Araştırma Makalesi / Research Article

DOI: http://dx.doi.org/10.29064/ijma.1121520

Teleporting to the World of Online Shopping! Online Flow Experience and its Mediating Role between Virtual Store Atmosphere, Sales Promotions and Impulsive Buying*

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Abstract: In this research, it is aimed to examine the relationships between virtual store atmosphere, sales promotions, flow experience, and impulsive purchasing within the framework of the S-O-R paradigm. Virtual store atmosphere and sales promotions are considered external stimuli, flow experience as an organism, and impulsive purchasing as a consumer reaction. The theoretical model was evaluated within the framework of the answers of 407 consumers accessed via an online survey. The results obtained revealed that there were statistically significant relationships between all variables discussed. Flow experience has a mediating role both between virtual store atmosphere-impulsive buying, and sales promotions-impulsive buying. It has been observed that in online shopping, consumers can experience flow with the effect of virtual store atmosphere and sales promotions, and this can result in impulsive buying. It is thought that these findings will contribute to the marketing literature and practice.

Keywords: Flow Experience, Impulsive Buying, Online Shopping, Purchase, Sales Promotions, Virtual Store Atmosphere.

JEL Classification: M31, E21, D12

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Received Date: 25.05.2022

Accepted Date: 30.08.2022

How to Cite this Article: Temel, E., & Armağan, E. (2022). Teleporting to the World of Online Shopping! Online Flow Experience and its Mediating Role between Virtual Store Atmosphere, Sales Promotions and Impulsive Buying. *International Journal of Management and Administration*, 6(12), 238-262.

Online Alışveriş Dünyasına Işınlanmak! Online Akış Deneyiminin Sanal Mağaza Atmosferi, Satış Promosyonları ve İmpulsif Satın Alma İlişkisindeki Aracılık Rolü*

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Özet: Bu araştırmada, sanal mağaza atmosferi, satış promosyonları, akış deneyimi ve impulsif satın alma değişkenleri arasındaki ilişkilerin S-O-R paradigması çerçevesinde incelenmesi amaçlamıştır. Sanal mağaza atmosferi ve satış promosyonları dışsal uyaranlar, akış deneyimi organizma ve impulsif satın alma tüketici tepkisi olarak ele alınmıştır. Online anket yoluyla erişilen 407 tüketicinin yanıtları çerçevesinde teorik model değerlendirilmiştir. Elde edilen sonuçlar, tüm değişkenler arasında istatistiksel olarak anlamlı ilişkiler bulunduğunu ortaya koymuştur. Akış deneyiminin, hem sanal mağaza atmosferi-impulsif satın alma hem de satış promosyonları-impulsif satın alma arasında aracılık rolü bulunmaktadır. Online alışverişlerde tüketicilerin sanal mağaza atmosferi ve satış promosyonlarının etkisi ile akışı deneyimleyebildikleri ve bunun da impulsif satın alma ile sonuçlanabildiği görülmüştür. Elde edilen bu bulguların pazarlama literatürü ve pratiğine dönük katkı sağlayacağı düşünülmektedir.

Anahtar Kelimeler: Online Alışveriş, Sanal Mağaza Atmosferi, Akış Deneyimi, Satın Alma, Satış Promosyonları, Impulsif Satın Alma

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Başvuru Tarihi: 25.05.2022

Kabul Tarihi: 30.08.2022

Bu Makaleye Atıf İçin: Temel, E., & Armağan, E. (2022). Teleporting to the World of Online Shopping! Online Flow Experience and its Mediating Role between Virtual Store Atmosphere, Sales Promotions and Impulsive Buying. *International Journal of Management and Administration*, 6(12), 238-262.

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* *This study was produced from first author's doctoral dissertation titled "Flow Experience: Online Impulsive Purchase Behavior Based on the S-O-R Paradigm" / Bu çalışma, birinci yazarın "Akış deneyimi: S-O-R paradigması temelinde online impulsif satın alma davranışı" başlıklı doktora tezinden üretilmiştir.*

GENİŞLETİLMİŞ ÖZET

Araştırma Problemi

Online (çevrimiçi) alışveriş yapan tüketicilerin algıları, tutumları ve davranışları, pazarlama araştırmasının önemli bir alanını oluşturmaktadır. Bu bağlamda, bu çalışma temel olarak online tüketici davranışlarına odaklanmıştır. Sanal mağaza atmosferik unsurlarının ve çeşitli satış promosyonlarının yer aldığı bir alışveriş ortamında, impulsif satın almalarda akış deneyimi olgusunun rolünü netleştirmeyi ve tüm bu değişkenler arasındaki ilişkisel yapıyı ortaya çıkarmayı amaçlamıştır.

Araştırma Soruları

Araştırmanın yapısal modeli, Mehrabian ve Russell (1974) tarafından geliştirilen uyaran-organizma-yanıt (S-O-R) paradigmasına dayalı olarak uyaranlar kısmında sanal mağaza atmosferi ve satış promosyonları, organizma kısmında akış deneyimi ve yanıt kısmında impulsif satın alma olmak üzere dört değişken içermektedir. Değişkenler arasındaki bu ilişkilere yönelik olarak şu araştırma sorularına yanıt aranmaktadır: a) Sanal mağaza atmosferinin akış deneyimi üzerinde etkisi var mıdır? b) Satış promosyonlarının akış deneyimi üzerinde etkisi var mıdır? c) Akış deneyiminin impulsif satın alma üzerinde etkisi var mıdır? d) Sanal mağaza atmosferinin impulsif satın alma üzerinde etkisi var mıdır? e) Satış promosyonlarının impulsif satın alma üzerinde etkisi var mıdır? f) Sanal mağaza atmosferinin impulsif satın alma üzerindeki etkisinde akış deneyiminin aracı rolü var mıdır? g) Satış promosyonlarının impulsif satın alma üzerindeki etkisinde akış deneyiminin aracı rolü var mıdır?

Literatür Taraması

Sanal mağaza atmosferi, tüketiciyi sanal mağazaya girdiği anda karşılayan arayüzü ve alışveriş deneyimini sağlayan çeşitli özellikleri birleştiren bilinçli olarak tasarlanmış bir alışveriş ortamıdır. Buradaki temel amaç, tüketicinin dikkatini çekmek ve cesaretlendirmek, zihinsel süreçlerini etkilemek, satın alma, yeniden satın alma, mağazayı tekrar ziyaret etme gibi olumlu tepkiler yaratmaktır (Chiu ve Yang, 2016: 71; Altıniğne ve Karaosmanoğlu, 2017: 351). Sanal mağazalar için bir diğer önemli uyaran grubu da satış promosyonlarıdır. Fiyat indirimleri, numune ürünler, kuponlar, hediyeler, yarışmalar, fiyat veya miktar avantajları tüketicileri daha hızlı ve daha fazla satın almaya yönlendiren promosyon araçları olarak kabul edilmektedir (Yalman ve Aytekin, 2014: 84). Promosyonlar, promosyondan yararlanan (örneğin düşük fiyatlar) tüketicilerde olumlu duygular yaratır. Dolayısıyla tüketicilerin satın alma isteklerini rasyonalize etmelerini sağlayan bu duygular, ani satın alma kararlarına neden olabilmektedir (Kchaou ve Amara, 2014: 362). Bu satın almalar satın alma noktasında başlamakta, aniden ortaya çıkmakta ve büyük ölçüde dürtüye dayalı bir nitelik taşımaktadır. Bu satın almalar güçlü bir istek, zevk, ani tavır ve heyecanla ilişkilendirilmekte (Wu vd., 2016: 284) ve impulsif (anlık/dürtüsel/plansız) satın alma olarak adlandırılmaktadır (Tinne, 2011: 217). Elbette, impulsif satın alma gibi alışveriş sırasındaki ani ve plansız davranışlar, tüketiciyi çevreleyen birçok çevresel faktörü etkileyebilmektedir. Bu tür etkileyen faktörler, olumlu duygular uyandırarak tüketiciyi motive edebilmektedir. Bir sanal mağazanın atmosferik unsurları ve satış promosyonları, alışveriş etkinliğini tüketici için eğlenceli bir oyuna dönüştürme potansiyeline sahiptir. Bu da akla "akış deneyimi" denen olumlu bir deneyimi getirmektedir. Bunu akılda tutarak, tüketicilerin online alışveriş faaliyetleri sırasında özünde sürükleyici, tatmin edici bir akış deneyimine dahil olabileceklerini varsaymak mümkündür.

Akış deneyimi, insanların bir faaliyete tamamen dahil olduklarında, zamanı, yorgunluğu ve aktivitenin kendisi dışındaki her şeyi unutacak kadar konsantre oldukları ve bundan mutluluk veya bir tür zevk hissettikleri içsel olarak motive edilmiş öznel bir durumdur (Csikszentmihalyi vd., 2005: 600). Günümüzde akışın meydana gelmesi, bazı benzersiz faaliyet türlerine özgü olmayan genel bir olgudur. İnsanların hemen hemen her türlü aktiviteyi gerçekleştirirken akış yaşayabildiği bilinmektedir (Mahnke vd., 2015: 56). Online alışveriş aktivitelerinde de bu mümkündür.

Tüm bunların yanı sıra, online tüketici davranışında akış deneyimi konusunda hala sınırlı bilgi birikimi olduğu görülmektedir. Bu nedenle online alışveriş sürecindeki akış deneyimini netleştirmek, literatürdeki benzer çalışmalarla temas eden

noktaları ve farklılıkları tartışmak önemlidir. Ayrıca, tüketici davranışlarını etkileyebilecek uyaranlar olan sanal mağaza atmosferi ve satış promosyonlarının akış deneyiminin ve tüketici algılarının arkasındaki motivasyonların incelenmesi, online alışverişte tüketici davranışının anlamlandırılmasında önemlidir. Hem sanal mağaza atmosferi hem de satış promosyonları işletmeler tarafından kontrol edilebilen ve tüketiciyi olumlu etki noktasına kadar etkileme potansiyeline sahip unsurlardır. Bu bağlamda bu uyaranların alışveriş deneyimi ve tüketici tepkileri üzerindeki etkilerinin araştırılması hem akademik hem de pratik faydalar sağlayacaktır.

Yöntem

Nicel araştırma yöntemine dayalı olan bu araştırmada, veri toplama yöntemi olarak tüketicilere 5'li Likert esasına dayalı ve toplamda 38 ifadeden oluşan dört psikometrik ölçeği içeren online anketler uygulanmıştır. Araştırmanın evrenini Türkiye'de online alışveriş yapan 18 yaş ve üzeri tüketiciler oluşturmaktadır. Bu özelliklere sahip tüm tüketicilere ulaşmak mümkün olmadığından verilere ulaşmak için kolayda örnekleme yöntemi kullanılmıştır. Bu örneklem kapsamında araştırma verileri, 407 katılımcı tarafından doldurulan geçerli anketlerden oluşmuştur. Elde edilen veriler çerçevesinde güvenirlik, normal dağılım ve frekans analizleri SPSS 24 yazılımında, değişkenler arasındaki ilişkileri belirlemek için oluşturulan yapısal eşitlik modeli AMOS 24 yazılımında analiz edilmiştir.

Sonuç

Türkiye'de 407 tüketici ile yürütülen nicel bir araştırma bağlamında bu çalışma, yapısal eşitlik modeli çerçevesinde sanal mağazada yer alan uyaranların akış deneyimini yaşamada etkili olduğunu ve tüketicinin akış deneyimindeyken impulsif olarak satın alabildiğini ortaya konmuştur. Araştırma bulgularına göre sanal mağaza atmosferi ve satış promosyonları, akış deneyimi ve impulsif satın alma üzerinde istatistiksel olarak anlamlı bir etkiye sahiptir. Akış deneyiminin de anlık satın alma üzerinde etkisi vardır. Ayrıca uyaranlar olarak sanal mağaza atmosferinin ve satış promosyonlarının tepki olarak impulsif satın alma üzerindeki etkisinde organizma olarak akış deneyiminin aracılık rolü vardır.

Elde edilen bu bulgular doğrultusunda yapılabilecek önemli bir genel çıkarım, akış deneyimi kavramının sadece doruk deneyimlerde, spor etkinliklerinde ya da keyifli fiziksel etkinliklerde ortaya çıkmadığı; tüketicilerin bulundukları yerden sadece klavye, fare veya dokunmatik ekran üzerinden gerçekleştirdikleri online alışverişlerinde de akış deneyimini yaşamalarının mümkün olduğudur. Bu sonuç, akış literatürünün alışveriş deneyimleri ile ilgili kısmına katkıda bulunmaktadır.

INTRODUCTION

The perceptions, attitudes, and behaviors of consumers who shop online constitute a crucial area of marketing research. In this regard, this study mainly focuses on online consumer behavior. It aimed to clarify the role of flow experience phenomenon in making impulse purchases in a shopping environment where virtual store atmospheric elements and various sales promotions take place.

Virtual store atmosphere is a consciously designed shopping environment that combines the interface that welcomes the consumer the moment he enters virtual store and various features that provide the shopping experience. The main purpose here is to attract the consumer's attention and encourage them, affect their mental processes, and create positive reactions such as purchasing, re-purchasing, and re-visiting the store (Chiu and Yang, 2016:71; Altınığne & Karaosmanoğlu, 2017:351). Another important set of stimuli for virtual stores is sales promotions. Price discounts, sample products, coupons, gifts, competitions, and price or quantity advantages are accepted as promotion tools that lead consumers to buy faster and more (Yalman & Aytekin, 2014:84). Promotions create positive emotions in consumers by taking advantage of the promotion (for example low prices). Thus, these emotions, which allow consumers to rationalize their desire to buy, can cause sudden purchasing decisions (Kchaou & Amara, 2014:362). These purchases start at the point of purchase, occur suddenly, and are largely impulse-based. These purchases are associated with a strong desire, pleasure, sudden manner and excitement (Wu et al., 2016:284) and are called impulsive buying (Tinne, 2011:217). Of course, sudden and unplanned behaviors at shopping, such as impulsive buying, may affect many environmental factors surrounding the consumer. Such influencing factors can motivate the consumer by arousing positive emotions. The atmospheric elements and sales promotions of a virtual store have the potential to turn the shopping activity into an enjoyable game for the consumer. This brings to mind a positive experience called "flow experience". With this in mind, it is possible to assume that consumers may be likely to be involved in an intrinsically immersive, satisfying flow experience during their online shopping activity.

Flow experience is an internally motivated subjective state in which people, when fully involved in an activity, concentrate enough to forget about time, fatigue, and everything but the activity itself, and feel happiness or some form of pleasure from it (Csikszentmihalyi et al., 2005:600). The occurrence of flow today is a general phenomenon, not specific to some unique type of activity. It is known that people can experience flow while performing almost all kinds of activities (Mahnke et al., 2015:56). This is also possible in online shopping activities.

Besides all this, it is seen that there is still limited knowledge about flow experience in online consumer behavior. Therefore, it is important to clarify flow experience in the online shopping process, discuss the points in contact with similar studies in the literature, and discuss the differences. In addition, examining the motivations behind flow experience and consumer perceptions of virtual store atmosphere and sales promotions, which are the stimuli that can affect consumer behavior, is important in making sense of consumer behavior in online shopping. Both virtual store atmosphere and sales promotions are factors that can be controlled by businesses and have the potential to affect the consumer to the point of positive effect. In this context, investigating the effects of these stimuli on the shopping experience and consumer reactions will provide both practical and practical benefits.

In this study, it is assumed that virtual store atmosphere and sales promotions are effective as external stimuli in flow experience of consumers during online shopping activity and affect their impulsive purchasing decisions. The main purpose of this study is to examine the relationships between virtual store atmosphere, sales promotions, flow

experience, and impulsive purchasing behavior variables within the scope of quantitative research for online shopping based on the S-O-R paradigm. In this context, virtual store atmosphere and sales promotions are in the stimuli, flow experience organism, and impulsive purchase response section.

The theoretical model of the research has originality and although there are similar models in the literature, it differs in terms of its causal structure. Considering the research model within the scope of the S-O-R paradigm is important in making sense of the external, internal, and consequential structure of the mental process experienced by consumers during online shopping.

2. OVERVIEW OF THE CONCEPTUAL FRAMEWORK

2.1. Virtual Store Atmosphere

Store atmosphere is defined by Kotler (1973:50) as "the conscious design of store environment to create certain effects on buyers and to create emotional effects that can increase their purchase probability". Store environment aims to appeal to consumers' five senses, consisting of sight, smell, taste, touch, and hearing, and to influence them by exceeding the threshold of perception and placing them in their minds. The goals of retailers (get consumers to enter the store, enjoy the environmental elements inside, stay longer, make the purchase action) in both traditional shopping and online shopping are similar (Ha et al., 2007:479). But in virtual store atmosphere (which is also called "Webmosphere), the senses of smell, taste, and touch cannot be addressed, but visual and auditory elements that appeal to perception gain importance. The atmosphere of virtual store consists of all environmental elements including colors, fonts, product images, information and descriptions of products, promotions, logos, animations, advertisements, general layout, various videos, and music (Greven & Pals, 2014:15-16). When positive atmospheric conditions (such as product variety, easy usage and navigation, nice design and visuality, simple page structure, accurate and fast search results, qualified information) are provided, consumer will feel good and their positive emotions will be revived, the probability of satisfaction will increase, and they will give positive reactions. Otherwise, consumers will feel uncomfortable, confused, less interested in virtual store, and will tend not to buy and leave (Bayçu & Arslan, 2012:198-199). For this reason, the elements of virtual store atmosphere should be comprehensively addressed by the business.

2.2. Sales Promotions

Sales promotions constitute a tool of the marketing communication dimension of the marketing mix and have the main purpose of enabling consumers to take action and influencing their purchasing behavior. Sales promotion is a marketing technique that includes incentives for consumers and makes products or services more attractive by providing money or similar additional benefits (Eser et al., 2011:547-548). In a broader sense, sales promotions are tools that aim to direct consumers to purchase behavior by providing benefits in the short term (Peattie and Peattie, 2003:366), have encouraging features, does not have the usual routine and continuity (Tek, 1999:780) on the contrary. These are marketing activities that work together with other marketing components, strengthen them, and increase their product sales capacity, and their willingness to buy (Kaya, 1983:20; İlgün, 2006:40). It is possible to count the following tools as an example of online sales promotions carried out in virtual store:

- ***Price discounts:*** Price promotions refer to a reduction in the prices of products for a limited time. In such promotions, it is possible to decrease the current price for a certain product/product group, increase the amount

of the product at the same price (Raghubir & Corfman, 1999:211), or return the money (Kotler & Armstrong, 2004:562).

- ***Price-quantity advantages:*** Similar to price reductions, it is oriented towards creating monetary benefits. In this method, the business offers various advantages such as "Buy one, get one for the second", "Buy three, pay for two", and "Buy one get one free" for a certain amount of purchase (Gilbert & Jackaria, 2002:315; Yalman & Aytekin, 2014:87-88).
- ***Coupons/codes:*** They are tools that contain a monetary value or a percentage advantage, provide savings up to the specified amount or rate to be used in the shopping to be made, and aim to stimulate sales and encourage them to buy again (Pride & Ferrell, 2000:500; Diler, 2019:68). For example, "10% discount on these products special for you" or "Additional 5% discount on the cart". Here, it is aimed to create the impression that personal advantages and privileges are provided to consumers.
- ***Sweepstakes/contests:*** These are tools that aim to arouse interest in consumers, prefer the store and increase sales, and offer the chance to win cash, travel, vacation, or a product as a reward for the shopping they have done (Kotler et al., 1999:823; Kotler, 2000:601; İlgün, 2006:49).
- ***Cargo promotions:*** It is a tool used by stores to encourage consumers to prefer them and make purchasing decisions. It is offered to consumers with various free shipping messages such as "Free shipping over 50 $" or "If you add this product to the cart, shipping is free". Sometimes completely free shipping, but usually free shipping promotions are available for purchases over certain amounts.

2.3. Flow Experience

Flow experience is a theory that Hungarian psychology professor Mihaly Csikszentmihalyi (1975) explained in his book "Beyond Boredom and Anxiety" to clarify the individual's psychological state regarding the action he is doing.

Flow experience (or flow state) is a mental and internal experience that emerges during an activity that the individual performs. In the activity, the individual isolates himself/herself from the environment (but with the feeling that he/she is in control of the activity). Individual voluntarily gives himself/herself completely to the experience with a purely internal impulse, without any external reward (Csikszentmihalyi, 1990:46). Here, there is a complete concentration on the activity, loss of self-consciousness, in other words, isolation where one cannot realize what is going on around (Jackson & Marsh, 1996; Quoted by Hsu et al., 2012:317). During the activity, the area of the mind gradually narrows, and the perceptions and thoughts that are irrelevant to the activity remain outside the mind filter (Chen et al., 2018:282). However, the individual does not experience this distraction from the outside about the activity, on the contrary, he keeps the attention and control (Guo & Poole, 2008:1). While the individual is in a mental process, he/she moves away from daily worries and does not realize how time passes. With the combination of all these elements, the individual feels a deep sense of pleasure (Ettis, 2017:45). With the combination of all these or some of them, flow experience emerges.

Flow experience can be experienced during many activities in daily life. Examples of some of them are the performance of art, sports activities, exciting experiences such as mountain climbing, rafting, games such as chess and leisure activities, competitions, reading a book, learning or performing a job or task (Csikszentmihalyi, 1975). Hoffman & Novak (1996) were the first researchers to consider the concept of flow in online marketing experiences and they argued that flow experience is experienced during the online shopping activity. After this pioneering study,

many researchers determined that the process experienced in the shopping activity is closely related to flow (For example, Agarwal & Karahanna, 2000; Novak et al., 2000; Koufaris, 2002; Skadberg & Kimmel, 2004; Smith & Sivakumar, 2004; Bridges & Florsheim, 2008; Özkara et al., 2017) and accepted it as the output of online atmosphere elements (Eroğlu et al., 2003; Koo & Ju, 2010).

According to Hoffman & Novak (1996:57), flow experience is a key concept in analyzing the characteristics of online consumer behavior. Chen et al. (1999, 2000) suggested that the Internet is one of the most suitable activities for flow experience (Pilke, 2004:349). Doo (2003) found that flow experience evokes positive emotions and expectations in the internet environment. Some studies have found that when consumers flow online, they are more likely to purchase more products and revisit the website to have the same positive experience (For example, Koufaris 2002; Skadberg & Kimmel 2004; Bridges & Florsheim, 2008). Zhou et al. (2010) claimed that flow is a critical factor in promoting positive buying behaviors and loyalty (Kang et al., 2018:800). In this context, it is seen that flow experience is accepted as a phenomenon that consumers can experience in online shopping.

2.4. Impulsive Buying

Today, consumers' rational purchases are replaced by more emotionally-based purchases, and their purchasing decisions are mostly under the influence of emotions and atmospheric factors at the point of purchase. For the consumer, shopping becomes a pleasurable activity (Kara, 2011:113). Consumers can buy products and services that they may not need just for entertainment, pleasure and enjoyment, and these purchases are usually unplanned and sudden. Such purchase deviations from rational consumer behavior are evaluated under the name of "impulsive buying" (Kovač Žnideršić et al., 2014:82).

Impulsive buying is the tendency to buy instantly, based on emotions and immediately after exposure to the product/service, without thinking or planning (Bosnjak et al., 2007:428). It is a buying behavior that develops spontaneously in the consumer's mind and emerges as a result of the stimulation of an irresistible desire to buy (Özdamar, 2011:54). Here, the consumer is not buying to meet a pre-determined problem, need, or desire, but to buy with an emotional/cognitive reaction that develops instantly (Piron, 1991:510-512). A purchase decision is made without any information research or alternative evaluation regarding the product (Parsad et al., 2017:3), without overthinking (Beatty & Ferrell, 1998:170), and without displaying the characteristic of cautious and selective consumer behavior (Rook, 1987:191).

The basic situation behind the emergence of impulsive buying behavior is an unplanned, sudden purchase. This is essentially what online shopping platforms desire to achieve (attract the attention, motivate, encourage to take action and buy). In this context, online shopping platforms strive to bring together all kinds of factors that can stimulate consumers internally and externally.

3. RESEARCH MODEL AND HYPOTHESES

The research model includes four variables:virtual store atmosphere, sales promotions, flow experience, and impulsive buying. The framework of the research is based on the stimulus-organism-response (S-O-R) paradigm developed by Mehrabian & Russell (1974), which has subsequently formed the framework for many studies on consumer behavior. This paradigm accepts that consumers are involved in a mental process under the influence of stimuli and that they give certain reactions at the end.

In this framework, virtual store atmosphere and sales promotions are included in the stimulus part of this

paradigm (external stimuli), flow experience in the organism part (mental process), and impulsive buying behavior in the response (reaction) part (Figure 1). Hypotheses were formed depending on the relationships between these variables, which were also shown in the model of the study.

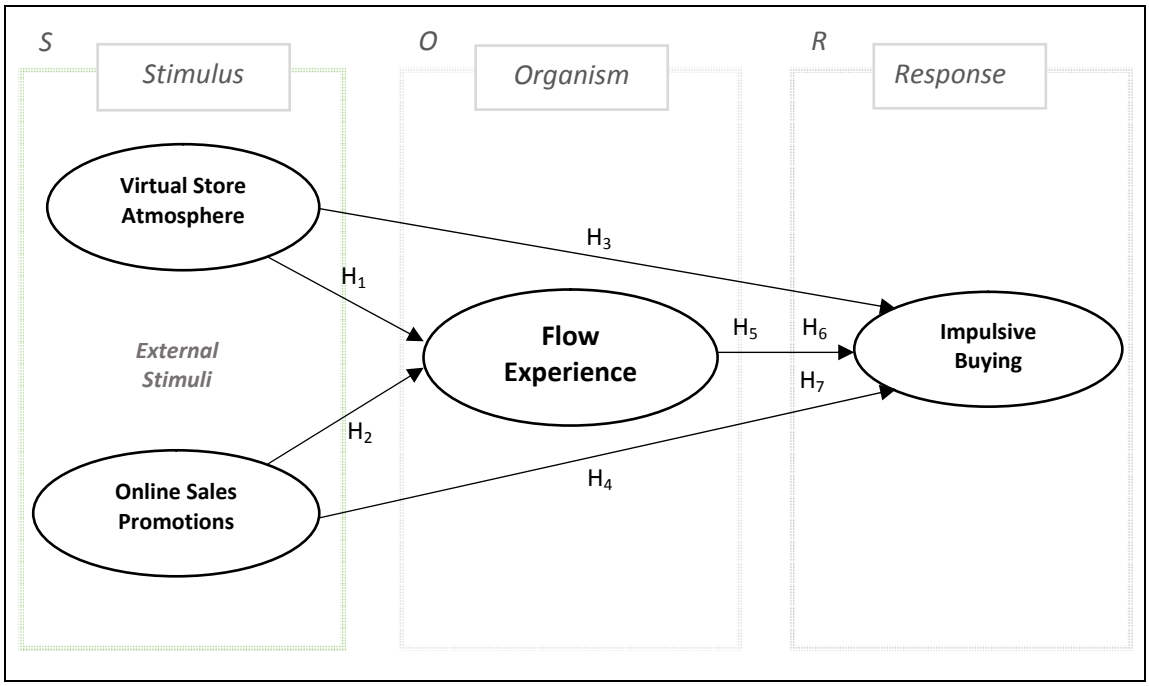


Figure 1: Research Model

3.1. The impact of virtual store atmosphere on flow experience

In the context of online shopping, various research show that virtual store atmosphere creates positive emotions and perceptions in consumers. For example, Bilgihan et al. (2013) showed virtual store environmental elements show significant relationships with flow experience and generate positive reactions. Gao and Bai (2014) revealed that these elements affect flow experience and flow experience results in positive reactions such as purchase and satisfaction. Chiu & Yang (2016) showed website design features are significantly related to online shopping users' experiences, including flow experience, and online purchasing behavior. Therefore, considering that virtual store atmosphere is a variable that may affect flow of consumers in online shopping, the following hypothesis has been formulated:

***H_1**: Virtual store atmosphere has an impact on flow experience.*

3.2. The impact of sales promotions on flow experience

Sales promotions usually contain some kind of incentive that provides extra motivation for purchasing (Christou, 2011:816). When the promotion is perceived as advantageous and positive by the consumer, it can create the potential to reveal positive emotions in the consumer, provide a positive cognitive process, and have a positive effect on the purchasing decision. It is possible to find studies supporting this view in the literature. For example, Pelet et al. (2018) determined that sales promotion contributes to the positive emotions toward purchasing via mobile devices, which reveals loyalty behavior. However, empirical evidence on the impact of sales promotions on flow experience is limited. Besides, it is possible to assume that these two variables are related to flow experiences as mental stimulation, considering sales promotions' main purpose is to stimulate and mobilize consumers at the point of purchase. Therefore, the following hypothesis has been developed:

***H_2**: Sales promotions have an impact on flow experience.*

3.3. The impact of flow experience on impulsive buying

According to Hsu (2012), flow experience is an important determinant of online shopping, because this activity requires a certain level of concentration, disrupts the perception of time, and gives pleasure. In such environments, flow experience can be facilitated due to the high concentration of an individual and the deterioration of time perception, leading to a state of pleasure (Chang et al., 2019:221). When considering in terms of the emotional and impulsive features of the nature of being human, it is also possible that their impulsivity and tendency to buy positively, especially if positive emotions occur. From this point of view, if consumers enjoy their shopping experience in online shopping stores, they will be more likely to notice and show interest in the products and various promotions in the store, and it will be more likely to turn into a purchase (Koufaris, 2002; Hsu et al., 2012). Wei et al. (2017) showed that being in flow experience on the current activity is an important factor that facilitates impulsive buying behavior as a pleasurable activity. In the literature, some studies (Beatty & Ferrell, 1998; Verplanken & Sato, 2011; Chih et al., 2012; Wu & Ye, 2013) support this view. It is also possible to see findings that flow experience has a direct effect on impulsive buying (Park & Park, 2013; Shahpasandi et al., 2020; Wu et al., 2020). In this respect, the hypothesis proposed for flow experience and impulsive buying relationship is as follows:

H_3: *Flow experience has an impact on impulsive buying.*

3.4. The effect of online store atmosphere and sales promotions on impulsive buying

According to Kara (2011:201), store atmosphere is an effective factor in consumers' impulsive buying behavior. Cheng et al. (2009) showed that music (fast music) and color (warm colors) as store atmosphere elements have significant effects on consumers' emotional responses. Eroğlu et al. (2003) stated that the environmental elements of virtual store affect the cognitive and behavioral internal processes of the consumer; showed that this results in approach or avoidance (buying or not buying). Arslan (2016) revealed that virtual store atmosphere elements affect impulsive buying. Similarly, Floh & Madlberger (2013) revealed that the design and navigation dimensions of virtual atmospheric elements have a significant positive effect on the emergence of consumers' impulsive buying behavior.

In addition to the atmosphere of virtual store, sales promotions can also be considered as a stimulus to action. In this sense, sales promotions are accepted as marketing tools that can create an impulsive buying motivation (Yalman & Aytekin, 2014:84). Promotions that create perceptions such as low-price perception can cause sudden purchasing decisions developed against the risk of missing the opportunity in the consumer, that is, they can lead to impulsive buying (Kchaou & Amara, 2014:362). On the other hand, promotional activities such as low prices and discounts can reduce the feeling of overspending and minimize the barriers to impulsive purchasing (Sultan et al., 2018:530). According to Kaisheng (2011:620), online sales promotions are the direct and most effective external stimuli that trigger purchase impulsivity. Ahmad et al. (2015) showed that consumers' purchasing behavior is motivated by promotional tools. Research shows that sales promotions have a direct effect on impulsive buying (Kchaou & Amara, 2014, Chen, 2017; Fitri, 2018; Sultan et al., 2018, Hosseini et al., 2020) also support this situation.

In addition, it is possible to come across studies in the literature examining both virtual store atmosphere and sales promotions together and examining the effect on impulsive buying. For example, Lo et al. (2016) tested the impulsive buying behavior in the model in which he considered both design elements and sales promotions and found significant relationships. According to Mamuaya (2018), both store atmosphere and sales promotion affect impulsive

buying. Based on all these considerations, the following two hypotheses have been put forward:

***H*$_{4}$:** *Virtual store atmosphere has an impact on impulsive buying.*

***H*$_{5}$:** *Sales promotions have an impact on impulsive buying.*

3.5. The mediating role of flow experience

In this research, it is assumed that flow experience of consumers during online shopping has an important mediating role in the result of virtual store atmosphere and sales promotions in impulsive buying. Although there is no example of this relational structure discussed in this study in the literature, it is possible to see that results are indicating that flow experience has a mediating effect in studies where similar relations are tested. For example, Oh et al. (2010) found flow experience has a mediating effect between sales promotions and impulsive buying. Hsu et al. (2016) revealed flow experience has a mediating role between ease of use, usability, and quality features of virtual store and impulsive buying. Liu (2018) showed flow experience has a mediating role in the relationship between mobile shopping features and impulsive buying. Barros et al. (2019) found store atmosphere influences positive emotional responses, resulting in impulsive buying. Therefore, the following hypotheses were developed to test the mediating role of flow experience:

***H*$_{6}$:** *Flow experience has a mediating role in the effect of the online store atmosphere on impulse buying.*

***H*$_{7}$:** *Flow experience has a mediating role in the effect of sales promotions on impulsive buying.*

4. RESEARCH METHODOLOGY

4.1. Data Collection and Measurement

In this research, which is based on the quantitative research method, the online survey method was applied to the consumers. In the questionnaire form, various questions about the demographic information of the participants, online shopping routines and the scale expressions were included. 38 statements in four psychometric scales were used to obtain data. The scales were formed by adapting from studies similar to the structure and purpose of this study. Response options are given based on the 5-point Likert Scale. All of the scales were handled in a single factor (no sub-dimensions). Sources of the scales and the number of expressions are given in Table 1.

Table 1: Scales adopted within the scope of the research

Scale	Source	Item
(1) Virtual Store Atmosphere	Van der Heijden (2003); Wolfinbarger & Gilly (2003); Kim & Stoel (2004); Lepkowska-White (2004)	**9**
(2) Online Sales Promotions	Dawson & Kim (2010); Park et al. (2012); Akram et al. (2018)	**10**
(3) Flow Experience	Agarwal & Karahanna (2000); Novak et al. (2000); Shin (2006); Ghani & Deshpande (2013)	**14**
(4) Impulsive Buying	Rook & Fisher (1995); Sneath et al. (2014)	**5**
	Total Item	**38**

Reliability, normal distribution, and consistency tests of the obtained data were carried out. For each scale, the Cronbach alpha (α) coefficients, which are frequently used to determine the scale reliability in the field of social sciences, as well as the alternative control tool combined reliability/composite reliability (CR) coefficients showing reliability, and the level of variance occurring in a structure against the level of variance arising from the measurement error. Explained mean variance (AVE) coefficients measuring the level of 0.7 or more for the Cronbach's alpha coefficient (Kılıç, 2016:47), 0.7 or more for the CR coefficient, and 0.5 and above for the AVE coefficient are considered acceptable values (Fornell & Larcker, 1981; Yang et al., 2019:5). The coefficients obtained

in this direction are given in Table 2.

Table 2: Calculated coefficients for the reliability of the scales

Scale	Item	$\bar{x}$	S.D	α	AVE	CR	Skewness	Kurtosis
Virtual Store Atmosphere	9	3,84	0,73235	0,925	0,5815	0,926	-0,783	0,280
Sales Promotions	10	3,68	0,84291	0,920	0,5792	0,916	-0,509	-0,359
Flow Experience	14	3,54	0,81234	0,945	0,5598	0,943	-0,246	-0,774
Impulsive Buying	5	3,33	0,93264	0,901	0,6521	0,903	-0,005	-0,952

$\bar{x}$= Mean, **S.D.**= Standard Deviation, **α**= Cronbach's Alpha, **AVE**= Average variance extracted, **CR**= Composite reliability

In the light of the coefficients in Table 2, it is possible to state that all scales show a high level of reliability and have a normal distribution. In this respect, standardized residual (residual) covariances, which test whether the covariance matrices of the model and the sample match each other, are examined. A good guideline for standardized residuals according to Simonoff (2016:2) is that a case with a standardized residual value greater than about ±2.5 should be investigated as a potential outlier. In this context, by examining the standard residual covariance values, the ones with the highest values were removed from the model, respectively, and the model was retested after each subtraction. Accordingly, a total of 3 expressions were removed, 2 from sales promotions scale and 1 from flow experience scale, and the suitability of factor analysis with the scales in this state was understood. In this respect, multicollinearity was analyzed lastly, before proceeding to factor analysis.

A common approach used to detect multicollinearity is the use of variance inflating factor (VIF). If the obtained VIF value is equal to or greater than 10 (VIF ≥ 10), it means that there is a significant multicollinearity problem (Albayrak, 2005:110). The fact that the VIF value is less than 10, the CI (Condition Index) value is less than 30, and the tolerance value is at a normal level (>.10), indicates that there is no multicollinearity problem (Aksu et al., 2017:46). In the light of this information, the data were analyzed in terms of the multicollinearity problem, and the relevant values were obtained as in Table 3.

Table 3: Values calculated for multicollinearity

The dependent variable (Impulsive Buying)	Eigen Value	CI	Tolerance	VIF
Virtual Store Atmosphere	0.029	11.603	0.449	2.225
Sales Promotions	0.013	17.514	0.377	2.653
Flow Experience	0.012	18.415	0.394	2.541

As the data in Table 3 shows, it is possible to see that all VIF values, tolerance values, and CI values are within the accepted dimensions, and it is understood that there is no multicollinearity problem.

4.2. Sample

The population of the research consisted of consumers aged 18 and over who were engaged in online shopping in Turkey. Online shopping is limited to businesses operating in business-to-consumer (B2C) electronic retailing. Since it is not possible to reach all consumers with these characteristics, the non-probability convenience sampling method was used to reach the data. In this sample context, the research data consisted of valid questionnaires filled by 407 participants whose demographic characteristics can be seen in Table 4.

Table 4: Demographic characteristics of the participants

Gender	*f*	%	Marital Status	*f*	%
Female	217	53,3	*Single*	268	65,8
Male	190	46,7	*Married*	139	34,2
Education	***f***	**%**	**Age**	***f***	**%**

Secondary Education	50	12,3	*18-25*	118	29
College	106	26	*26-35*	121	29,7
Undergraduate	191	46,9	*36-45*	96	23,6
Graduate	60	14,7	*46-55*	41	10,1
Occupation	***f***	**%**	*56 and above*	31	7,6
Public employee	61	15	**Personal Income**	***f***	**%**
Private sector employee	104	25,6	*2020 Turkish lira and below*	104	25,6
Student	118	29	*2020-3500 lira*	102	25,1
Retired	27	6,6	*3501-5000 lira*	96	23,6
Self-employed	23	5,7	*5001-6500 lira*	57	14
Business Owner/Partner	22	5,4	*6501 lira and above*	48	11,8
Housewife	34	8,4			
No occupation	18	4,4			

In the research, reliability, normal distribution, and frequency analyzes were analyzed in SPSS 24 software, and the structural equation model, which was created within the framework of the model established to determine the relationships between variables, was analyzed in AMOS 24 software.

5. RESULTS

First of all, factor analysis was carried out to show the compatibility between the research data and the theoretical model and the loading levels of the scale expressions on the variable. In factor analysis, it is aimed to detect expressions that act together without any variable or factor definition, based on the extracted form of three expressions containing residual covariance. In Figure 2, the standard values formed as a result of the factor analysis made in the AMOS software within the framework of the research model are seen.

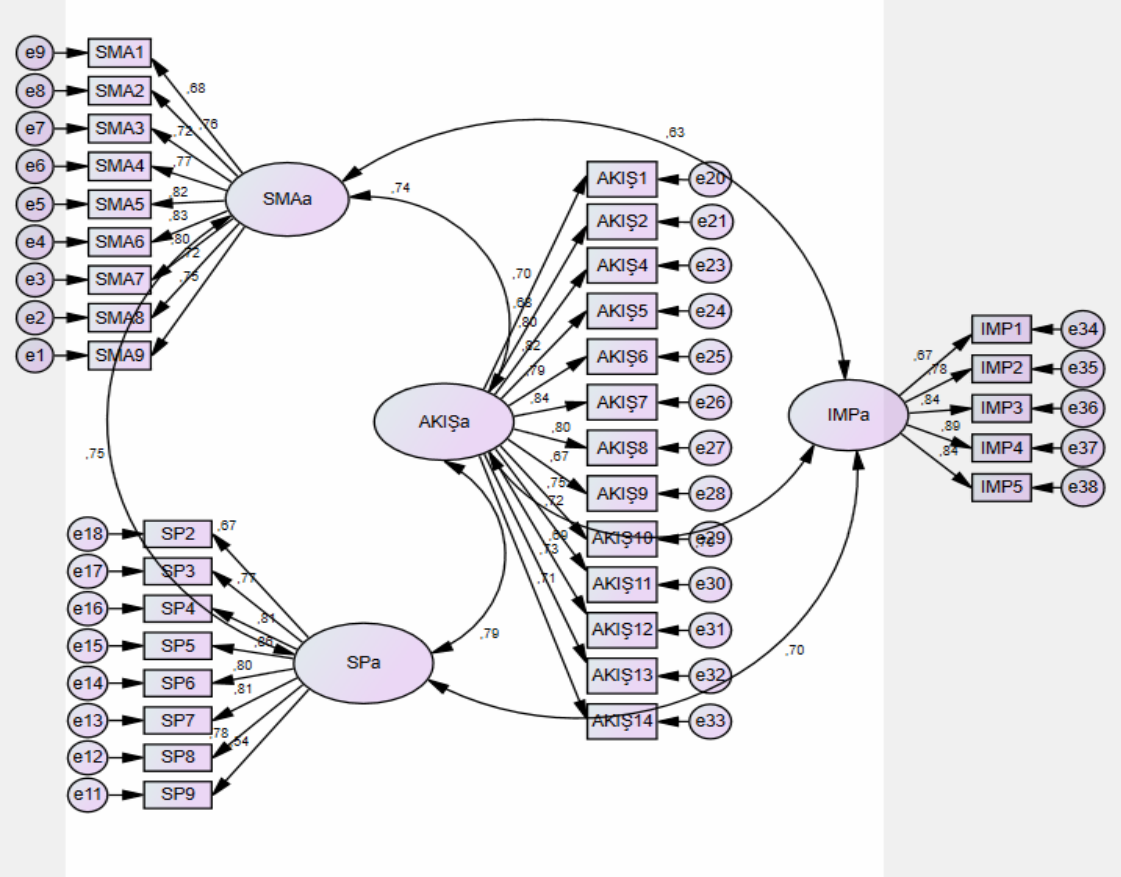


Figure 2: Factor analysis in AMOS

As seen in Figure 2, it was determined that each statement in the research scales loaded on the latent variable at expected and acceptable levels. In addition, when the t values and p significance values related to the analysis are considered, it is seen that all the loadings are significant. Details of these values are presented in Table 5.

Table 5: Values obtained as a result of factor analysis

Implicit Variable	Observed Variable	Factor Load	*t*	Error Variance	*p*
Virtual Store Atmosphere	SMA1	0.677	13.818	0.070	0.000
	SMA2	0.761	15.717	0.071	0.000
	SMA3	0.717	14.712	0.066	0.000
	SMA4	0.766	15.840	0.062	0.000
	SMA5	0.815	19.994	0.071	0.000
	SMA6	0.834	17.438	0.066	0.000
	SMA7	0.802	16.671	0.073	0.000
	SMA8	0.716	14.688	0.071	0.000
	SMA9*	0.748	-	-	0.000
Sales Promotions	SP2	0.667	15.223	0.042	0.000
	SP3	0.773	18.865	0.047	0.000
	SP4	0.812	20.431	0.046	0.000
	SP5*	0.855	-	-	0.000
	SP6	0.798	19.850	0.048	0.000
	SP7	0.810	20.370	0.045	0.000
	SP8	0.776	18.996	0.046	0.000
	SP9	0.539	11.588	0.044	0.000
Flow Experience	AKIŞ1*	0.701	-	-	0.000
	AKIŞ2	0.675	13.145	0.075	0.000
	AKIŞ4	0.803	15.548	0.064	0.000
	AKIŞ5	0.818	15.845	0.068	0.000
	AKIŞ6	0.789	15.294	0.068	0.000
	AKIŞ7	0.835	16.164	0.067	0.000
	AKIŞ8	0.798	15.547	0.068	0.000
	AKIŞ9	0.674	13.117	0.071	0.000
	AKIŞ10	0.754	14.641	0.071	0.000
	AKIŞ11	0.719	13.973	0.072	0.000
	AKIŞ12	0.695	13.517	0.070	0.000
	AKIŞ13	0.734	14.255	0.077	0.000
	AKIŞ14	0.708	13.767	0.072	0.000
Impulsive Buying	İMP1*	0.674	-	-	0.000
	İMP2	0.785	14.242	0.081	0.000
	İMP3	0.837	15.060	0.076	0.000
	İMP4	0.890	15.826	0.082	0.000
	İMP5	0.839	15.088	0.081	0.000

* The regression coefficient is set to 1 in the model.

Based on the values seen in Table 5, it is possible to say that the research model is meaningful and that construct validity is ensured as a result of the factor analysis. The regression coefficients from the variables to the expressions were above acceptable levels. There is a statistically significant structure for all of the latent variables in terms of the resulting *t* values and *p* values.

A group fit index, which is widely used in the literature, was included in the study. While deciding which fit indices to include, the focus was on indices that are frequently used for model fit assessment and based on similar studies. The results obtained are presented in Table 6 with their details.

Table 6: Goodness of fit values of the research model

Fit Indexes	Acceptable Value	Findings	Assessment	References
χ^2 P Value of Fit Test	$p>.05$	$p=.000$	Good fit	*1,2,3*
χ^2/sd (CMIN/df)	<5	2.585	Good fit	*4,5,6*
Root Mean Errors (RMR)	<.08	0.047	Good fit	*7,8,9*

Norm Fit Index (NFI)	≥,80	0.869	Acceptable fit	*1,2,10*
Goodness of Fit Index (GFI)	≥.80	0.818	Acceptable fit	*1,2,5*
Comparative Fit Index (CFI)	≥.80	0.915	Good fit	*2,3,11*
Incremental Fit Index (IFI)	≥.85	0.915	Good fit	*12,13,14*
Tucker-Lewis Index (TLI)	≥.80	0.909	Good fit	*2,5,15*
Root Mean Square Errors of Approximate (RMSEA)	≤.08	0.062	Acceptable fit	*4,9,16*

1= Ishiyaku (2007); ***2***= Sitepu (2019); ***3***=Zahoor vd. (2017); ***4***= Sümer (2000); ***5***= Abdullah vd. (2019); ***6***= Okur Berberoğlu ve Uygun (2012); ***7***= Hu ve Bentler (1999); ***8***= Brown (2006); ***9***= Çokluk vd. (2010); ***10***= Greenspoon ve Saklofske (1998); ***11***= Byrne ve Campbell (1999); ***12***= Kline (2005); ***13***= Kline (2011); ***14***= Leblebicioğlu ve Usta (2017); ***15***= Browne ve Cudeck (1993); ***16***= Jöreskog ve Sörbom (1993)

As can be seen in Table 6, the goodness of fit values that emerged within the framework of the research model showed acceptable or good fit values (p=0.000; χ^2/sd=2.585; RMR=0.047; NFI=0.869; GFI=0.818; CFI=0.915; IFI =0.915; TLI=0.909; RMSEA= .062). No modifications or improvements have been made to the model. It is possible to say that there is good agreement between the theoretical model of the research and the data obtained. To determine the extent to which the research model is supported by the data obtained from the sample, Structural Equation Modeling (SEM), which lists the relationships between all variables (Byrne, 2010:3; Hair et al., 2014:546; Rençber, 2019:94), was used. The obtained coefficients are given in Figure 3.

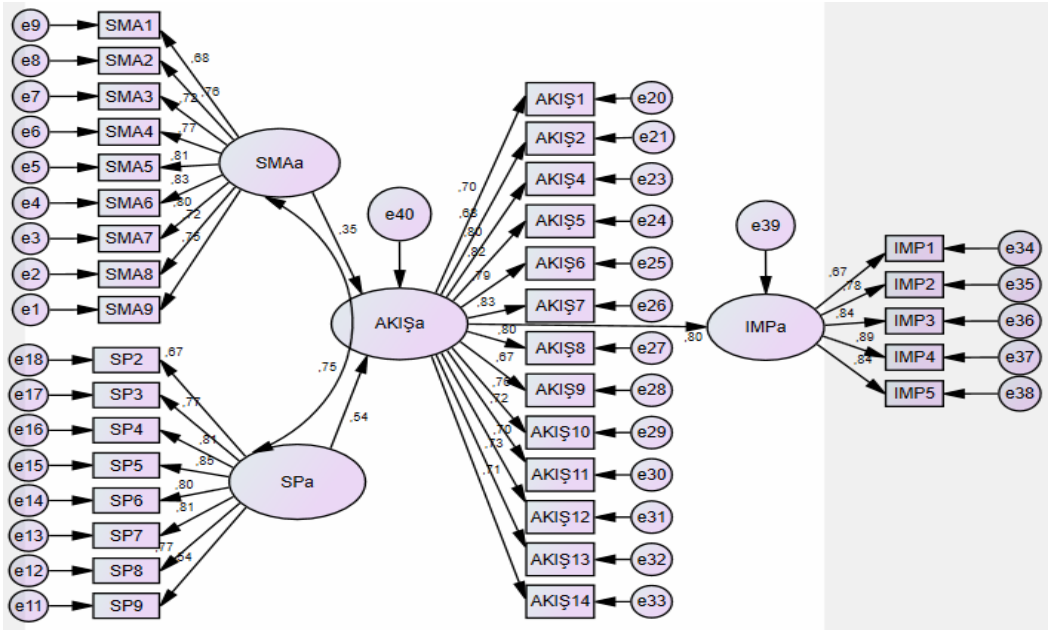


Figure 3. Structural equation model of the research

As seen in Figure 3, relationships established in the SEM are significant. According to standardized regression measurement coefficients, there is a correlation of 0.346 (*t*=5.974) between virtual store atmosphere and flow experience. There is a relationship between sales promotions and flow experience 0.538 (*t*=8,716). There is a correlation of 0.798 (*t*=11.511) between flow experience and impulsive buying. All these relationships considered are statistically significant at the *p*≤.001 level (double-tailed). Information on the measurement coefficients obtained from this model regarding the relationships between the variables is presented in Table 7.

Table 7: Measurement coefficients of the structural equation model

Variables	***β***	***Std β***	***SE***	***t***	***p***
Virtual Store Atmosphere → Flow Experience	0.412	0.346	0.069	5.974	≤ .001
Sales Promotions → Flow Experience	0.431	0.538	0.049	8.716	≤ .001
Flow Experience → Impulsive Buying	0.786	0.798	0.068	11.511	≤ .001

β: Regression coefficient, *Std β*: Standardized regression coefficient, *SE*: Standard error, *t*: t test statistic *(β/SE), R2*: Coefficient of determination

The goodness-of-fit values of this structural equation model, which was created for the relations between the variables and found to have statistically significant relations, are presented in Table 8.

Table 8: Goodness of fit values of the structural equation model

Fit Indexes	Findings	Assessment
χ^2	p=,000	Good fit
χ^2/sd	2,596	Good fit
RMR	0.050	Good fit
NFI	0.868	Acceptable fit
GFI	0.818	Acceptable fit
CFI	0.914	Good fit
IFI	0.915	Good fit
TLI	0.908	Good fit
RMSEA	0.063	Acceptable fit

As seen in Table 8, it is possible to see that the structural equation model has acceptable or good fit values. Therefore, this indicates that theoretical model of the research and the data obtained are consistent. Considering these measurements, hypotheses discussed in the research are supported in the light of the data and according to Gaskin's (2020) hypothesis support criteria approach. According to Gaskin (2020), from local to global p values, R^2 values and model fit must be met for a hypothesis to be accepted. If the assumed relationship has a significant p-value, but the fit of the model is poor, it is not possible to rely on this p-value (Figure 4). In light of this information, $\boldsymbol{H_1}$, $\boldsymbol{H_2}$, $\boldsymbol{H_3}$, $\boldsymbol{H_4}$ and $\boldsymbol{H_5}$ are **supported**.

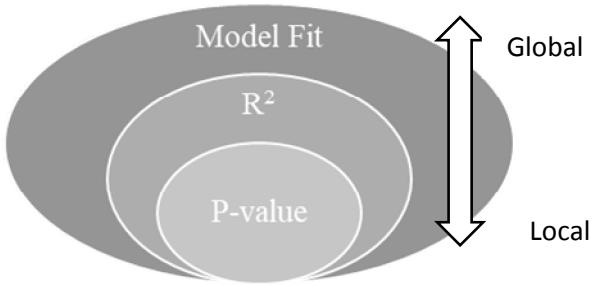
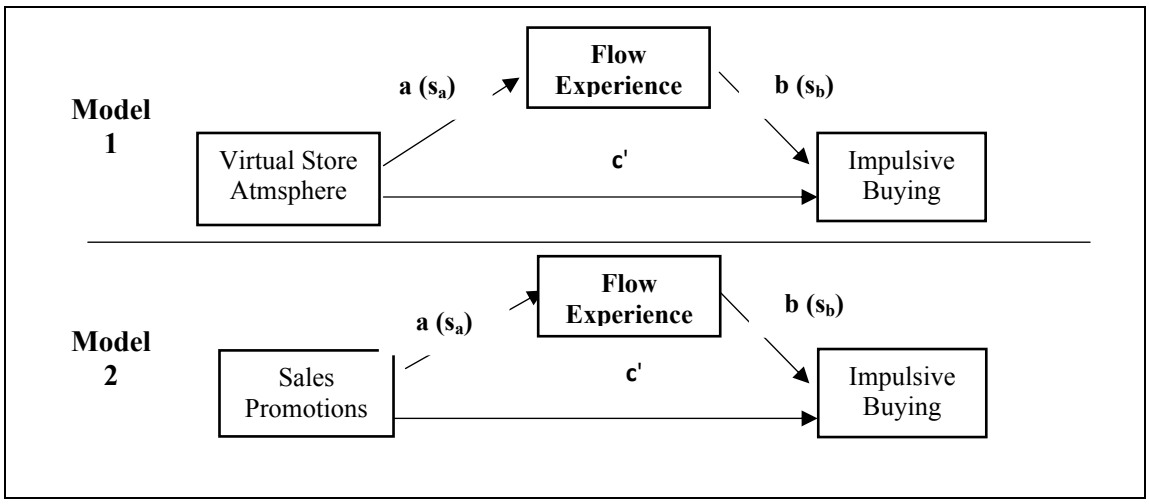


Figure 4: Hypothesis support criteria from local to global level
Source: Gaskin (2020)

Finally, tests were conducted regarding the mediating role of flow experience in the model as a mediating variable. Here, the mediating role of flow experience (as organism) is tested both in the relationship between virtual store atmosphere-impulsive buying and sales promotions-impulsive buying. The mediation model formed in the light of this information is given in Figure 5.



a: Unstandardized regression coefficient, **b:** Unstandardized regression coefficient, s_a**:** standard error coefficient of a, s_b**:** standard error coefficient of b

Figure 5: Mediation model of the research

Based on mediation models, evaluations were made in the context of the causal steps approach proposed by Baron & Kenny (1986). Accordingly, it was found that (1) "The independent variable must affect the dependent variable", (2) "The independent variable must affect mediating variable", and (3) "The independent (presumed mediator) variable must act on the outcome variable (dependent variable)" conditions were met. Following, *a*, *b*, s_a, and s_b coefficients were entered into the Sobel Test calculation software published by Preacher and Leonardelli (2020) and by Soper (2020). Results obtained for the first and second models are given in Table 9.

Table 9: Sobel test results for the first and second model

First Model		**Second Model**	
Input	**Coefficient**	**Input**	**Coefficient**
a	0.759	***a***	0.718
b	0.757	***b***	0.684
s_a	0.040	s_a	0.032
s_b	0.051	s_b	0.055
Sobel Test (z)	11.69*	***Sobel Test (z)***	10.88*
SE	0.049	***SE***	0.045
p	0.000*	***p***	0.000*

* Statistically significant mediating role according to the Sobel Test

According to *z* critical ratio calculated, it was determined that the results of the Sobel test regarding the mediating role in the first model and the second model were statistically significant. In this context, it is possible to say that there is a mediating role for these two models.

However, regarding the Sobel test, some researchers in the literature (eg. Shrout & Bolger, 2002; Preacher & Hayes, 2004) have criticized the Sobel test because it requires the assumption of normality for the sample distribution in calculating the standard error and determining the indirect effect. It is argued that this distribution tends to be positively skewed, especially in small samples, and therefore this assumption may be problematic (Stone & Sobel, 1990; Preacher & Hayes, 2004). As a result, it is argued that the statistical power of the Sobel test decreases in these contexts (Shrout & Bolger, 2002; Preacher & Hayes, 2004; Koopman et al., 2014). In light of this concern, some researchers have instead advocated the use of bootstrapping to test the significance of the indirect effect (eg Shrout & Bolger, 2002). In this context, in addition to Baron & Kenny's (1986) causal steps approach and Sobel test, bootstrap method is included in the AMOS software. In the bootstrap method, the distribution of the population from which the

sample was drawn (subgroups drawn from the sample) was determined as 5000 and the percent confidence interval used in the bootstrap used was determined as 95%, and the calculations were evaluated over the observed variables. The values obtained as a result of the calculation are shown in Table 10.

Table 10: Bootstrapping results in the mediating role of flow experience

	Result Variables			
	Flow Experience		Impulsive Buying	
	β	***SE***	***β***	***SE***
Virtual Store Atmosphere (path c)			0.741	0.051
R^2			0.339	
Virtual Store Atmosphere (path a)	0.759	0.040		
R^2	0.469			
Virtual Store Atmosphere (path c')			0.166	0.057
Flow Experience (path b)			0.757	0.051
R^2			0.569	
Standardized Indirect Effect			0.575	,000*
	Result Variables			
	Flow Experience		**Impulsive Buying**	
	β	***SE***	***β***	***SE***
Sales Promotions (path c)			0.718	0.042
R^2			0.421	
Sales Promotions (path a)	0.718	0.032		
R^2	0.554			
Sales Promotions (path c')			0.227	0.053
Flow Experience (path b)			0.684	0.055
R^2			0.579	
Standardized Indirect Effect			0.491	0.000*

***β*:** Non-standardized regression coefficient, ***SE*:** Standard error, R^2**:** Coefficient of determination; * p< .001

In terms of the first and second models, the pathways covered in the research model and ultimately the standardized indirect effect point to a statistically significant mediating role. In this respect, the hypotheses established regarding the mediating role (H_6 and H_7) were **supported**. With the support of the hypotheses testing the mediation effect, it is possible to conclude that all hypotheses created for the relationships discussed in the research are supported. A summary of the hypotheses tested by the research and their support status is given in Table 11.

Table 11: Summary of research hypotheses

Hypothesis	Relationship	*p*	*Result*
H_1	Virtual Store Atmosphere → Flow Experience	≤,001	✓
H_2	Sales Promotions → Flow Experience	≤,001	✓
H_3	Flow Experience →Impulsive Buying	≤,001	✓
H_4	Virtual Store Atmosphere → Impulsive Buying	≤,001	✓
H_5	Sales Promotions → Impulsive Buying	≤,001	✓
H_6	Virtual Store Atmosphere → Flow Experience → Impulsive Buying	≤,001	✓
H_7	Sales Promotions → Flow Experience → Impulsive Buying	≤,001	✓

DISCUSSION

Consumers' purchasing decision process emerges under the influence of demographic, social, cultural, personal, and psychological factors or marketing tools. In this sense, such factors, which can be considered external and internal factors, create some responses (reactions) by affecting the evaluation realized in the mind of consumers.

In the context of a quantitative research conducted with 407 consumers in Turkey, this study examines virtual store atmosphere and sales promotions as external stimuli in a shopping environment. It has been revealed that these stimuli are effective at experiencing flow experience, and when the consumer is in flow experience, she/he can buy impulsively. More specifically, according to the findings of the research, virtual store atmosphere and sales

promotions have a statistically significant effect on flow experience and impulsive buying. Flow experience likewise has an impact on impulsive buying. In addition, flow experience has a mediating role in the effect of virtual store atmosphere and sales promotions on impulsive buying. In other words, flow experience mediates between the stimuli and the response in the purchasing process of consumers in the context of online shopping.

The findings of the research in this direction are in parallel with the findings of some studies in the literature. For example, there are findings on the positive relationship between virtual store atmosphere and flow experience. Bilgihan et al. (2013) showed that various elements of virtual store in online shopping showed significant relationships with flow experience, which in turn generated positive reactions from consumers. Similarly, Gao & Bai (2014) revealed that virtual store atmosphere elements affect flow experience in online shopping, and flow experience results in positive reactions such as purchase and satisfaction. The results of Chiu & Yang's (2016) research showed that website design features are significantly related to online shopping users' experiences, including flow experience, and online purchasing behavior. Empirical evidence accessed by Ettis (2017) revealed that consumers browsing the online store show different reactions to atmospheric elements such as color themes. The blue color theme was associated with more positive navigation than the yellow color. On the other hand, in the context of online shopping, there is no research finding in the literature regarding the direct effect of sales promotions on flow experience. Therefore, the findings of this research on the effect of sales promotions on flow experience are original and important in terms of the literature. It is important to underline the need to consider sales promotions in online shopping concerning flow experience.

One of the findings obtained as a result of this research is that the atmosphere of virtual store significantly affects impulsive buying. A store with a good and attractive environment will be able to direct more consumers to impulsive buying behavior. Some research results in the literature (Kara, 2011; Floh & Madlberger, 2013; Akram et al., 2016; Arslan, 2016; Barros et al., 2019) revealed similar findings to the findings of this study. In this sense, it is possible to say that the atmosphere of virtual store has emerged as an important factor in the context of impulsive buying and should be taken into account. As mentioned above, sales promotions, like the atmosphere of virtual store, are an effective and explanatory variable on impulse buying. Studies show that sales promotions directly affect impulsive buying (Kchaou & Amara, 2014, Chen, 2017; Fitri, 2018; Sultan et al., 2018, Hosseini et al., 2020; Tirtaning & Setiaji, 2021) support this situation.

Another important finding of the research is that flow experience of consumers during online shopping activity can result in impulsive buying behavior. Flow experience statistically significantly influences impulsive buying. In the literature, some studies have reached findings similar to this research. It is possible to come across findings in various studies (Hsu et al., 2012, Park & Park, 2013; Wu et al., 2016; Wu et al., 2020; Shahpasandi et al., 2020) that flow experience has a direct effect on impulsive buying. In this sense, the findings of this study support the results of the research in the literature.

In various studies, there are findings that flow experience has a mediating effect. For example, Oh et al. (2010), determined that flow experience has a mediating effect between sales promotions (not variable but in size) and impulsive buying in a structure where other factors are also present. Hsu et al. (2016) focused on how flow experience mediates social shopping behavior in their research conducted in Taiwan. They found that flow experience had a mediating role in the relationship between perceived ease of use, usability and website quality

variables and online social shopping behavior. Based on the S-O-R paradigm, Ettis (2017) tested the mediating effect of the entertainment and concentration dimensions of flow experience on the relationships between online shopping store color theme and visit, purchase intention and revisit intention, and reached statistically significant results regarding the mediation effect. Chen et al. (2018), in their research within the scope of mobile shopping, revealed that flow experience has a fully mediating role between perceived usefulness and attitude towards shopping. A similar result was obtained in the research conducted by Liu (2018) in China; It has been revealed that flow experience has a mediating role in the relationship between mobile shopping features and consumer purchase intention. Chang et al. (2019) discussed flow experience as a mediating variable in the model he established for the relationship between trust and purchasing decisions in mobile shopping services. In the light of the results obtained, it has been determined that flow experience has a mediating role between trust and purchasing decisions in mobile shopping. Barros et al. (2019) found that store atmosphere influences positive emotional responses of consumers, resulting in impulsive buying. Therefore, there is information in the literature that the variables of this study or similar elements were handled separately and that positive effects were obtained. However, in this research, considering virtual store atmosphere and sales promotions together as an antecedent stimulus reveals a different approach from these approaches. There is no example of this relational structure discussed in this study. Therefore, it is thought that the original findings of this research with this approach make an important contribution to the understanding of the relational structure between impulsive buying behavior and these stimuli and this aspect of the consumer mind.

An important general inference that can be made in line with the findings is that the concept of flow experience is not only used in peak experiences, sports activities, or enjoyable physical activities; It is also possible for consumers to perform online shopping activities only via keyboard, mouse or touch screen from where they are. This result contributes to the portion of the flow literature on shopping experiences.

Limitations of the Research and Future Research Directions

Although the quantitive research result allows obtaining insights and various inferences both for practitioners and for the literature, of course, as every research, it has some limitations that will inspire future research. The research findings are based on the data of consumers who are 18 years of age or older and shop at online shopping sites operating in the electronic retailing sector in a business-to-consumer (B2C) manner. The official shopping sites of the brands or other commercial activities other than electronic retailing are not included in the research. Therefore, the results of this study are limited in this aspect in terms of generalizability. In the research, general retailing shopping was examined without making any difference between product/service groups. However, future research will be able to contribute to the literature and practice by focusing specifically on product and service groups and obtaining findings in this direction. Also, a quantitative method was used in this study. However, in future research, it will be possible to contribute to this research topic and theoretical model from different aspects, with both quantitative, qualitative, and mixed approaches. In addition to all these, apart from the variables considered within the scope of online shopping, other variables such as user comments and ratings will be included to expand the subject and reach important results. For example, even if the consumer involves in flow during shopping, a negative comment, bad rating or complaint about the product that the consumer intends to buy may disrupt flow by manipulating the consumer. Finally, for future studies, it may be important to approach the issue from the perspective of consumers as well as from the perspective of online retailers. In this context, the findings to be obtained about the approach of the

enterprises will be able to provide useful information about the literature and practice at the point of making comparisons and revealing the deficiencies.

AUTHOR CONTRIBUTION STATEMENT

The contribution rate of the first author (Eren Temel) to this study is 60%, while the contribution rate of the second author (Ece Armağan) is 40%.

STATEMENT OF SUPPORT AND THANKS

No support was received from any institution/organization or by the conduct of this research, and for this reason, there is no independent party to be thanked. However, the first author of the study would like to thank Ece Armağan, the thesis supervisor and second author, for her guiding advices.

CONFLICT OF INTEREST STATEMENT

There is no conflict of interest with any institution or person within the scope of the study. There is no conflict of interest among the authors.

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