*Araştırma Makalesi ● Research Article*

# Understanding Effect of Consumers' Perceived Risk On Online Purchasing Behavior: Cosmetic Product Example [*]

## Tüketicilerin Algıladığı Riskin Internetten Satın Alma Davranışına Etkisinin Anlaşılması: Kozmetik Ürün Örneği

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| MAKALE BİLGİSİ | ÖZ |
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| *Makale Geçmişi:* <br><br> Başvuru tarihi: 1 Eylül 2023 <br><br> Düzeltme tarihi: 10 Ekim 2023 <br><br> Kabul tarihi: 17 Ekim 2023 <br><br> Anahtar Kelimeler: <br><br> Tüketicinin Algıladığı Risk <br><br> Satın Alma Öncesi Davranış <br><br> Çevrimiçi Alışveriş | Teknolojinin gelişmesiyle birlikte online alışveriş tüm dünyada artmış olup, gelecekte de online alışverişin artmaya devam edeceği istatistiksel bulgularla anlaşılmaktadır. Ancak tüketicilerin çevrimiçi alışverişte güvenlik ve riskler gibi pek çok endişesi vardır. Pazarlamacılar, tüketicilerin risk algısını azaltmak için her yıl milyonlarca dolar harcamaktadır; çünkü tüketiciler risk algıladıklarında satın alma davranışları olumsuz etkilenebilmektedir. Bu nedenle pek çok araştırma yapılmış ve bu araştırmada da tüketicilerin algıladıkları risk ve satın alma öncesi davranışları detaylı bir şekilde incelenmiştir. Bu araştırmada veri toplama tekniği olarak anket seçilerek internet üzerinden kozmetik ürün alışverişi yapan kişilere uygulanmış ve 355 yanıt elde edilmiştir. İstatistiksel bulgulara göre tüketicilerin algıladıkları riskler ile satın alma öncesi davranışları arasında ilişki vardır. |

| ARTICLE INFO | ABSTRACT |
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| *Article history:* <br><br> Received: Sep 1, 2023 <br><br> Received in revised form: Oct 10, 2023 <br><br> Accepted: Oct 17, 2023 <br><br> Keywords: <br><br> Consumer Perceived Risk <br><br> Pre-Purchase Behavior <br><br> Online Shopping | Online shopping has increased all around the world by technological development, and with the statistical findings it is understood that online shopping will keep increasing in the future. But there are many concerns for the consumers' like security and risks in online shopping. The Marketers annually spend millions of dollars to reduce the consumers' risk perception; because when consumers perceive risk their purchase behavior can be affected negatively. Therefore, many researches have been conducted, and in this research consumers' perceived risk and pre-purchase behavior have been examined in detail. In this research, as a data collection technique questionnaire was chosen and applied to the people who shop online for cosmetic products, and 355 responses were obtained. According to statistical findings, there are relationship between consumers' perceived risks and pre-purchase behavior. |

## 1. Introduction

People who have experience with online shopping reached 49.5% of the total population, and when this rate compared with 2022 (46.2%) it is seen that the rate increased in Turkey (Turkish Statistical Institute, [TUIK], 2023). Although the growth of online shopping has been rapid, risk perceptions of consumers about their shopping have not disappeared. Behind this, security risks and an untrusted online environment play a role. In addition, with technological innovation consumers inform each other on digital platforms. Especially because of the websites the consumers

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share their experience of the shopping experience, it can be said that consumer risk perception has increased in recent years.

In the literature there are many researches which examine the effect of consumers' perceived risk on purchase and post-purchase behavior. This research differs from the previous researches by examining the consumers' perceived risk on pre-purchase behavior. Even though there are two main variables in this research (consumers' perceived risks and pre-purchase behavior), analyzing is not only about these two but sub-dimensions of the variables were also analyzed.

In the marketing literature, the concept of consumers' perceived risk has been explained by Bauer (1960) consumer choices in terms of risk, and the concept is correlated with the uncertainty of shopping (to purchase a product) and the consequences of a wrong decision. Marketers of companies spend millions of dollars annually for each product seeking competitive advantage over the companies in the market by attempting to reduce consumers' risk perception related to the purchase of a specific product (Havlena and DeSarbo, 1991:927). Developed and technological world people do mostly online shopping, and thus marketing efforts of the products that are sold in an online environment focus on decreasing consumers' possible risk. Perceptions of Consumers' possible risks are grouped by many researchers, but in the literature, the risks are centralized in a few such as financial, psychological, physical, performance, time, and social (Roselius, 1971; Jacoby and Kaplan, 1972; Mitchell and Greatorex, 1992; Stone and Gronhaug, 1993; Keh and Sun, 2008).

Consumers' purchase behavior can be divided into three; pre-purchase, purchase, and post-purchase. This dynamic process is grouped by Kotler (2000: 179) as the determination of needs, seeking information, finding alternatives, purchase decision, and post-purchase decision. The first three are about pre-purchase behavior, and therefore this research can give some information and offer suggestions according to statistical findings. The consumer purchase process is the same in an online environment; because when a consumer wants to shop online first the consumer determines the needs, then according to needs seeks info and alternatives, and then decides to purchase. Therefore, examining the research variables for online cosmetic product shopping is valuable in both the literature and the sector.

## 2. Consumers' Perceived Risk

People expect the kind of loss if perceive risk, Bauer (1960: 391) defines risk as an uncertain consequence of an unpleasant nature resulting from a product purchase. Consumer psychologists have a consensus that risk perception can arise from different types of potential negative consequences (Dholakia, 2001:1342). If consumers perceive more risk, they are less likely they will purchase,

and because of this consumers try to decrease risk by such as information acquisition before they purchase (Lim, 2003: 217).

Consumers perceived risk categorized with several researchers for instance Jacoby and Kaplan (1972) classified the perceived risk as performance, time, social, psychology, and financial. Mitchell and Greatorex (1992) classified the perceived risk as physical, social, financial, and functional, while Stone and Gronhaug (1993) classified it as physical, social, financial, performance, psychology, and time. Another is classified by Featherman and Pavlou (2003) as performance, financial, time, psychological, social, privacy, and overall risk. Keh and Sun (2008) classified perceived risk into two personal (social and psychological) and impersonal (financial and functional). It is seen that the classifications were centralized by the previous research in the literature considering consumers' probable risks, and the defined risks that play a role in any purchases.

One of the perceived risks is physical risk, and it refers to potential threats to the health or appearance of the consumers which could be brought about by unsafe shopping experiences (Mitchell and Harris, 2005: 824). The second type of risk is social risk, and it refers to the perceived judgment on the shopping experiences that can create dissatisfaction among communities, family, and friends. Financial risk which on is the third type of risk refers to probability of an individual who has shopping experience suffers monetary loss from a product that does not perform well or not worth the price paid (Ariffin, Mohan, and Goh, 2018:315). The fourth risk is the psychological risk, and it appears when consumers suffer mental stress from a shopping experience (Lim, 2003:2239. Performance risk is the fifth one and it can be defined as the loss incurred when a purchased product does not perform as expected (Forsythe and Shi, 2003:869). The last and may be the most important risk is time risk and it refers to the amount of time to find a product which can be needed to rectify a product failure.

## 3. Purchase Behavior and Online Purchase Behavior

Consumer behavior is a dynamic process that includes three stages: pre-purchase, purchase, and post-purchase. Kotler and Armstrong (2011: 160) define this process in five steps. First, the three steps are about pre-purchase behavior and it starts with awareness of needs, then seeking alternatives (according to needs), and reviewing the alternatives - choosing one of them (best option). The fourth step is purchasing decision and purchasing stage. The fifth step is post-purchasing which is the last stage, and in this step, consumers have a perception (satisfaction / no satisfaction) about the purchasing experience.

In the literature, there are many examples of explaining consumer purchasing behavior. While some of these models are classical, others are modern, focusing on consumers' behavior at the time. The "black box" model was used in the

studies of purchasing behavior of consumers in the physical market by researchers, and the model assumes that what takes place in the consumer's 'black box' of the consumer's mind can be inferred from a study of observed stimuli and responses. However, the model differs in the online market which is supported by technological innovations. The consumer black box in the online market effects by marketing efforts, and when consumers take purchase decision previous experiences also play an important role. In addition to these, consumers' risk perception plays a crucial role before purchasing. Therefore, consumers try to be careful of their online purchases, especially for valuable products.

Marketing mix which is known as 4p (product, price, promotion, place) being evaluated in the online market as e-4p (e-product, e-price, e-promotion, e-place). In an online market, when consumers want to purchase a product, risk factors such as physical, performance, financial, and time play a role in consumers' decision (Aksoy, 2009: 81). Thus, the companies who run their business online platforms should take care of such risks, and create a perception that does not include risk factors of any product as much as possible. By doing this, the companies can act as consumer-centric, and hereby thanks to consumers' choices of the company's products long-term running business could be more possible.

## 4. Methodology

The research aims to examine the relationship between consumers' perceived risk and pre-purchase behavior of people about online cosmetic product purchases. The research quantitative method has been followed, and as a data collection technique, questionnaire has been chosen. The questionnaire includes three parts, and in the first part, demographic questions were asked for understanding the characteristics of the respondents. In the second part, there are 16 questions about consumers' perceived risk, and in the last part, there are nine questions about pre-purchase behavior. For the consumers' perceived risk questions, with six dimensions the consumers' perceived risk scale developed by Abzakh, Ling, and Alkilani (2013) is used. On the other hand, for pre-purchase behavior questions, the pre-purchase behavior scale developed by Islek (2012) is used, and the scale originally has 10 questions. The questionnaire was adapted to an online form and then sent to the people randomly, and 55 responses were obtained. The data were used in the factor analysis with using AMOS statistical package program. Ethics committee permission was given by Istanbul Aydın University Ethics Committee for the survey application of this study, with the decision no. 2023/07 dated 03.08.2023.

Confirmatory factor analysis (CFA) was applied to the scales planned to be used in the research to understand the fitness for the research. For the consumers' perceived risk scale it is understood that the scale goodness-of-fit values are in the acceptable interval according to CFA ($X^2$/df:

2.713, GFI: .923, AGFI: .882, CFI: .952, RMSEA: .070 P=0.000<0.05) (Shermelleh-Engel et al., 2003:56). On the other for the pre-purchase behavior scale it is seen that the scale goodness-of-fit values are not in the acceptable interval according to CFA ($X^2$/df: 6.901, GFI: .863, AGFI: .785, CFI: .878, RMSEA: .129 P=0.000<0.05), and then exploratory factor analysis (EFA) has applied. The KMO: .901 and p: .000<0.05 values show that there is no statistical problem with applying EFA, the 10 statements have been divided into two factors and the total explained variance is 61.990% according to. However, one of the statements has been seen under the two factors at the same time, and the statement factor value was under .50, therefore the statement has been removed. DFA after EFA for the pre-purchase behavior scale with nine statements has been applied, and it is understood that the scale goodness-of-fit values are in the acceptable interval according to CFA (X2/df: 2.499, GFI: .961, AGFI: .933, CFI: .972, RMSEA: .065 P=0.000<0.05), and the two factors, after all, have named as "knowledge" and "trust". To check the reliabilities of the scales, reliability analysis was applied, and because Cronbach's Alpha values (α) are greater than .70, it is understood that the consumers' perceived risk scale (α=0.888, N:16) and pre-purchase behavior scale (α=0.879, N: 9) are reliable according to the results.

After understanding that there was no problem with the scales, the research model has been drawn and shown in Figure 1 below. According to the research model established
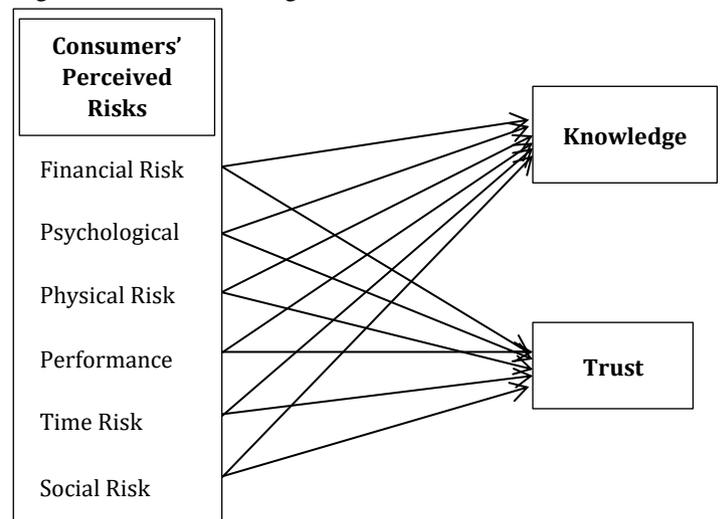


with the research variables, research hypotheses have been created related to the research questions.

**Figure 1:** Research Model

Research Hypotheses:
H$_1$: Consumers' perceived risk has a positive effect on knowledge.
H$_2$: Consumers' perceived risk has a positive effect on pre-purchase trust.
The questionnaire has sent to the people randomly in July 2023, and 355 responses were obtained. The data were used in the tests related to the research hypotheses, and for the

tests, SPSS 26.0 statistical package program has been used.
First, the demographic characteristics of the participants were examined and are shown in Table 1 below.

**Table 1:** Frequency Values of the Demographic Characteristics of the Participants

| Demographic Features | Frequency | Percentage | Demographic Features | Frequency | Percentage |
|---|---|---|---|---|---|
| Gender | | | Education level | | |
| Male | 152 | 42.8 | High school | 11 | 3.1 |
| Female | 203 | 57.2 | College | 65 | 18.3 |
| Marital status | | | Bachelor | 279 | 78.6 |
| Single | 119 | 33.5 | | | |
| Married | 236 | 66.5 | | | |
| Age | | | Household Income | | |
| 18-23 | 45 | 12.7 | ≤11500 TL | 36 | 10.1 |
| 24-29 | 65 | 18.3 | 11501-15000 TL | 78 | 22.0 |
| 30-35 | 180 | 50.7 | 15001-18500 TL | 29 | 8.2 |
| 36-41 | 55 | 15.5 | 18501-22000 TL | 60 | 16.9 |
| 42 and above | 10 | 2.8 | ≥22001 TL | 152 | 42.8 |

According to Table 1, 57.2% (203) of the participants are female, 66.5% (236) are married, 50.7 (180) are between the ages of 30-35, 78.6% (279) have bachelor's degrees, and 42.8% (152) have 22001 and more Turkish Lira household income.

In the questionnaire, there are statements of the scales, and Table 2 shows the mean values and standard deviations of the participants' responses about the statements

**Table 2:** Descriptive Values of the Scales' Statements

| Scale | Factors | Statements | Mean | Std. Dev. |
|---|---|---|---|---|
| Consumers' Perceived Risk | Financial | I would be concerned that buying cosmetic products online would not be wise. | 3.6901 | 1.23040 |
| | | I can spend my money in a better way rather than buying cosmetic products. | 3.8028 | 1.18154 |
| | | I would be concerned that I would not get my money's worth from the cosmetic products. | 3.8000 | 1.20122 |
| | Physiological | The thought of purchasing cosmetic products online causes me to experience unnecessary tension. | 3.6310 | 1.22204 |
| | | The thought of purchasing cosmetic products online makes me feel psychologically uncomfortable. | 3.3127 | 1.32159 |
| | | The thought of purchasing cosmetic products online makes me feel worried. | 2.3014 | 1.28524 |
| | Physical | One concern I have about purchasing a cosmetic product online is that the risk of endangering my health might be high. | 3.4366 | 1.31626 |
| | | I am concerned about potential physical risks associated with the consumption of cosmetic products. | 3.5042 | 1.25183 |
| | | I have confidence concerns in the case of consuming cosmetic products. | 3.5549 | 1.24610 |
| | Performance | As I consider the purchase of cosmetic products online, I worry whether or not the drugs will really perform as well as it is supposed to. | 3.4789 | 1.19626 |
| | | I am concerned that the cosmetic products will not provide the level of benefits that I would be expecting. | 2.8056 | 1.29491 |
| | | I think that the performance of cosmetic products would create problems. | 3.1296 | 1.17175 |
| | Time | The purchase of cosmetic products online would create even more time pressure on me that I don't need. | 3.1493 | 1.17060 |
| | | The purchase of cosmetic products online makes me concerned because, to understand the products characteristics and differences, might lead to an inefficient use of my time. | 3.8000 | 1.03170 |
| | Social | The purchase of cosmetic products online would cause some people whose opinions I value to perceive me as calculative person. | 4.0169 | .91426 |
| | | My friends would think I was just being price-conscious by buying cosmetic products. | 3.9746 | .90942 |

| | | | | |
|---|---|---|---|---|
| **Pre-Purchase Behavior** | **Knowledge** | Before purchasing a product, I do research online about that product/service. | 3.2761 | 1.17043 |
| | | I believe that I will reach reliable information online about the product/service I will buy. | 3.6958 | 1.02943 |
| | | If the information in the online environment about the product/service I will buy is created by the consumer, I trust that information. | 3.3803 | 1.00797 |
| | | When a company/brand contacts me online, it affects me positively in terms of purchasing. | 3.6535 | 1.15027 |
| | | I participate in campaigns organized by companies in the online environment. | 3.5972 | 1.10392 |
| | **Trust** | If the information in the online environment about the product/service I will buy is created by the seller, I trust that information. | 3.7606 | 1.11062 |
| | | I only give importance to the recommendations of people I know before in the online environment regarding the product/service I will buy. | 3.8648 | 1.02993 |
| | | I give importance to the recommendations of popular users (who have many followers and friends) online regarding the product/service I will buy. | 3.9746 | .96664 |
| | | It is a convenient place for consumers to communicate with companies / brands in the online environment. | 3.9324 | .96313 |

To apply parametric tests, the data must show a normal distribution or near-normal distribution. There are analytical and visual methods to determine if the data is distributed normally or not. One of them is the checking Skewness and Kurtosis values, and if the values are between -1.96 to +1.96, the distribution is considered as normal at the 5% significance level (Yavuz, 2019: 616). Normality test was applied for the scales used in the research, and according to the Skewness and Kurtosis values for the consumers' perceived risk scale (Skewness: -.431; Kurtosis: .328), and for the pre-purchase behavior scale (Skewness: -.720; Kurtosis: 1.064) are understood that they are normally distributed.

Correlation analysis was applied to understand the relationship between the variables. Correlation analysis shows the strength of the relationship between two or more variables, expressed with an "r" value. The "r" takes a value between -1 to +1, and when it closes to +1, the stronger the relationship between the variables increases positively, and when it closes to -1 it increases negatively the same as well (Gurbuz and Sahin, 2014: 256). Correlation analysis results are shown in Table 3 below, and the correlation value between the consumers' perceived risk and pre-purchase behavior which are the main variables of the research is r= .586. In Table 3, the correlation values between sub-dimensions of the main scales each other have also been examined and shown below.

**Table 3:** Correlation Analysis Results

| | | CPR | A | B | C | D | E | F | PPB | G | H |
|---|---|---|---|---|---|---|---|---|---|---|---|
| CPR | r | 1 | .820** | .806** | .796** | .777** | .643** | .539** | .586** | .539** | .528** |
| | p | | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| A | r | | 1 | .724** | .516** | .472** | .377** | .341** | .451** | .399** | .426** |
| | p | | | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| B | r | | | 1 | .553** | .501** | .321** | .268** | .411** | .374** | .375** |
| | p | | | | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| C | r | | | | 1 | .623** | .377** | .282** | .341** | .310** | .311** |
| | p | | | | | .000 | .000 | .000 | .000 | .000 | .000 |
| D | r | | | | | 1 | .537** | .302** | .348** | .351** | .275** |
| | p | | | | | | .000 | .000 | .000 | .000 | .000 |
| E | r | | | | | | 1 | .592** | .567** | .525** | .505** |
| | p | | | | | | | .000 | .000 | .000 | .000 |
| F | r | | | | | | | 1 | .705** | .642** | .643** |
| | p | | | | | | | | .000 | .000 | .000 |
| PPB | r | | | | | | | | 1 | .927** | .892** |
| | p | | | | | | | | | .000 | .000 |
| G | r | | | | | | | | | 1 | .657** |
| | p | | | | | | | | | | .000 |
| H | r | | | | | | | | | | 1 |
| | p | | | | | | | | | | |

**. Correlation is significant at the .01 level (2-tailed).      A: Financial Risk (CPR)
r: Pearson Correlation          p: Significance Level      B: Physiological Risk (CPR)      G: Knowledge (PPB)
CPR: Consumers' Perceived Risk                      C: Physical Risk (CPR)      H: Trust (PPB)
PPB: Pre-Purchase Behavior                        D: Performance Risk (CPR)

E: Time Risk (CPR)
F: Social Risk (CPR)

Multiple regression analysis was applied to test the research hypotheses, and the results are shown below. In a multiple regression analysis significance level should check, and must be less than the research error rate. In addition to the significance level, multiple collinearities (VIF) values should check, and VIF values should be less than 10 to understand that there is no restriction in applying multiple regression analysis (Yener, 2011: 163). It is seen that in the regression analyses that were applied to test the research hypotheses, the significance levels are less than the research error rate (.000< .05), and all the VIF values are less than 10 (VIF<10). Therefore, it is understood that there is no restriction to applying multiple regression analysis. The first regression analysis is about to determine the effect of consumers' perceived risk scale's financial, physiological, physical, performance, time, and social risk sub-dimensions on the pre-purchase behavior scale's trust sub-dimension.

**Table 4:** Knowledge (PPB) Variable ANOVA Test

| Model | Sum of Squares | df | Mean Square | F | p |
|---|---|---|---|---|---|
| Regression | 112.792 | 6 | 18.799 | 53.011 | .000[b] |
| Residual | 123.407 | 348 | .355 | | |
| Total | 236.200 | 354 | | | |

**Table 5:** Knowledge (PPB) Variable Regression Analysis

| Dependent Variable | Knowledge (PPB) | | | |
|---|---|---|---|---|
| Independent Variables | Beta | t | p | VIF |
| Financial Risk | .070 | 1.189 | .235 | 2.299 |
| Physiological Risk | .138 | 2.312 | .021 | 2.362 |
| Physical Risk | -.016 | -.301 | .763 | 1.909 |
| Performance Risk | .028 | .495 | .621 | 2.081 |
| Time Risk | .160 | 2.943 | .003 | 1.977 |
| Social Risk | .482 | 9.850 | .000 | 1.595 |
| | | | | R= |
| **.691 - R²= .478** | | | | |

Since the significance level is less than .05 (p< .05) in the ANOVA test shown in Table 4 and the VIF values are less than 10, it is understood that there is no restriction in applying regression analysis. According to the results in Table 5, because the constant p-value is less than .05, it is understood that hypothesis 1 (H₁: Consumers' perceived risk has a positive effect on knowledge) cannot be rejected. However, the p values of the physiological, time, and social risks sub-dimensions of the CPR are less than .05 (p< .05), therefore only these three variables affect the knowledge sub-dimension of PPB. The $R^2$ value which expresses the explanatory power of the regression model is .478. It is seen that physiological, time, and social risks sub-dimensions of

the CPR are related to knowledge of PPB. The β values examined for understanding the effect of independent variables on the dependent, and accordingly, a one-point increase in the independent variables (physiological, time, and social risks) increase the dependent variable (knowledge) respectively by .138, .160, and .482.

**Table 6:** Trust (PPB) Variable ANOVA Test

| Model | Sum of Squares | df | Mean Square | F | p |
|---|---|---|---|---|---|
| Regression | 123.175 | 6 | 20.529 | 54.599 | .000[b] |
| Residual | 130.848 | 348 | .376 | | |
| Total | 254.024 | 354 | | | |

**Table 7:** Knowledge (PPB) Variable Regression Analysis

| Dependent Variable | Trust (PPB) | | | |
|---|---|---|---|---|
| Independent Variables | Beta | t | p | VIF |
| Financial Risk | .141 | 2.409 | .017 | 2.299 |
| Physiological Risk | .123 | 2.086 | .038 | 2.362 |
| Physical Risk | .043 | .804 | .422 | 1.909 |
| Performance Risk | -.119 | -2.145 | .033 | 2.081 |
| Time Risk | .175 | 3.237 | .001 | 1.977 |
| Social Risk | .482 | 9.920 | .000 | 1.595 |
| | | | | R= |
| **.696 - R²= .485** | | | | |

Since the significance level is less than .05 (p< .05) in the ANOVA test shown in Table 6 and the VIF values are less than 10, it is understood that there is no restriction in applying regression analysis. According to the results in Table 7, because the constant p-value is less than .05, it is understood that hypothesis 2 (H₂: Consumers' perceived risk has a positive effect on pre-purchase trust) cannot be rejected. However, the p values of the financial, physiological, performance, time, and social risks sub-dimensions of the CPR are less than .05 (p< .05), therefore only these five variables affect the knowledge sub-dimension of PPB. The $R^2$ value which expresses the explanatory power of the regression model is .485. It is seen that physiological, time, and social risks sub-dimensions of the CPR are related to trust of PPB. The β values examined for understanding the effect of independent variables on the dependent, and accordingly, a one-point increase in the independent variables (financial, physiological, performance, time, and social risks) increase the dependent variable (trust) respectively by .141, .123, -.119, .175, and .482.

## 5. Conclusion and Discussion

The main aim of this research understands the effect of consumers' perceived risk on pre-purchase behavior about online cosmetic product purchase. A quantitative research type had been followed in the research, and as a data collection technique questionnaire was chosen. With the collected 355 responses from the applied questionnaire, parametric tests had been applied to test the research hypotheses which were created according to the research purpose, and the results of the tests were examined by the statistical tables.

Correlation analysis was applied to test the relationships between the research variables, and it is understood that the variables are related to each other. Especially the correlation value between the research's main variables (consumers' perceived risk and pre-purchase behavior) is .586, and the correlation value shows that these two variables' strength is medium. In addition to the main variables of the research, the sub-dimensions of the scales relationships were also examined, and it is seen that these variables are related to each other. In the literature research on consumers' perceived risks and purchase behavior, the findings sum that there are relationships between these two (Cunningham et al., 2005; Arshad et al., 2015; Wang et al., 2018; Wai et al., 2019). It is understood that the results between consumers' perceived risk and pre-purchase behavior obtained from this research can be supported when compared to previous research. When consumers want to purchase a product from an online market, they try to get information about the product when they perceive the risk of the product.

Regression analyses were conducted to test the research hypotheses, and when the results were examined with the main variables it is understood that the consumers' perceived risk variable (independent) affects knowledge and trust (sub-dimensions of pre-purchase behavior). Also, when examining multiple regression analyses, some of the sub-dimensions of consumers' perceived risk do affect knowledge and trust. Especially physiological, time and social risk variables affect both knowledge and trust. In the literature research which is conducted about the effect of consumers' perceived risks on purchase behavior, the findings centralized that there is a negative effect between these two (Garbarino and Strahilevitz, 2004; Yeung and Morris, 2006; Hong and Yi, 2012; Masoud, 2013; Ariffin et al., 2018). On the other hand, even though the results about effecting which are obtained from this research look different, however, this research examines the pre-purchase unlike previous ones (instead of purchase and post-purchase). The results do not look opposite of the others. If the consumers perceive risks in their willing to purchase product, they focus on their pre-purchase behavior such as getting more details about the product. Therefore, this research's results are closely related to the previous ones.

When considering the statistical results obtained from the research, there are some suggestions for cosmetic companies that sell or will sell their products on online platforms. People's risk perception has been centralized on physiological, time, and social risks in online cosmetic products purchase. Therefore, companies should ensure that their customers do not have these risk perceptions and also decreased as much as they can if needed. On the other hand, consumers' perceived risks and pre-purchase behaviors in online cosmetic product purchases are related to each other according to the statistical results. Thus, companies should create a perception for their customers as there will be no risk for cosmetic product purchases.

Since the questionnaire was applied in a month, it is considered that the research has a limit. Because consumers' perceptions can be changed over time. Therefore, to better understand the perception of consumers it is suggested for future research that the questionnaire can be applied at different times. There is also another suggestion for future research which is considered as a limitation that is the questionnaire should apply also for regular cosmetic product purchases. Because when it is done with both surveys, the subjects can be compared well.

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