e. fin2, fin3, fin6, fin7) under the financial risk dimension were eliminated. Table 2 presents the fit values of financial risk and performance risk before and after the modification for used car owners, and Table 3 shows these values for new car owners. Other types of risk, repurchase intention, and regret were seen to have perfect fit values. Thus, no modification was recommended for them, and their values were not put in the tables.

**Table 2. The Fit Values of Risk Scales for Used Car Owners**

Goodness -of-Fit Index Values	Before Modification		After Modification	
	Financial Risk	Performance Risk	Financial Risk	Performance Risk
<i>Chi-square (<math>X^2</math>)</i>	92.52	11.64	1.42	0.00
<i>Degree of Freedom(df)</i>	14	2	5	0.00
<i>(<math>X^2/df</math>)</i>	6.60	5.82	0.28	0.00
<i>GFI</i>	0.89	0.97	1.00	1.00
<i>AGFI</i>	0.79	0.87	0.99	1.00
<i>SRMR</i>	0.12	0.004	0.012	0.00
<i>RMSEA</i>	0.59	0.148	0.00	0.00
<i>CFI</i>	0.74	0.97	1.00	1.00
<i>NNFI=TLI</i>	0.61	0.90	1.00	1.00
<i>NFI</i>	0.72	0.96	0.99	1.00

**Table 3. The Fit Values of Risk Scales for New Car Owners**

Goodness-of-Fit Index Values	Before Modification		After Modification	
	Financial Risk	Financial Risk	Financial Risk	Performance Risk
<i>Chi-square (<math>X^2</math>)</i>	77.82	11.59	0.00	0.00
<i>Degree of Freedom(df)</i>	14	2	0.00	0.00
<i>(<math>X^2/df</math>)</i>	5.55	5.79	0.00	0.00
<i>GFI</i>	0.91	0.97	1.00	1.00
<i>AGFI</i>	0.82	0.87	1.00	1.00
<i>SRMR</i>	0.082	0.027	0.00	0.00
<i>RMSEA</i>	0.143	0.147	0.00	0.00
<i>CFI</i>	0.77	0.98	1.00	1.00
<i>NNFI=TLI</i>	0.66	0.94	1.00	1.00
<i>NFI</i>	0.74	0.98	1.00	1.00

### *The Test of Research Models*

The research model in which relationships between regret and repurchase intention were handled was separately tested for used car and new car owners through path analysis. The model set up for new car owners did not recommend any modification and was within acceptable limits. The model set up for used car owners, on the other hand, recommended a modification in the financial risk dimension, and the statement “Fin 2: I think I wasted my money by purchasing my current car” was removed from the model. Model fit values were within acceptable limits after the modification. The results are shown in Table 4.

**Table 4. Model Fit Values**

Goodness-of-Fit Index Values	Used Car Owners		New Car Owner	Acceptable Fit	Perfect fit
	Before Modification	After Modification	Before and After Modification		
$(X^2)$	427.07	353.78	362.27		
$(df)$	302	277	253		
$(X^2/df)$	1.41	1.27	1.43	1-5	$0 \leq \chi^2/df \leq 2$
GFI	0.87	0.89	0.89	$0.90 \leq GFI \leq 0.95$	$0.95 \leq GFI \leq 1.00$
AGFI	0.84	0.86	0.86	$0.85 \leq AGFI \leq 0.90$	$0.90 \leq AGFI \leq 1.00$
SRMR	0.070	0.057	0.050	$0.05 \leq SRMR \leq 0.10$	$0 \leq SRMR \leq 0.05$
RMSEA	0.043	0.036	0.041	$0.05 \leq RMSEA \leq 0.08$	$0 \leq RMSEA \leq 0.05$
CFI	0.94	0.96	0.96	$0.95 \leq CFI \leq 0.97$	$0.97 \leq CFI \leq 1.00$
NNFI=TLI	0.93	0.95	0.95	$0.95 \leq NNFI \leq 0.97$	$0.97 \leq NNFI \leq 1.00$
NFI	0.83	0.85	0.88	$0.90 \leq NFI \leq 0.95$	$0.95 \leq NFI \leq 1.00$

For GFI and AGFI indexes, values which are between 0.80 - 0.89 also indicate an acceptable fit values (Cole, 1987; Segars and Grover, 1993; Doll, Xia and Torkzadeh, 1994)

**Table 5. The Values of the Research Model Variables Regarding Used and New Car Owners**

Variables	Used Car Owners			New Car Owners		
	Structure Validity	Variance Validity	Cronbach Alpha	Structure Validity	Variance Validity	Cronbach Alpha
Perceived Social Risk	0.85	0.65	0.84	0.76	0.52	0.72
Psychological Risk	0.79	0.55	0.77	0.89	0.73	0.88
Physical Risk	0.76	0.52	0.76	0.90	0.75	0.89
Time Risk	0.74	0.50	0.86	0.77	0.53	0.74
Performance Risk	0.75	0.50	0.72	0.85	0.66	0.85
Financial Risk	0.80	0.50	0.80	0.75	0.50	0.71
Outcome Regret	0.84	0.57	0.83	0.83	0.56	0.82
Repurchase Intention	0.77	0.54	0.74	0.84	0.65	0.81

**Table 6. The Relationship Results of the Study**

Relationships	Used Car Owners				New Car Owners			
	Standard Value	R <sup>2</sup>	Error Variance	T Value	Standard Value	R <sup>2</sup>	Error Variance	T Value
Social Risk - Outcome Regret	0.03	0.50	0.50	0.26	0.37	0.41	0.59	4.19
Psychological Risk - Outcome Regret	-0.19	0.50	0.50	-1.66	0.27	0.41	0.59	1.40
Physical Risk - Outcome Regret	0.33	0.50	0.50	3.97	-0.04	0.41	0.59	-0.41
Time Risk - Outcome Regret	0.18	0.50	0.50	2.09	-0.19	0.41	0.59	-0.82
Performance Risk - Outcome Regret	0.18	0.50	0.50	1.99	0.03	0.41	0.59	0.33
Financial Risk - Outcome Regret	0.41	0.50	0.50	5.14	0.39	0.41	0.59	4.37
Outcome Regret - Repurchase Intention	-0.34	0.11	0.89	-3.85	-0.44	0.20	0.80	-5.02

As shown in Table 6, Figure 2 and Figure 3, physical, time, performance and financial risks have a significant effect on the regret of used car owners. But social and psychological risk have not a significant

effect regret of them, So, H<sub>1a</sub> and H<sub>1b</sub> hypotheses were rejected while H<sub>1c</sub>, H<sub>1d</sub>, H<sub>1e</sub>, H<sub>1f</sub> hypotheses were accepted. According to the new car owners model, social and financial risk have a significant effect on regret So, H<sub>1a</sub> and H<sub>1f</sub> hypotheses were accepted, the other hypotheses were rejected. For each two models, the effect of regret on repurchase intention is significant and H<sub>2</sub> hypothesis is accepted.

The path analysis results of the research models are shown in Figure 2 and Figure 3 in appendix.

## CONCLUSION AND RECOMMENDATIONS

The results obtained in this study, which investigated the influence of risks perceived by new car and used car buyers on regret and the influence of regret on repurchase, are presented below:

The respondents representing new car owners were young married men with high income and educational background, whereas the respondents representing used car owners were married men over the middle age having low income and educational background. Only financial and social risks lead to regret among new car owners. New car buyers perceive financial risks more as their cars are more expensive and they have larger amounts of installments to pay. In addition, new cars are regarded as a means of raising status and prestige in the society, may lead to the concern that their purchase can be perceived as a way of showing off, and thus they may be a source of regret (Heiman et al., 2001: 75). In other words, as luxury products are perceived as indicators of identity, they can lead to social risks more (Chen et al., 2011: 399). In this sense, the significant influence of social risk on regret is also seen in the literature. According to the findings of the present study, used car owners perceive physical, performance time, and financial risks. They perceive financial risks more as they are concerned about that their cars may put them to expense as they are old and so they may not be worthy of the money paid. Also, they perceive risks because of their concerns that their cars will have poor performance and bad physical conditions; they will have difficulty while selling them; and it will take too long to sell them. As a result, they feel regret for their purchases. The finding suggesting that performance, physical, and time risks are perceived in used cars more is consistent with the literature (Garner, 1986:55; Suh et al., 2010: 897). Both new car owners and used car owners have reduced repurchase intention after they feel regret. The negative influence of regret on repurchase is indicated in the literature as well (Tsiros, 2000; Folles, 1987, Mehrabina, 1974; Das, 2004; Suh et al., 2010; Kim, 2013). Accordingly, the hypotheses h<sub>1a</sub>, h<sub>1f</sub>, and h<sub>2</sub> are accepted, whereas the hypotheses h<sub>1b</sub>, h<sub>1c</sub>, h<sub>1d</sub>, and h<sub>1e</sub> are rejected for new car buyers. As for used car buyers, the hypotheses h<sub>1c</sub>, h<sub>1d</sub>, h<sub>1e</sub>, h<sub>1f</sub>, and h<sub>2</sub> are accepted, whereas the hypotheses h<sub>1a</sub> and h<sub>1b</sub> are rejected.

Financial risks were seen to have a higher influence on risk compared to other types of risks in both groups of car owners. This is consistent with the literature as well (Cooke et al., 2001). However, financial risk has a higher influence on regret in used car purchases (0.41). This is because more risks can be perceived in cheaper products compared to more expensive ones. The higher influence of financial risk on regret in used car purchases is consistent with the literature (Poel and Leunis, 1996: 361; Garner, 1986: 55). This may be because consumers think that used cars may put them to more expense due to maintenance & repair services etc. In both groups of car owners, psychological risk has an insignificant influence on regret. According to some authors, financial risk is perceived more in products, whereas psychological risk is perceived more in services (Garner, 1986: 55; Pires, 2004:129). In this sense, as cars are products, not services, it is consistent with the literature that psychological risk has an insignificant influence on regret (Suh et al., 2010). The influence of regret on repurchase, on the other hand, is higher in the group of new car owners (0.44). This shows that despite their risk perceptions, used car owners have less decrease in their future repurchase intention compared to new car owners. This may be because these consumers have low income, can purchase used cars more easily, and think that they have no other alternative even if they feel regret. However, new car owners can find used car alternatives when they feel regret as a result of the risks they perceive and thus shift to used cars from new cars. As a person's responsibility for a decision increases, his regret rises (Gilovich and Medvec, 1995). While preferring a new car is a decision under the consumer's control, purchasing a used car may result from external factors (e.g. obligation, need, insufficient financial capability). This being the case, the consumer feels more responsibility in purchasing a new car compared to buying a used car. As a result, regret is likely to be felt more deeply in new car purchases. The finding that regret is bigger in situations where the person has much control and its effects can be greater is consistent with the literature (Zeelenberg et al., 1996;

Zeelenberg and Pieters, 1999-2004). Another reason for this finding is that there is a bigger chance to evaluate information and alternatives in new car purchases. According to some researchers, experiential regret is experienced more in product purchases with high involvement, information search, and thinking (Chen et al., 2011: 390). The psychology literature is consistent with this as well. For instance, Kahneman and Miller (1986) argue that considering the existing alternatives leads to regret by triggering certain negative thoughts. In other words, when individuals think that unchosen alternatives are better than the chosen one, they may feel that they made a mistake, wish they had chosen another alternative, and feel more regret. The regret literature also indicates that individuals considering other alternatives more will feel more regret. Regret arising from excessive information search and alternative evaluation reduces repurchase intention (Keaveney et al., 2007:1208).

With this study focusing on outcome regret, it is clear that regret may be felt due to not only the negative outcomes of chosen alternatives but also unchosen alternatives (i.e. missed opportunities). Perceived risks differ from product class to product class, which is also true for their influence on regret and repurchase intention. In luxury product purchases, the type of risk that influences regret most is financial risk, but no psychological regret is perceived at all, which is a finding making an important contribution to the literature.

Based on the research findings, some recommendations can be offered to businesses. With this research, businesses can become aware of that they should not content themselves with only measuring customers' satisfaction, but go on with measuring the risks they perceive and the regret they feel after purchases, in addition to their satisfaction. Businesses may reduce the risks perceived by their customers after purchasing a car through some risk management tools such as guarantee and insurance. Even if there is a regret caused by the consumer himself, the business may take it under control and try to decrease it. In this regard, businesses should offer after-sales services more effectively and encourage consumers to report their complaints to them. In used cars, they may balance regret and risk by offering a high product class that fits consumers' income levels. Additionally, considering that consumers perceive financial risks most, they may provide convenience in payments or installments of cars and provide various guarantees to reduce their perceived physical risks.

The present study is expected to contribute to future research as well. Consumers decide to or not to purchase based on the perceptions in their minds (Garbaniro, 2004: 770). As the risks perceived by consumers increase, repurchase intention and willingness decrease (Mitchell, 1999:163). Considering this, future research may explore the influence of risk on behaviors and feelings such as dilemma, guilt, and cognitive dissonance. The present study made an evaluation based on inherent risk, which reflects uncertainty about a specific product. Future research may focus on a specific brand. The present study addressed outcome regret, which is based on missed alternatives and wrong choices. However, consumers may also experience process regret (i.e. regret about the way purchase is made) as they sometimes make purchase decisions fast or without thinking enough. Hence, future research may explore process regret in impulse, unplanned, passionate, and hedonic purchases as well as regret at the moment of purchase, pre-purchase regret, short-term regret, and long-term regret. The influence of regret on various variables such as complaint, word of mouth communication, satisfaction, and brand change may be explored. The mediating role of regret in the influence of risk on repurchase may be investigated. Risk and regret in different product lines (e.g. houses) may be dealt with. Risks in purchases over the internet and in traditional purchases and their influence on regret may be sought. According to some researchers, as it is more difficult to evaluate service performance compared to product performance and it is hard for consumers to compare a service with other services, regret felt after purchasing a service is less than regret felt after purchasing a product. Some researchers argue that as service alternatives are limited, possibility to consider them and regret increase (Keaveney et al., 2008). Considering these opposing ideas, relationship between risk and regret felt after purchasing a service may be searched. Some researchers report that different results may be obtained about regret and risk when different demographic characteristics are in question; for example, women, single individuals, and educated people feel more regret and perceive more risks, and people from different age and income groups may perceive different risks and feel regret at different levels (Engin, 2011; Chen et al., 2011). Therefore, future research may investigate differences arising from demographic characteristics. Furthermore, research can be carried out on different cultures as cultural differences may lead to differences in risk perceptions.

## REFERENCES

- Akturan, U. (2007). *Satın Alma Karar Sürecinde Markaya Yönelik Algılanan Riskin Algılanan Değer Üzerindeki Etkisi*, İstanbul Üniversitesi, Doktora Tezi, İstanbul Assael, H.(1992), *Consumer Behaviour and Marketing Action*, Boston, PWS-Kent Publishing Company
- Bettman, J.R (1973). "Perceived Risk and It's Components: A Model and Empirical Test", *Journal of Marketing Research*, 10(2), pp.184.
- Bianchi, C. and Andrews, L.(2012). "Risk, Trust, and Consumer Online Purchasing Behaviour : A Chilean Perspective", *International Marketing Review*, 29(3), pp. 253-275.
- Chang, Y.P., Gao, Y., and Zhu, D.H.(2015). The impact of product regret on repurchase intention. *Social Behavior and Personality: An International Journal*, 43(8), pp. 1347-1360.
- Chebab, S.(2010). "The Consumer Regret: Moderators, Mediators and Consequences", *Journal of Business Studies Quarterly*, 1(4), 49.
- Chen, C.F(2008). Investigating Structural Relationships Between Service Quality, Perceived Value, Satisfaction, And Behavioral Intentions for Air Passengers: Evidence from Taiwan, *Transportation Research Part A: Policy and Practice*, 42(4), pp. 709-717.
- Chen, J., Hui, E.C., and Wang, Z. (2011). Perceived Risk, Anticipated Regret and Post-Purchase Experience in The Real Estate Market: The case of China.*Housing Studies*, 26(03), pp. 385-402.
- Chiu, C.M., Wang, E.T., Fang, Y.H., and Huang, H.Y(2014). "Understanding Customers' Repeat Purchase Intentions in B2c E - Commerce: The Roles of Utilitarian Value, Hedonic Value and Perceived Risk", *Information Systems Journal*, 24 (1), pp. 85-114.
- Clarke, P., and Mortimer, G. (2013)." Self-Gifting Guilt: An Examination of Self-Gifting Motivations and Post-Purchase Regret", *Journal of Consumer Marketing*, 30(6), pp. 472-483.
- Cooke, A. D., Meyvis, T., and Schwartz, A. (2001). "Avoiding Future Regret in Purchase-Timing decisions". *Journal of Consumer Research*, 27(4), pp. 447-459.
- Conchar, M. P., Zinkhan, G. M., Peters, C., and Olavarrieta, S. (2004). "An Integrated Framework for The Conceptualization of Consumers' Perceived-Risk Processing", *Journal of the Academy of Marketing Science*, 32(4), pp. 418-436.
- Cunningham, L.F., Gerlach, J.H., Harper, M.D., and Young, C.E. (2005). "Perceived Risk and the Consumer Buying Process: Internet Airline Reservations", *International Journal of Service Industry Management*, 16(4), pp. 357-372.
- Engin, M.B. (2011). "Tüketici Karar Alma Sürecinde Pişmanlık ve Türkiye'de Esnek İade Politikalarının Uygulanabilirliği: Hazır Giyim Sektörü Üzerine Bir İnceleme", İstanbul Üniversitesi, Doktora Tezi, İstanbul
- Faqih, K.M. (2013). "Exploring The Influence of Perceived Risk and Internet Self-Efficacy On Consumer Online Shopping Intentions: Perspective of Technology Acceptance Model", *International Management Review*, 9(1), pp. 67.
- Featherman, M.S., and Pavlov, P.A. (2003). "Predicting e-Services Adoption: A Perceived Risk Facets Perspective", *Int. J. Human- Computer Studies*, 59, pp.451-474.
- Forsythe,S.M. and Shi,B.(2003). *Consumer Patronage and Risk Perceptions in Internet Shopping*, UMI.
- Garbarino, E., and Strahilevitz, M. (2004). Gender Differences in the Perceived Risk of Buying Online and the Effects of Receiving a Site Recommendation", *Journal of Business Research*, 57(7), pp. 768-775.
- Garner, S. J. (1986). "Perceived Risk and Information Sources in Services Purchasing". *The Mid-Atlantic Journal of Business*, 24(2), pp. 49-58.
- Ghotbabadi, A. R., Feiz, S., and Baharun, R.(2016). "The Relationship of Customer Perceived Risk and Customer Satisfaction", *Mediterranean Journal of Social Sciences*, 7(1), pp. 161.

- Gilovich, T., and Medvec, V. H. (1995). "The Experience of Regret: What, When, and Why". *Psychological Review*, 102(2), pp. 379-387.
- Han, J.Y. (2005). *The Relationship of Perceived Risk to Personal Factors, Knowledge of Destination and Travel Purchase Decisions in International Leisure Travel*, Virginia Polytechnic and State University, Phd Dissertation
- Heiman, A., McWilliams, B., and Zilberman, D. (2001). "Demonstrations and Money-Back Guarantees: Market Mechanisms to Reduce Uncertainty". *Journal of Business Research*, 54(1), pp.71-84.
- Heitmann, M., Lehmann, D.R., and Herrmann, A. (2007). "Choice Goal Attainment and Decision and Consumption Satisfaction", *Journal of Marketing Research*, 44(2), pp. 234-250.
- Huang, J., and Wang, Z.S. (2007). "A study on Impact of Customer Regret Under the Circumstances of Satisfaction on Word of Mouth", *Commercial Economics and Management (Chinese)*, 184(2), pp. 63–68.
- Hur, T.K.(2002). "Psychological Functions and Values of Counterfactual Thinking", *Korean Journal of Psychological and Social Issues*, 8(2), pp. 171-190.
- Inman, J. J., and Zeelenberg, M. (2002). "Regret in Repeat Purchase Versus Switching Decisions: The Attenuating Role of Decision Justifiability". *Journal of Consumer Research*, 29(1), pp.116-128.
- Jacoby, J.,and Leon B.K(1972). "The Components of Perceived Risk", *Proceedings of The Third Annual Conference of The Association for Consumer Research*", pp.382-393.
- Kang, J. H., and Chung, M.S.(2010). "The Effects of Internet Shopping Mall Attributes and Regret on the Complaining Behavior and Repurchase Intentions", *The Research Journal of the Costume Culture*, 18(4), pp. 655-669.
- Keaveney, S. M., Huber, F., and Herrmann, A. (2007). "A Model of Buyer Regret: Selected Prepurchase and Postpurchase Antecedents with Consequences for The Brand and The Channel", *Journal of Business Research*, 60(12), pp.1207-1215.
- Kim, J., and Lennon, S.J. (2013). "Effects of Reputation and Website Quality on Online Consumers' Emotion, Perceived Risk and Purchase Intention: Based on the Stimulus-Organism-Response Model, *Journal of Research in Interactive Marketing*, 7(1), pp.33-56.
- Kim, S.H.(2014). "Consumers' Attributions and Emotional Responses to Negative Expectancy Disconfirmation: Anger and Regret". *South African Journal of Business Management*, 45(2).
- Knight, D.K. (2012). *Examining The Effects of Apparel Attributes On Perceived Copyright Infringement and The Relationship Between Perceived Risks and Purchase Intention of Knockoff Fashion* (Doctoral Dissertation, University of North Texas.
- Lagerkvist, C.J., Okello, J.,and Karanja, N.(2015). "Consumers' Evaluation of Volition, Control, Anticipated Regret, And Perceived Food Health Risk", *Evidence from A Field Experiment in A Traditional Vegetable Market in Kenya*. *Food Control*, 47, pp. 359-368.
- Lam, S.Y., Shankar, V., Erramilli, M.K. and Murthy, B.(2004). "Customer Value, Satisfaction, Loyalty, and Switching Costs: An Illustration from A Business-To-Business Service Context", *Journal of The Academy of Marketing Science*, 32(3), pp.293-311.
- Lee, S.H., and Cotte, J.(2009). "Post-Purchase Consumer Regret: Conceptualization and Development of The PPCR Scale", *Advances in Consumer Research*, 36(1), pp.352-356.
- Liao, C., Liu, C.C., Liu, Y.P., To, P.L., and Lin, H.N(2011). "Applying The Expectancy Disconfirmation and Regret Theories to Online Consumer Behavior", *Cyberpsychology, Behavior, And Social Networking*, 14(4), pp. 241-246.
- MacInnis, D.J., and Patrick, V. M.(2006). "A Spotlight On Affect: The Role of Affect and Affective Forecasting in Self-Regulation and Impulse Control". *Journal of Consumer Psychology*, 16(3).
- McConnell, AR, Niedermeier, KE, Leibold, JM, El-Alayli, AG, Chin PP., and Kuiper, NM. (2000). "What If I Find It Cheaper Somewhere Else? Role of Prefactual Thinking and Anticipated Regret in Consumer Behavior", *Psychol*, 17(4), pp. 281– 98.

- Mehrabian, A., and Russell, J. A. (1974). *An Approach to Environmental Psychology*. The Mit Press.
- Mitchell, V.W.(1999).”Consumer Perceived Risk: Conceptualisations And Models”, *Eur. J. Market.* 33 (1/2), pp. 163–195.
- Nordgren, L.F., and Van, D.P.J., and Van, H.F. (2007).” Unpacking Perceived Control in Risk Perception: The Mediating Role of Anticipated Regret”, *Journal of Behavioral Decision Making*, 20(5), pp. 533-544.
- Odabaşı, Y., Barış, G(2002), *Tüketici Davranışı, Mediacat*, 4.Baskı, İstanbul
- Pires, G., Stanton, J., and Eckford, A. (2004). “Influences on The Perceived Risk of Purchasing Online”, *Journal of Consumer Behaviour*, 4(2), 118-131.
- Poel, D. V. D., and Leunis, J. (1996). “Perceived Risk and Risk Reduction Strategies in Mail-Order Versus Retail Store Buying”, *International Review of Retail, Distribution and Consumer Research*, 6(4), pp. 351-371.
- Rose, J.(2015). *The Effects of Brand Familiarity on Perceived Risks, Attitudes, and Purchase Intentions toward Intimate Apparel Brands: The*
- Saleh, M.A.H(2012). *An investigation of the relationship between unplanned buying and post-purchase regret. International Journal of Marketing Studies*,4(4), 106.
- Sánchez-García, I., and Currás-Pérez, R. (2011). *Effects of Dissatisfaction in Tourist Services: The Role of Anger and Regret. Tourism Management*, 32(6), pp. 1397-1406.
- Şahin, A., Zehir, C., and Kitapçı, H. (2012). “The Effects of Brand Experience and Service Quality on Repurchase Intention: The Role of Brand Relationship Quality”, *African Journal of Business Management*, 6 (45), pp. 11190-11201.
- Sandberg, T., Hutter, RRC, Richetin, J., and Conner, M.(2016).”Testing the Role of Action and Inaction Anticipated Regret on Intentions and Behaviour”, *British Journal of Social Psychology*, ISSN 0144-6665 (In Press)
- Segars, A.H. and Varun, G. (1993). “Re-Examining Perceived Ease of Use and Usefulness: A Confirmatory Factor Analysis”, *MIS Quarterly*, 17 (4), pp.517-525.
- Shih, E., and Schau, H.J.(2011). “To Justify or Not to Justify: The Role of Anticipated Regret On Consumers’ Decisions to Upgrade Technological Innovations”, *Journal of Retailing*, 87(2), pp.242-251.
- Sohn, H.K., Lee, T.J., and Yoon, Y.S.(2016). “Relationship Between Perceived Risk, Evaluation, Satisfaction, And Behavioral Intention: A Case of Local-Festival Visitors”, *Journal of Travel & Tourism Marketing*, pp.1-18.
- Suh, H.S., Na, Y.K., and Kim, M.H(2010). “The Influence of Fashion Consumers' Perceived Risk and Regret-Solution Effort upon the Post-Purchase Intention-Focus on the Different Impulse Buying Types”, *Journal of the Korean Society of Clothing and Textiles*, 34(6), pp.889-901.
- Tsiros, M., and Mittal, V.(2000). “Regret: A Model of its Antecedents and Consequences in Consumer Decision Making”, *Journal of Consumer Research*, 26(4), pp.401-417.
- Weathers, P.D.(2002). *Purchase Channel and Product Characteristic Effects on Consumer Risk Perceptions*, Phd Dissertation, University of South Carolina, UMI
- Yang, Z., and Peterson, R.T.(2004).”Customer Perceived Value, Satisfaction, and Loyalty: The Role of Switching Costs”, *Psychology and Marketing*, 21(10), pp.799-822.
- Yung - Shen Yen. (2010).” Can Perceived Risks Affect the Relationship of Switching Costs and Customer Loyalty in E-Commerce?”, *Internet Research*, 20 (2), pp.210-224.
- Zaltman, G.(1997). “Rethinking Market Research: Putting People Back In”. *Journal of Marketing Research*, 34, pp.424–437.

Zeelenberg, M., Beattie, J., Van der Pligt, J., and de Vries, N. K. (1996). "Consequences of Regret Aversion: Effects of Expected Feedback on Risky Decision Making", *Organizational Behavior and Human Decision Processes*, 65(2), pp.148-158.

Zeelenberg, M., and Pieters, R.(1999). "Comparing Service Delivery to What Might Have Been Behavioral Responses to Regret and Disappointment", *Journal of Service Research*, 2(1), pp. 86-97.

Zeelenberg, M., and Pieters, R.(2004). "Beyond Valence in Customer Dissatisfaction: A Review and New Findings On Behavioral Responses to Regret and Disappointment in Failed Services". *Journal of Business research*, 57(4), pp. 445-455.

Zhang, Y., and Wang, F(2010). The Relationship between Impulse Buying, Negative Evaluations and Customer Loyalty. In *Proceedings of 2010 International Conference on Management Science and Engineering*, pp. 131-139).

Zhou, H., and Gu, Z.(2015). "The Effect of Different Price Presentations on Consumer Impulse Buying Behavior: The Role of Anticipated Regret". *American Journal of Industrial and Business Management*, 5(1), pp.27.

## APPENDIX

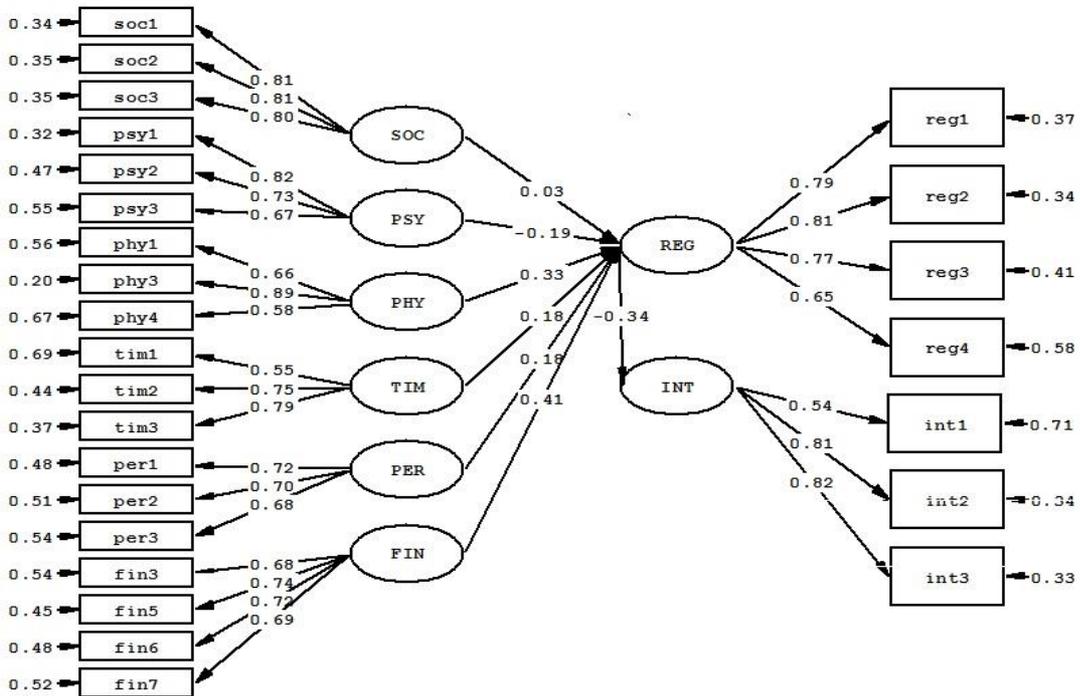


Fig 2. Regret Model for Used Car Owners

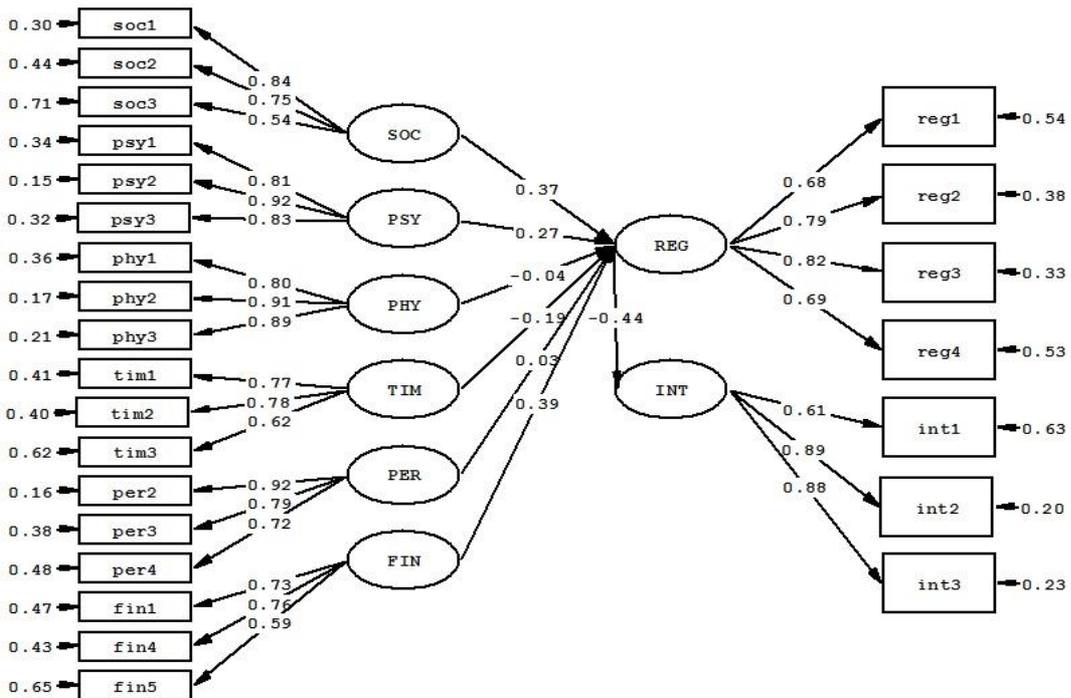


Fig 3. Research Model for New Car Owners