

Effects of Flow Experience on Impulse Buying Intent: An Application in E-Retailing

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Abstract

Rapidly advancing technological developments and new applications have led to changes in consumer behavior. Online channels have become more attractive for consumers because of the advantages they provide. In online consumer behavior, the flow experience has attracted attention as a factor in recent years. The purpose of this study, which focuses on online consumer behavior, is to determine the impact of flow theory on online impulse buying. At the same time, examining the moderating role of customer satisfaction on flow and online impulse buying behavior is also included in the scope of the study. For this purpose, an online survey was conducted with 283 volunteer participants over 18 who have shopped at least once on an e-retail site. The data obtained from the study were analyzed with SmartPLS 4 program. When the results obtained from the study are analyzed, it is determined that flow status significantly affects online impulse buying. On the other hand, it was determined that customer satisfaction did not have a regulatory role on flow and online impulse buying.

Özet

Hızla ilerleyen teknolojik gelişmeler ve buna bağlı ortaya çıkan yeni uygulamalar tüketici davranışlarında değişikliklerin yaşanmasına neden olmuştur. Çevrimiçi mecralar tüketiciler için sağlamış oldukları avantajlarla daha cazip hale gelmiştir. Çevrimiçi tüketici davranışlarında akış deneyimi son yıllarda dikkat çeken bir faktör olarak görülmektedir. Online tüketici davranışlarına odaklanan bu çalışmanın amacı, akış teorisinin online anlık satın alma üzerindeki etkisinin belirlenmesidir. Aynı zamanda müşteri tatmininin akış ve online anlık satın alma davranışı üzerindeki düzenleyici etkisinin incelenmesi de çalışma kapsamına dahil edilmiştir. Bu amaç doğrultusunda en az bir kere e-perakende sitesinden alışveriş yapan 18 yaş üstü gönüllü 283 katılımcı ile online anket çalışması gerçekleştirilmiştir. Çalışmadan elde edilen veriler SmartPLS 4 programı ile analiz edilmiştir. Çalışmadan elde edilen sonuçlar incelendiğinde, akış durumunun online anlık satın alma üzerinde anlamlı yönde etkili olduğu belirlenmiştir. Buna karşın, müşteri tatmininin, akış ile online anlık satın alma üzerinde düzenleyici rolünün bulunmadığı tespit edilmiştir.

Introduction

The digitalized world has caused radical changes in consumer behavior in every aspect of life. E-retail sites, which are growing daily, have replaced physical stores. In the modern world, consumers can easily shop anytime with a single click without the hassle of time and travel. Understanding the increasing number of online consumer behaviors is essential for marketing.

The flow state, which can be observed primarily in sports, movie watching, dancing, and artistic activities, was initially identified with these fields (Trevino and Webster, 1992). However, Csikszentmihalyi (1997) states that flow theory is a vital tool in understanding the motivations of individuals. Flow, an essential tool in understanding the underlying reasons for human behavior, is a critical theory for many fields (Shahpasandi, 2020). In recent years, it is seen that flow theory has been utilized for the increasing use of the internet and the online channels that have developed rapidly (Hanzaee & Khodayari, 2011; Kim & Han, 2014; Martson et al., 2016). Especially the

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development of e-commerce, digitalization, and changing consumer behaviors have caused a change in the traditional marketing approach and brought digital-based marketing to the agenda. It is known that online channels allow for a flow experience due to their characteristics and nature and are effective in the individual's behavior (Jeffrey and Hodge, 2007). In a flow state, consumers can spend long hours on e-shopping sites that they can easily access with their mobile phones and impulsively make unplanned purchases. It is known that the flow state affects the online impulse buying behavior of the consumer with a strong urge to obtain the product rather than rational choices (Alalwan et al., 2017; Kapoor et al., 2018).

In online impulse buying, the consumer exhibits a hedonic and pleasure-based attitude. They are temporarily happy when the strong urge to shop is satisfied. A similar situation is also valid for the flow state. In the flow state, the individual is happy and satisfied with their action (Chen et al., 2017). There is a strong relationship between flow experience, which causes individuals to be optimally happy, and satisfaction (Ghani et al., 1991). Various studies also show that flow experience effectively improves satisfaction (Chen and Chen, 2010; Kim and Thapa, 2018).

In this context, clarifying the flow situation experienced in the online shopping process, examining the motives behind the flow experience, and the satisfaction levels, which are stimuli that may affect consumer behavior, are essential for making sense of consumer behavior in online shopping. However, it is seen that there needs to be comprehensive studies in the literature on the effect of flow experience on consumer behavior. Especially in the national literature, it is noteworthy that there are a limited number of studies in this field, especially in recent years. It is thought that determining the effect of streaming experience on consumer online purchasing behavior and determining the factors affecting purchasing behavior will be beneficial for academic literature and e-retail sites doing business in this field. In this context, it is thought that this study on determining the effect of streaming experience on instant purchase behavior in the e-retail sector will contribute to the literature and marketers.

1. Literature

1.1. Flow Theory

The flow experience, which was first defined by Mihaly Csikszentmihalyi in 1975, is defined as a state of concentration in which the individual fully immerses himself/herself in the action (Csikszentmihalyi, 1977:36). In the flow state, the individual focuses entirely on the action and enjoys the process. The individual who involuntarily ignores everything happening around him/her at this time focuses on the action that he/she is experiencing intrinsic interest without considering the concept of time in the flow state and enjoys the action (Chen et al., 2000). When an individual experiences flow, he/she performs the activity to do that task without worrying about an external reward (Noort, Voorveld, & Reijmersdal, 2012).

According to Csikszentmihalyi (1990), the flow experience, a mental process, does not occur instantaneously, and some preconditions are required. First, the individual needs to develop an internal goal for the action he/she performs. At the same time, this activity should incentivize the individual to struggle. The flow state occurs when the individual's competencies and perceived challenges are equal (Nakamura & Csikszentmihalyi, 2002). In this situation, which is referred to as competence balance, there should be a harmony between the degree of difficulty of the activities and the individual's skills. If this harmony is not achieved, if the degree of difficulty exceeds competence, boredom, and anxiety are experienced, which is the opposite of the pleasure felt in the flow. When the individual believes that his/her abilities are at a level to overcome difficulties, he/she feels that he/she is in control of the activity (Marston et al., 2016). In the flow process, the individual experiences a high level of control only when they achieve a balance of competence. It is also an essential element of the flow process that the goal that the individual who provides the balance and control for the activity wants to achieve is clear and determined. Individuals with clear goals who know what they want to achieve can entirely focus on the activity with a strong desire to succeed (Hoffman and Novak, 2009). In this process, which is also defined as the integration of action and awareness, the individual can focus entirely on the experience they are experiencing. With this

experience, they go into a state of loss of self-consciousness in the flow (Kim & Han, 2014). The only thing that is important for the individual here is the importance of the experience process. Finally, the individual needs to receive precise and transparent feedback about their activity. For the individual to see whether he/she is successful in the action he/she has taken, there should be feedback during the activity (Nakamura & Csikszentmihalyi, 2009). Flow experience is also effective on the positive emotional states of individuals. The individual who reaches a particular internal goal and achieves a challenge in this process feels active and motivated. Regardless of the type of activity, it has been observed that flow experience increases the individual's sense of discovery and quality of life and makes them more joyful and happy (Csikszentmihalyi, 2005).

1.2. Online Impulse Buying

Impulse buying behavior, one of the crucial issues in the field of marketing, is defined as a strong urge to purchase a product that occurs suddenly (Rook, 1987). This is an impulse to shop that is not pre-planned and occurs spontaneously without the intention of meeting a need (Beatty & Ferrell, 1998). Purchasing behavior is carried out with symbolic pleasure beyond providing controlled and functional benefits (Dittmar, Bettie and Friese, 1995). The on-the-spot impulse reinforces hedonic purchasing by overriding alternative options and information comparison (Muruganantham and Bhakat, 2013). This speed and sudden emotion that emerges in the consumer is associated with just buying the product rather than choosing the product (Özkan, 2018).

Stern (1962) divided the types of impulsive buying into four categories: Planned impulse buying, reminded impulse buying, suggestion or fashion-oriented impulse buying, pure impulse buying, and planned impulse buying is partially. Pure impulse buying is defined as shopping that is outside of planned shopping and is made with a strong urge to buy the product as soon as the product is seen. Purchases in this category are usually driven by the urge to try a new or newly seen product.

Reminder impulsive buying occurs when the consumer is exposed to a product or under the influence of an advertisement they have seen before. Here, the consumer's experience and knowledge about the product impact the realization of the purchasing behavior. In suggestive impulsive buying, the consumer buys a product that he/she has seen for the first time and has never tried before, with the dream of meeting a need in his/her mind. Here, the consumer thinks that they have made a valuable and logical purchase decision because he/she believes that his/her purchase will fulfill a need. Finally, pure impulse buying planned impulse buying is

partially is defined as buying behavior that occurs with price discounts, promotions, and product promotions during shopping.

Coley and Burgess (2003) have analyzed impulse buying under two dimensions: emotional and cognitive. Accordingly, the emotional dimension is explained by the irresistible impulse to buy related to emotional processes that force the consumer to act with feelings and emotions. The cognitive dimension is based on thinking and understanding. Here, the consumer tends to shop without comparing information and considering the possible consequences that may arise after shopping with the effect of the impulse triggered by the emotional dimension.

The impulse buying behavior, frequently examined within the scope of traditional marketing, shows some differences in online shopping channels that have emerged with the development of the internet and technology and have become widespread rapidly. Park et al. (2012) and Wu et al. (2015) state that more impulse buying behavior is observed in electronic commerce compared to traditional commerce. Jeffrey and Hodge (2007) explain this because the consumer can quickly and effortlessly access the product anytime, away from social pressure, with a single click. At the same time, fast payment transactions and increased options on e-retail sites, which provide great convenience to consumers in purchasing, play an influential role in increasing the impulse to purchase (Chen et al., 2018). In particular, special discounts, promotions, free shipping, and periodic discount campaigns explicitly offered for individuals reinforce the impulsive buying behavior of the person in online channels (Wu, Chiu and Chen, 2020).

1.3. Satisfaction

Customer satisfaction is defined as the satisfaction or disappointment that occurs due to comparing what consumers expect from products and the results they receive in return (Kotler and Keller, 2009). In customer satisfaction, a perception and expectation situation is wholly formed in the consumer's mind (Baker and Cromptom, 2000). Satisfaction occurs after an emotional evaluation process. Satisfaction is formed by the emotional evaluation of the consumer before and after the purchase (Juhl et al., 2002).

Since businesses have moved their services to online channels with the digitalization process experienced in recent years, there is a need to redefine the traditional concept of satisfaction (Cho and Park, 2001). Customer e-satisfaction is defined as the situation in which the purchase and subsequent experience of e-service providers meet their expectations (Anderson and Srinivasan, 2003). When the consumer concludes that his/her expectations are met from the online store, he/she tends to shop online again from the same store. The store atmosphere in the traditional store is replaced by web design in electronic commerce. The features of e-retail websites are essential for customer satisfaction in online shopping. Well-designed, up-to-date, fast, and informative websites are found to be more helpful by consumers and facilitate transactions. E-retail sites with these features lead to satisfaction due to the convenience they provide consumers (Kim et al., 2009; Szymanski and Hise, 2000). Similarly, Alam and Yasin (2010) state that a well-designed website in e-retailing will increase customer satisfaction.

Customer service is another important factor affecting customer satisfaction in e-retailing (Lee and Lin, 2005). It is seen that customer satisfaction is higher in e-retail sites that provide good service to their consumers before and after shopping (Kim et al., 2009). In this shopping process, which takes place entirely online, the consumer's trust and finding a solution to a problem they encounter by getting a quick response affect their satisfaction levels.

2. Method

2.1. Research Model and Hypotheses

The research used the relational screening model, one of the general screening model types, to determine the relationship and interaction between variables (Şahin & Gürbüz, 2018). The study aims to determine the effect of flow state on online impulsive buying in the e-retail sector, which is becoming widespread daily. Within the scope of this purpose, the effects of task skill and task challenge, which are among the critical variables affecting the flow state, and customer satisfaction variables on flow were examined. In addition, examining the regulatory role of customer satisfaction on flow state and impulse buying is included in the scope of the study. The conceptual model and hypotheses of the research, which are based on the literature within the scope of the research purpose, are given below.

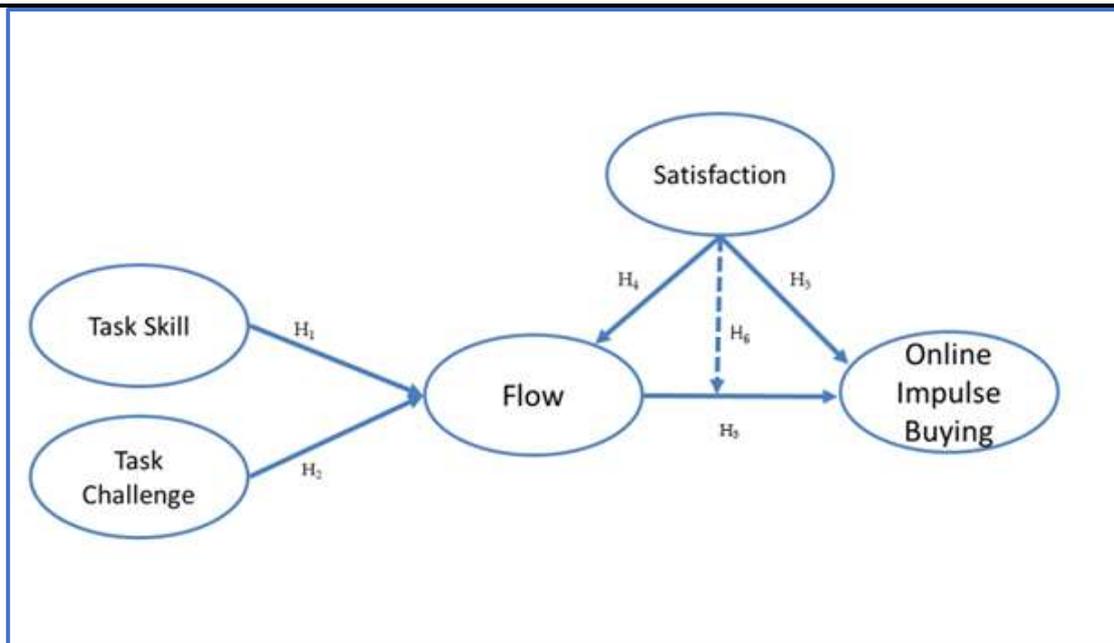


Figure 1. Conceptual Model of the Research

H₁. Task skill has a positive influence on the flow state.

H₂. Task challenge has a positive influence on the flow state.

H₃. Flow state has a positive influence on online impulse buying intent.

H₄. Customer satisfaction has a positive influence on the flow state.

H₅. Customer satisfaction has a positive influence on online impulse buying intent.

H₆. Customer satisfaction has a moderating role between flow and online impulse buying intent.

2.2. Sample

The sampling population of this study, which utilizes the quantitative research method, consists of consumers aged 18 and over who are engaged in e-retailing shopping activities. Since it is impossible to reach all consumers with these characteristics, the convenience sampling method, one of the non-random sampling methods, was used. Kline's (2011) method was used to calculate the sample size. Accordingly, it is stated that ten times the number of variable items in the study will be sufficient to determine the sample size. Within the scope of the study, based on the ten times rule, 25 items belonging to 5 variables (25*10=250) were determined as 250. In this context, the survey application was completed, with 283 participants reached through the online form. Information about the participants is given in Table 1.

Table 1. Demographic Information of the Participants

		(n)	(%)
Gender	Woman	187	66,1
	Man	96	33,9
	Total	283	100
Education	High School	9	3,2
	University	185	65,4
	Master/Phd.	89	31,4
	Total	283	100

When the findings in Table 1 are examined, it is determined that the number of female participants in the study is 66.1%, and the number of male participants is 33.9%. When the educational status of the participants is examined, it is seen that 65.4% are university graduates, 31.4% are postgraduates, and 3.2% are high school graduates.

2.3. Data Collection Tool and Data Analysis

The survey form of the study, which consists of 28 questions in total, consists of 5 sections: Flow Experience Scale, E Satisfaction Scale, Task Skill and Task Challenge Scale, Impulse Purchase Scale, and Personal Information Form.

Task skill and challenge are measured by scales adapted from Koufaris (2002), with four items for each. Flow Experience Scale: The flow experience scale consisting of 9 questions was created using the studies of Koufaris (2002) and Guo and Poole (2009). E-Satisfaction Scale: The e-Satisfaction scale consisting of 4 questions was created using Bhattacharjee's (2001) and Koufaris's (2002) studies. Impulse Purchase Scale: Impulse Purchase scale consisting of 3 questions was created by utilizing the studies of Rook and Fisher (1995) and Parboteeah et al. (2009). Personal Information Form: The researcher developed it and included four items to determine the demographic characteristics of the participants. In the writing process of this study, scientific rules, ethical and citation rules were followed, and necessary permissions were obtained. Before the data collection in the study, the ethics committee permission document dated 18.01.2023 and numbered E-81570533-050.01.04-2300000412 was obtained from Çağ University Ethics Committee. The survey was conducted between 20.01.2023-29.07.2023.

Within the scope of the research, the data obtained through the online survey were analyzed through SmartPLS 4 structural equation modeling. Statistical significance level $p \leq 0.05$ was accepted in all tests.

3. Analysis and Findings

3.1. Validity and Reliability Analyses of the Scales

In the study, confirmatory factor analysis was conducted with the measurement model. To determine the validity and reliability of the model, convergent validity, divergent validity, and internal consistency reliability were examined. Cronbach's Alpha and composite reliability coefficients (CR, Composite Reliability) were calculated for internal consistency reliability. AVE (Average Variance Extended) values were used to determine convergent validity. Table 2 shows the results of the reliability and convergent validity of the measurement model.

Table 2. Results of the Measurement Model

Variable	Item	Factor loadings	Cronbach Alfa	CR	AVE
Task Skill (TS)	TS1	0,832	0,796	0,799	0,512
	TS2	0,666			
	TS3	0,661			
	TS4	0,655			
Task Challenge (TC)	TC2	0,804	0,737	0,739	0,587
	TC3	0,726			
Flow	F2	0,575	0,837	0,836	0,592
	F3	0,592			
	F5	0,702			
	F6	0,666			
	F7	0,716			
	F8	0,607			
Satisfaction (STF)	STF1	0,904	0,901	0,901	0,752
	STF2	0,849			
	STF3	0,903			
	STF4	0,891			
Online Impulse Buying (OIB)	OIB1	0,755	0,747	0,749	0,547
	OIB2	0,659			
	OIB2	0,698			

At the values in Table 2, it is seen that the factor loadings of the items are between 0.575 and 0.904. Since the factor loadings of the constructs are between 0.575 and 0.904 and the AVE values are between 0.512 and 0.752, there is convergent validity.

Fornell and Larcker and HTMT values were examined in determining the discriminant validity, and the analysis results are given in Table 3. When the findings in the table are analyzed, it is seen that the construct has discriminant validity.

Table 3. Discriminant Validity Results (HTMT Criterion)

	Flow	Online Impulse Buying (OIB)	Satisfaction (Stf)	Task Challenge (TC)	Task Skill (TS)
Flow					
Online Impulse Buying (OIB)	0,457				
Satisfaction (Stf)	0,597	0,142			
Task Challenge (TC)	0,719	0,282	0,476		
Task Skill (TS)	0,713	0,148	0,461	0,571	

3.2. Testing the Research Model and Results

Partial least squares path analysis (PLS-SEM) was used to analyze the research model. Data were analyzed using the SmartPLS 4 statistical program. VIF (Variance Inflation Factor) coefficients and R2 were calculated with the PLS program, and the predictive power (Q2) coefficient was calculated with PLSpredict analysis. In order to evaluate the significance of PLS path coefficients, t-values were calculated by taking 5000 sub-samples from the sample by resampling (bootstrapping). The structural equation model created to test the hypotheses of the study is shown in Figure 2.

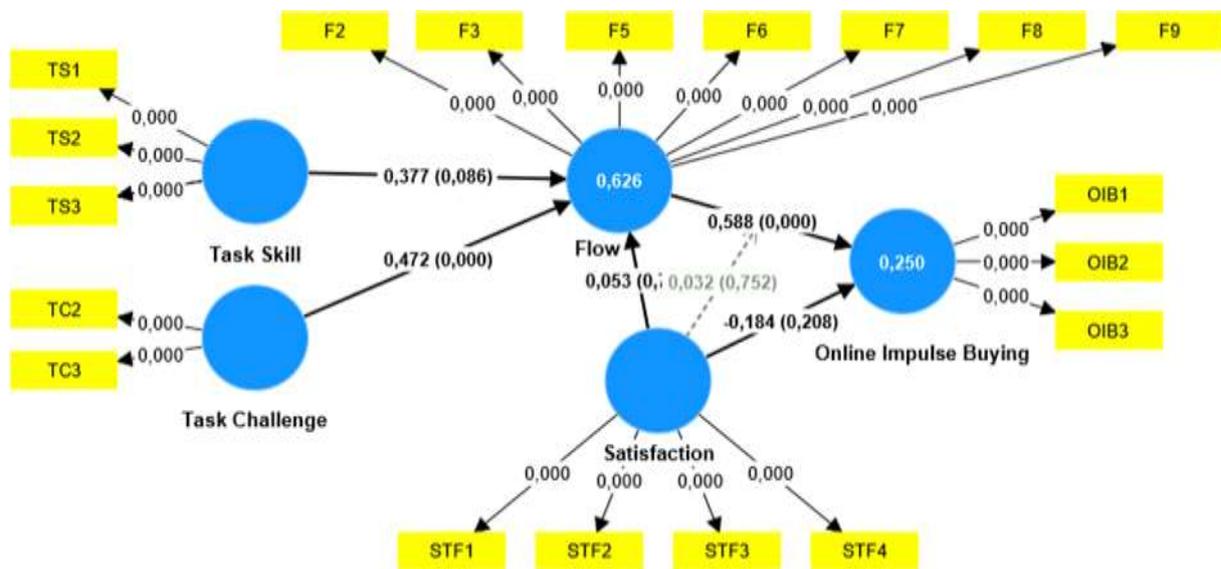


Figure 2. Structural Equation Model

R2, Q2, and VIF values for the research results are presented in Table 4.

Table 4. Research Model Coefficients

Variable		VIF	R ²	Q ²
Task Skills	Flow	4,132	0,626	0,424
Task Challenge		1,480		

Variable		VIF	R ²	Q ²
Satisfaction	Online Impulse Buying	3,363		
Flow		1,573		
Satisfaction		2,016	0,250	0,108
Satisfaction x Flow		1,369		

When the VIF results between the variables are analyzed, it is seen that the values are below 5. This result shows no linearity problem between the variables (Hair et al., 2014). When the R2 values of the model are examined, it is determined that 63% of the flow and 25% of the online impulse purchase intention are explained.

The fact that the predictive power coefficients (Q2) calculated for the variables are more significant than zero indicates that it has the power to predict the endogenous variables related to the research (Hair et al., 2014). Since the Q2 values in Table 5 are more significant than zero, the research model has the power to predict the flow and online impulse buying variables.

Table 5. Research Model Effect Coefficients

Variable		Standardized β	Standard Deviation	t value	p	Confidence interval (%95)
Task Skills	Flow	0,377	0,220	1,719	0,086	-0,020; 0,857
Task Challenge		0,472	0,107	4,398	0,000	0,275; 0,695
Satisfaction		0,053	0,187	0,285	0,776	-0,366; 0,366
Flow	Online Impulse Buying	0,588	0,111	5,304	0,000	0,368; 0,804
Satisfaction		-0,184	0,146	1,260	0,208	-0,471; 0,104
Satisfaction x Flow		0,032	0,102	0,316	0,752	-0,161; 0,234

When the values in Table 5 are analyzed, it is determined that the task challenge variable significantly affects flow ($\beta=0,475$; $p<0,05$). On the other hand, task skill ($\beta=0,377$; $p<0,05$) and satisfaction ($\beta=0,053$; $p>0,05$) variables had no significant effect on flow. In light of these findings, hypothesis 1 of the study was supported, while hypotheses 2 and 4 were not supported.

In the study, it was determined that flow has a significant effect on online purchasing ($\beta=0,558$; $p<0,05$). Thus, hypothesis 3 of the study was supported. On the other hand, it was determined that the satisfaction variable did not significantly affect online purchasing ($\beta=0,558$; $p<0,05$). In line with these results, hypothesis 5 of the research was not supported.

The research model tested the moderating role of customer satisfaction on flow and online purchasing. In line with the effects in Table 5, it was determined that the regulatory role of satisfaction on flow and online purchasing was insignificant ($p>0,05$). In this context, hypothesis number 6 in the study was not supported.

The slope graphs created by the SmartPLS program for the regulatory effects in the research are shown in Figure 3.

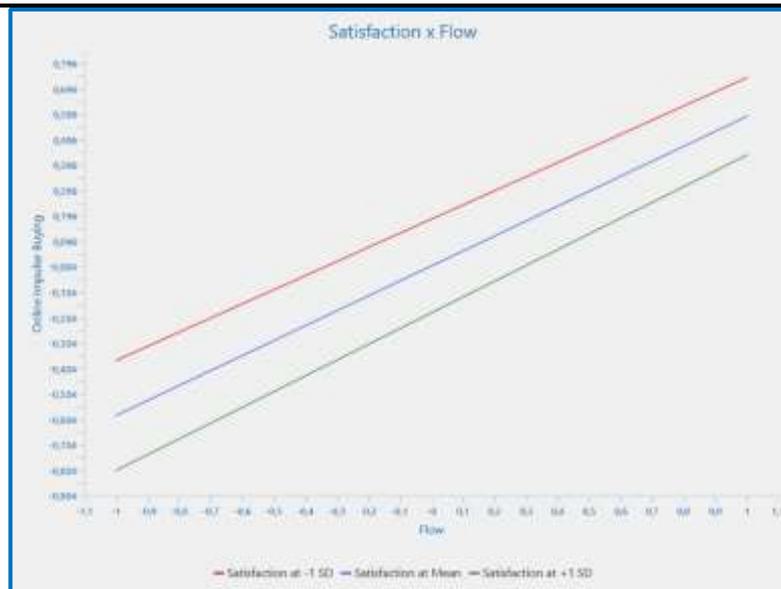


Figure 3. Satisfactionx Flow Slope Graph

The slope plots were created according to $-/+1$ standard deviation values. While the lines in the slope plots are not parallel is expressed as the significance of the detected regularization effects, Figure 4 shows that there is no regularization effect.

Conclusion and Discussion

Consumer buying behavior is one of the most essential topics in marketing and business. Understanding consumer behavior, determining how purchasing decisions are shaped, and determining which factors affect them has become even more critical in an intense competitive environment. Consumer behavior, which has increased and changed with the digital transformation, needs to be examined within the scope of online channels. In recent years, it is known that the flow state is effective in understanding consumer motivations. It is known that the flow state is among the antecedent factors in spending more time on online channels and realizing impulsive impulse buying behavior. The purpose of this study, which focuses on online consumer behavior, is to determine the impact of flow theory on online impulse buying. At the same time, examining the regulatory effect of customer satisfaction on flow and online impulse buying behavior is also included in the scope of the study. For this purpose, an online survey was conducted with 283 volunteer participants over 18 who have shopped at least once on an e-retail site. The data obtained from the study were analyzed with the SmartPLS program.

When the findings obtained from the study were analyzed, it was concluded that task skill did not significantly affect the flow state, but task challenge had a significant effect. Task skill and task challenge variables are known to be effective in the flow state (Guo and Poole, 2009). When this result is compared with the literature, it is generally seen that both variables are effective on flow (Hoffman and Novak, 1996; Finneran and Zhang, 2005; Bilgehan et al., 2014). Unlike the literature, it is seen that task skill does not have a significant effect on flow as a result of the study. This result can be explained by the development of web designs of e-retail applications with the developing technology in recent years and the design of e-retail applications with user-friendly ease. In particular, using mobile interfaces by e-retail sites has made the work of users much easier, and there is no need for extra skill development.

The study concluded that flow state significantly affects online impulse buying. These findings from the study are in line with the literature. Shahpsandi et al. (2020) concluded that the flow state is related to online impulse buying. Similarly, Wu et al. (2020), Park and Park (2018), Chen et al. (2018), and Hsu et al. (2012) revealed the effects of flow experience on online impulse buying. This result can be explained by consumers who lose their perception of time and space in the flow state, spend more time online, and behave impulsively. In line with this result, Novak (2000) stated in his

study that the flow state effectively affects consumer behavior and online purchase intention. Another study concluded that the flow experience increases the tendency towards online purchasing, and consumers revisit the site to experience this situation again (Bridges and Florsheim, 2008). Özer Canaslan (2017) stated in his study that consumers who experience flow experience are likelier to pay more. This shows that consumers tend to spend and buy more.

It is concluded that customer satisfaction does not significantly affect flow and online purchases. At the same time, it has been determined that customer satisfaction does not have a regulatory role on flow and online impulse buying. The presence of negative emotions such as guilt and regret after online impulse buying can explain this result. It can be interpreted that online impulse purchases made impulsively, without considering the material and moral consequences of shopping, have a more significant effect on the formation of negative emotions in the consumer. Despite studies indicating a positive relationship between customer satisfaction and flow in the literature (Park and Park, 2018; Wu et al., 2020) more research should be conducted in this field.

As in every study, there are some limitations in this study. Product classification is not taken as a basis in this study, which is specific to the e-retailing sector. In future studies, examining and comparing the effects of flow experience on online impulse buying on a product basis is recommended. At the same time, the convenience sampling method, widely used in the field of social sciences, was used in the study. This restricts the generalization of the research results. It may be recommended for future research to investigate a specific e-retail site with a larger sample. As a result of the study, it was concluded that the flow experience has an impact on online impulse buying. In this context, practitioners in the field of marketing can be recommended to investigate the flow state and its antecedents and use designs accordingly. It is also recommended that practitioners make web designs to reinforce the consumer's flow experience in e-retail sites.

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