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Qualitative Analysis of Consumer's Responses to Mobile Push Notifications and Its Relationship with Impulsive Purchasing

Tüketicilerin Mobil Anlık Bildirimlere Tepkileri ve İmpulsif Satın Alma ile İlişkisinin Nitel Analizi

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Eren TEMEL¹

Abstract

Purpose: This study explores various aspects of consumer experiences related to instant notifications sent by online shopping platforms to consumers' smartphones and their potential relationship with impulsive buying behaviors.

Methodology: Primary data were obtained from 17 participants accessed through purposive sampling within the framework of qualitative research methodology. Data from participants were collected via structured interviews using a structured questionnaire. The collected data were analyzed under the framework of descriptive analysis, focusing on specific themes.

Findings: The findings from the analysis indicated that factors such as the content, level of personalization, timing, and frequency of instant notifications sent by online shopping platforms significantly influence users' attitudes toward these notifications.

¹ Dr. Bağımsız Araştırmacı, eren.pdf@gmail.com, ORCID: [0000-0003-1938-4836](https://orcid.org/0000-0003-1938-4836)

Participants who responded positively to the notifications exhibited tendencies towards impulsive buying.

Implications: Based on the study's findings, it is understood that well-designed, timely, and appropriately frequent instant notifications from online shopping applications can influence consumers' purchase decisions, potentially leading to impulsive buying behaviors and shaping users' overall shopping attitudes. These results are believed to contribute to the literature and online shopping practices by offering insights into how notifications can impact consumer behavior.

Limitations: It should be noted that the study's findings and conclusions are based on qualitative research methodology, utilizing data obtained from a study group of 17 individuals. Therefore, evaluations based on these findings are limited to the scope of this participant sample.

Keywords: Impulsive purchasing, Online shopping, Push notifications, Qualitative analysis, Smartphone.

Jel Codes: M10, M15, M31.

Özet

Amaç: Bu çalışma, online alışveriş platformlarının akıllı cep telefonları üzerinden tüketicilere gönderdikleri anlık bildirimlerle ilgili tüketici deneyimlerinin çeşitli yönlerini ve impulsif satın alma davranışları ile olası ilişkisini keşfetmeyi amaçlamaktadır.

Yöntem: Nitel araştırma yöntemi çerçevesinde amaçlı örnekleme tekniğine dayalı olarak erişilen 17 katılımcıdan birincil veri elde edilmiştir. Katılımcılardan veriler yapılandırılmış görüşmeler vasıtasıyla, yapılandırılmış bir soru formu aracılığıyla toplanmıştır. Toplanan veriler betimsel analiz çerçevesinde belirli temalar altında değerlendirilmiştir.

Bulgular: Analizler sonucunda elde edilen bulgular, online alışveriş platformları tarafından tüketicilere gönderilen anlık bildirimlerin içeriği, kişiselleştirilmişlik düzeyi, zamanlaması ve sıklığı gibi faktörlerin, kullanıcıların bildirimlere karşı olan tutumunu açık bir şekilde belirlediğini göstermiştir. Bildirimlere karşı olumlu tepki gösteren katılımcıların impulsif satın almaya dönük eğilimleri olabildiği anlaşılmıştır.

Sonuç ve Katkılar: Araştırmada elde edilen bulgular doğrultusunda, online alışveriş uygulamalarından gelen, doğru bir biçimde tasarlanmış olan, doğru zamanlarda ve uygun sıklıkta anlık bildirimlerin tüketicilerin satın alma kararlarını etkileyebileceği, impulsif satın almaya yol açabileceği ve genel bir bağlamda kullanıcıların alışveriş tutumlarını belirleyebileceği anlaşılmaktadır. Elde edilen bu sonuçların literatüre ve online alışveriş pratiğine katkılar sunma potansiyeli bulunduğu düşünülmektedir.

Sınırlılıklar: Araştırmada elde edilen bulguların ve erişilen sonuçların nitel araştırma metodolojisine dayandığını ve bu bulgulara dayanarak yapılan değerlendirmelerin 17 kişiden oluşan çalışma grubundan alınan verilerle sınırlı olduğunu dikkate almak gerekmektedir.

Anahtar Kelimeler: İmpulsif satın alma, Online alışveriş, Anlık bildirimler, Nitel analiz, Akıllı telefon.

Jel Kodu: M10, M15, M31.

1. Introduction

The development of information and communication technologies has made smartphones, which have become a natural part of technology-intensive daily life, a unique interest in conducting research to evolve consumer behaviors toward mobile, along with increasing businesses' efforts in mobile marketing to adapt consumer impulsivity toward mobile (Yıldırım and Bayraktar, 2021: 827).

Mobile devices are not just areas where everyday life and behavioral data are generated but also channels that provide the opportunity to deliver content to users without time and space constraints. This is particularly significant given that most internet usage occurs through mobile devices (Saran, 2023: 294). According to the 2023 Global Report by the American-based We Are Social agency (2023), mobile phone users worldwide reached 5.44 billion as of 2023. When compared to the world population, this number corresponds to 68%. The report indicates that there are 5.16 billion internet users globally. In the top 8 countries on the list, the internet usage rate is 99%. Turkey, for instance, ranks third globally in online shopping, following Thailand and South Korea. Internet usage for product and brand research accounts for 43.4% worldwide, while it stands at 58.9% in Turkey (We Are Social, 2023; ClickUs, 2024).

In this digital age, e-commerce continues evolving constantly, and mobile networks significantly alter consumers' behaviors and marketing patterns (Anugrah et al., 2023: 27). Mobile marketing has emerged as a significant trend. Mobile marketing is defined as "an interactive marketing tool used to promote products/services or ideas through mobile phones (smartphones) in a way that benefits the business and all stakeholders" (Öztaş, 2015: 1068; Göransson et al., 2016: 1). It encompasses various techniques, including mobile applications, mobile-optimized websites, Short Message Service (SMS) marketing, location-based services, and push notifications. The unique features of mobile devices, such as portability, personalization, and constant connectivity, offer unprecedented opportunities for businesses to deliver targeted and personalized marketing messages to consumers (Al-Gasawneh et al., 2021; Daoud et al., 2023: 1252). Engaging consumers with brands through mobile marketing can be achieved through various tools such as text messaging, mobile advertising, permission-based marketing, and user-generated content (Watson et al., 2013). Mobile marketing encompasses all mobile environments and devices like cell phones, tablets, and other handheld internet access devices. However, smartphones, which are highly personal devices for individuals and are seen as cultural objects that are part of people's daily lives where they communicate, share information, and socialize daily, are predominantly used as intermediaries between marketers and consumers (Shankar et al., 2010). Through mobile marketing, businesses can reach consumers more effectively and proactively anytime and anywhere via smartphones, which offer superior features compared to traditional marketing methods that are more dependent on consumers' locations, enabling more personalized and cost-effective marketing communications (Park et al., 2008; Shankar et al., 2010; Zhang et al., 2013; Danaher et al., 2015; Öztaş, 2015; Göransson et al., 2016: 2).

Businesses can influence consumers by organizing promotions in mobile applications that can be accessed anytime and anywhere. In this regard, widespread mobile promotions are messages sent to a mobile user in exchange for some value exchange, aiming to trigger a short-term desired action (Andrews et al., 2016). Mobile

promotions are becoming increasingly important for marketers because as more people incorporate their smartphones into their daily routines, they can reach more people instantly. Consequently, marketing methods through mobile promotions can be a way for businesses to leverage this technology. One way of mobile promotion is through push notifications, which can be used to interact with and foster loyalty among consumers (Anugrah et al., 2023: 27).

Push notifications are content designed, timed, and formatted by smartphone applications, then delivered to users' phones with a signal or alert (Unni and Harmon, 2007: 30). These notifications serve as a way for businesses to engage with users while also having the potential to increase revenue by triggering consumers' purchasing behaviors. In the context of online shopping applications, push notifications primarily aim to encourage desired behaviors by prompting users to take action. Businesses aim to direct users towards making purchases by using these notifications in alignment with consumer behaviors, thus increasing their revenue (nGrow, 2024). Since consumers who shop with mobile devices are generally focused on discounts and advantages (Scarpi, 2012), they may approach online stores impulsively and spontaneously (Akram et al., 2018; Yıldırım and Bayraktar, 2021: 828), which can trigger impulsive purchasing behavior (Wells et al., 2011). Such consumers often have the potential to experience impulsive buying desires based on personalized recommendations or visual appeal (Floh and Madlberger, 2013). Therefore, through mobile push notifications, consumers' emotions can be triggered after situational factors are activated, leading to impulsive purchase intentions (Zhang et al., 2023: 666).

This study aims to determine consumers' approaches to mobile push notifications and their effects on impulsive purchasing behaviors. Deep insights were obtained through qualitative interviews to contribute to online shopping practice and marketing literature. Using a cross-sectional qualitative research method to explore consumers' thoughts, perceptions, and understandings of the subject, data were collected from 17 participants aged 18 and over who engage in online shopping and use smartphones. The data were collected using a measurement tool adapted from structured interview questions focusing on push notifications and impulsive purchasing developed by Rigollet and Kumlin (2015) and based on structured interview techniques. The collected data were gathered under specific themes, analyzed, and interpreted using descriptive analysis.

2. Theoretical Background

This section presents the study's theoretical background. Initially, mobile push notifications are discussed from various perspectives, followed by explanations related to mobile impulsive buying.

2.1. Mobile Push Notifications

Given the current conditions where smartphones have become an indispensable part of daily life, mobile operating systems, which serve as the primary interface and medium of interaction for smartphone users, play a significant and determinative role. The "iOS" mobile operating system, developed primarily by Apple, and the "Android" mobile operating system, designed after the acquisition by Google,

hold a leading position in the market (Değerli et al., 2015, pp. 771-772). One of the fundamental functions of applications within mobile operating systems is the delivery of push notifications (Wohllebe et al., 2021: 35).

Push notifications, including those on iOS and Android mobile operating systems, are a feature that allows applications to send alerts to users through the Application Programming Interface (API). Each application within these devices can inform users by sending mobile notifications (da Silva and Vieira, 2018: 13).

At its simplest, mobile notifications entail the transmission of information or alert signals from a software application to a portable device carried by the user (Ticklye, 2014), aimed at immediately capturing the user's attention (Taylor, 2014; Rigollet and Kumlin, 2015; Göransson et al., 2016: 2). However, the process of sending and receiving push notifications is technologically complex. In simplified terms, a push notification is generated by a remote server on which the software application operates. Secondly, this server notifies the smartphone's notification server of the operating system. Finally, the notification server of the operating system transmits the notification received from the server on which the software application operates to the user's smartphone (Ticklye, 2014; Rigollet and Kumlin, 2015: 19-20).

Push notifications are among the fundamental features of mobile devices that instantly inform users about various activities, campaigns, individuals, promotions, news, or announcements on different topics. Notifications can appear to users in multiple forms, such as a brief visual context, silent text, generally audible alarm, or music signal (including, for example, the brand's jingle), or a combination of these (Church and Oliveira, 2013; Geyik, 2019: 29).

With push notifications, users can receive messages from programmed software directly on their smartphone screens. When an application sends a notification, it appears as an icon in the device's notification area (da Silva and Vieira, 2018: 13). Upon tapping on this message, the user can be instantly directed to the relevant mobile application and the parameter related to the notification message within the mobile application (Tiffany et al., 2020: 182552).

As a widely used technology that directly interacts with users (Bidargaddi, 2018), push notifications serve as crucial mechanisms for proactively communicating with users from the center of an application or website about various activities such as promotions, special sales, location-based offers, new services, special attention, or selected content. These notifications on the smartphone screen combine the power of short text messages, the attractiveness of images, and sensory richness. They aim to elicit an immediate behavioral response by targeting specific users based on their interests, past behaviors, or time of day, prompting the user to click/tap on the message to go to the sender's application/website (Voit et al., 2016; Gavilan and Martinez-Navarro, 2022: 233).

In marketing, push notifications function as a significant mobile marketing tool. In this context, push notifications are considered content sent to or on behalf of advertisers and marketers to a mobile device outside the subscriber's requested time (Unni and Harmon, 2007: 30). It has been found that push notifications not only enable reaching consumers in real-time at a low cost but also attract attention, trigger recall, provide contextually relevant content, and encourage engagement, thereby

increasing the sales of promoted products in the short and long term (Bellman et al., 2011; Bart et al., 2014; Taylor, 2014; Fang et al., 2015; Rigollet and Kumlin, 2015; Grewal et al., 2016; Shankar et al., 2016; Reinartz and Linzbach, 2018; Bies et al., 2021; Wohllebe et al., 2021; Daoud et al., 2023; Ibrahim et al., 2023).

Push notifications are not only about interacting with users for businesses but also a powerful tool to increase revenue by strategically leveraging positive impulses in consumer behavior (nGrow, 2024). The primary objective of push notifications is to direct users to a specific application by providing a reminder to open it. In a broader context, push notifications involve subtle nudges or incentives to guide users in a particular direction without coercion but motivationally. Businesses employ these notifications to create a win-win model by aligning them with consumer behaviors, encouraging users to take actions that will lead to rational or hedonic benefits for themselves, such as making a purchase, while also increasing revenue for the business. These notifications generally aim to achieve the following (nGrow, 2024):

- **Personalized recommendations:** Sending personalized push notifications containing product recommendations based on user preferences and browsing history to appeal to individual interests, pique curiosity, and potentially motivate purchases by generating more clicks.
- **Instant sales and special offers:** Triggering instant purchases by sending notifications about instant (time-limited) discounts or special offers, using scarcity tactics that evoke a sense of urgency created by limited-time deals.
- **Loyalty rewards and gamification:** Reward loyal customers with push notifications announcing special rewards or loyalty points, increase engagement, and encourage repeat purchases by incorporating gamification elements such as unlocking achievements or levels.
- **Referral incentives:** Encouraging users to refer friends and family by sending push notifications promising attractive incentives for successful referrals, expanding the customer base, and increasing revenue through new purchases.
- **Upgrades and cross-selling:** Encouraging users to explore more by sending targeted push notifications introducing complementary products or upgraded versions to those who have already purchased, potentially increasing spending.
- **Event-based interactions:** Celebrate special occasions like user anniversaries or birthdays with personalized push notifications and special offers. This thoughtful gesture fosters a connection with the user and triggers celebratory purchases.
- **Abandoned cart recovery:** Encouraging users to complete purchases by sending timely reminder notifications about abandoned products in their carts, even offering a limited-time discount for items left in the cart to increase conversion rates.

Businesses send push notifications containing various content to smartphone users where their applications are installed in different ways, at different times, and at different frequencies. Indeed, all of these are adjusted based on the business's strategy. However, these factors can undoubtedly influence the user and alter the nature of responses to push notifications.

2.1.1. The Content and Relevance of Notifications

In some cases, users may immediately take action upon receiving notifications on their devices, while others may ignore the notification. These actions depend on the relevance of the notification to the user, the level of interest generated by its content, and the user context (Sahami Shirazi et al., 2014; da Silva and Vieira, 2018: 13). Since the mobile phone is considered a personal device, the content of the received notifications should be tailored to the target audience (Barwise and Strong, 2002). Formulating reliable marketing notifications that provide quality arguments and rational appeal (the value of thoughts that can influence consumer attitudes) can lead to a positive attitude towards a notification compared to those that do not provide such content. Lack of relevance and consistency in the notification content may lead to adverse reactions from smartphone users. Therefore, the suitability, accuracy, timeliness, and usefulness of the information in the message delivered through push notifications are essential determinants of quality, and its appropriate use is crucial when leveraging mobile marketing (Drossos et al., 2013: 109; Rigollet and Kumlin, 2015: 24). As users typically glance through notifications quickly, designing them visually appealing and conveying their messages can increase interaction. Additionally, tailoring notifications to individual user preferences, past behaviors, and demographic information can significantly enhance their relevance (Drossos et al., 2013: 109; Rigollet and Kumlin, 2015: 24).

2.1.2. The Timing of Notifications

The user's choice between opening or dismissing push notifications can depend on situational factors. These include the user's interest in the notification's content, the intensity of smartphone activity (Saikia et al., 2017), and the user's perceived value of the notification's content (Gavilan and Martinez-Navarro, 2022). Therefore, as crucial as the number of push notifications received is the appropriate timing for their delivery to ensure uninterrupted and effective communication (Mehrotra et al., 2016).

For example, sending an instant notification to users just before a flash sale begins may influence the user to engage with the application by tapping on the notification. Other features of instant marketing through mobile phones, such as impulse-driven purchasing encouragement, suggest that delivering promotional, incentive-laden messages to users can increase willingness to purchase promoted products and effectively foster a positive attitude among consumers (Rigollet and Kumlin, 2015: 26). When notifications are sent at the right time, each instant notification can elicit a behavioral response and increase traffic to the business's website or usage of an application (Gavilan and Martinez-Navarro, 2022: 234).

2.1.3. Frequency of Notifications

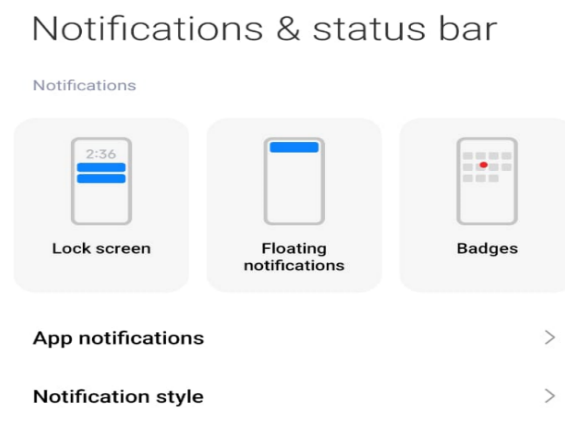
Acquiring new users is certainly a key goal for online retail businesses. However, maintaining and maximizing the value obtained from existing users is equally important. Applications aim to stay fresh in the consumer's memory and remind them of shopping through the notifications they provide (nGrow, 2024). However, on the other hand, users currently receive over 60 push notifications on average per day, which is significantly increasing (Pielot et al., 2018). Constant receipt of push notifications leads to competition for the user's attention in deciding which

notifications to interact with and which to dismiss by swiping (Aranda et al., 2016). Therefore, the number of push notifications received from a single store application by a user can alter their relationship with that application for better or worse (Gavilan and Martinez-Navarro, 2022: 234).

Consumers can quickly feel that their consent to receive mass marketing messages via smartphones is being overused, which can pose a significant obstacle to their acceptance of this strategy. Thus, despite the advantages of time and location provided by push notifications, among consumers who feel their privacy is being violated and are disturbed, it can lead to negative attitudes toward the brand sending the notifications (Bauer et al., 2005; Smutku et al., 2011). As push notifications are often perceived as intrusive and annoying and can potentially create negative attitudes towards the brand, careful consideration is required when leveraging them (Taylor, 2014; Sluis, 2014; Göransson et al., 2016: 6).

Users can control notifications on their mobile devices (Figure 1). Users can allow or block notifications from applications, adjust permission conditions for notification types, monitor notification history, postpone or archive notifications, regulate where and how notifications are displayed and whether they provide alerts, and adjust sound level, sound, and vibration settings (Google Support, 2024).

Figure 1. Adjustability of Mobile Push Notifications on an Android Smartphone



Source: Screenshot of author's Android mobile phone, Google

Although push notifications are created, designed, and evaluated by mobile marketing teams, the target audience themselves grants access permission to the primary system, as they are the ones who install the application on their devices. Additionally, the user manages the application, and user identity data is provided voluntarily by the user. Therefore, the receipt of push notifications is not possible if the user chooses not to download or install the application or if they do install the application but do not allow notifications. However, push notifications will typically be automatically sent to targeted users after installation, regardless of whether the application is actively running on the device. Hence, the primary goal of mobile marketers should be to persuade consumers to install the applications and enable notifications voluntarily (Liu et al., 2012; Geyik, 2019: 41). On the other hand, factors such as the appropriateness and relevance of the content, as well as the frequency and timing of notifications, which have been discussed above, are crucial factors that

should be carefully considered as they can influence users' attitudes towards notifications and, consequently, towards the application.

2.2. Mobile Impulsive Buying

Impulsive behavior denotes the tendency to engage in behaviors involving haste, lack of planning, or acting without thorough or careful consideration (Dawe et al., 2004; van Sprundel, 2020: 12). The inclination towards acting impulsively is associated with a personality trait linked to impulsivity, lack of planning, perseverance, or disregard for consequences (Lee et al., 2012; van Straten, 2019: 6). Acting on a sudden urge to purchase without prior intention or planning and without considering long-term consequences is impulsive buying behavior (Nyrhinen et al., 2024).

Impulse buying refers to making purchase decisions spontaneously, emotionally, or cognitively without prior thought or planning (Bosnjak et al., 2007: 428). In this context, the consumer makes a purchase not to address a pre-defined problem, need, or desire but somewhat out of a spontaneous emotional or cognitive reaction, exhibiting a willingness to buy that arises spontaneously (Piron, 1991, pp. 510-512). The purchase decision is made without information search or alternative evaluation (Parsad et al., 2017: 3) and with little deliberation (Beatty and Ferrell, 1998: 170), displaying characteristics of unguarded and non-selective consumer behavior (Rook, 1987: 191; Temel, 2021: 80). Impulsive buying through mobile devices and applications can be understood as purchase decisions made in response to situational stimuli, such as a sudden message, product, or service, triggered by emotional or cognitive responses generated by the situational stimulus without thinking or planning.

Many consumers using mobile devices for shopping often do not make shopping lists and instead focus on offers or discounts that can be tracked on mobile devices (Scarpi, 2012). This behavior naturally leads consumers using mobile devices for shopping to exhibit different psychological states, such as unplanned and spontaneous behaviors, which they cannot control, compared to their natural behavior of visiting online stores. These unplanned and spontaneous behaviors in using mobile devices by consumers can be termed mobile impulse buying behavior (Akram et al., 2018; Yıldırım and Bayraktar, 2021: 828).

In many mobile shopping scenarios, situational stimuli capture consumers' attention, elicit emotional responses, and trigger immediate purchase desires (Chan et al., 2017; Zheng et al., 2019). However, on the other hand, situational marketing stimuli aimed at mobilizing consumers via mobile devices, such as push notifications, can be considered unique forms of environmental cues compared to the atmospheric elements of stores or tangible marketing stimuli because they are relatively abstract compared to most interface products or price promotions (Zhang et al., 2022).

Promotional strategies using push notifications as a stimulus to influence consumers in stores are considered essential marketing tools in triggering consumers' evolving impulse buying tendencies. Such promotions are often classified as "price promotions" or "non-price promotions." While price promotions denote a temporary reduction in the price of a service or product or a benefit provided to the consumer in terms of price (Chen et al., 1998), non-price benefits aim to target consumers' motivations beyond monetary aspects. In this regard, the scarcity perception strategy,

for example, deliberately restricts an offer, a time frame, or other purchase conditions to convey to consumers that the availability of a product is limited (Aggarwal et al., 2011). Offers and unexpected promotions related to the purchase of specific products can influence consumers' shopping tendencies (Nusair et al., 2010; Aggarwal et al., 2011; Anugrah et al., 2023). Consumers' emotional responses to discounted prices make them feel happy and believe that they are making a wise decision, and this increased positive emotion can encourage them to make more purchases and spend more (Park and Noh, 2012; Chung et al., 2017). In other words, when a product is presented to consumers in a promotional manner, consumers can respond positively to it, increasing their impulse to purchase. Stores often aim to pressure and motivate consumers by limiting the availability or promotion period of a product, creating a sense of urgency in consumers and prompting them to make impulse purchases without much deliberation (Vaidyanathan and Aggarwal, 2003; Anugrah et al., 2023).

Consumers with impulsive buying tendencies often feel they cannot control the purchase tendencies and inherent behaviors induced by mobile marketing incentives while shopping in mobile stores (Wells et al., 2011). From the perspective of impulsive buying, consumers who engage in mobile shopping with such a tendency typically experience a spontaneous and unplanned desire to make purchases induced by the promotion of mobile shopping, such as personalized recommendations or visual appeal (Floh and Madlberger, 2013). Therefore, after stimulating situational factors related to mobile shopping, consumers' emotions will be aroused, followed by the generation of impulsive purchase intentions (Zhang et al., 2023: 666).

2.3. Main Motivation and Structure of the Research

Human cognition can potentially be altered by technological innovations emerging in the new media environment (Loh and Kanai, 2016). Smartphones have recently emerged as highly influential technological innovations in people's thoughts and behaviors. The underlying notion associating various aspects of smartphone usage with impulsivity fundamentally stems from users' thoughts being driven towards smartphone-related activities, originating from the instantaneous gratification desire as a significant feature of impulsivity (Białaszek et al., 2015; Wilmer et al., 2017). Push notifications, designed to attract attention on smartphones through visual, auditory, or tactile alerts (Iqbal and Bailey, 2010), potentially play a central role in prompting individuals to act with an immediate reflex. On the one hand, upon hearing push notifications, individuals may elicit a strong response in the reward-sensitive part of the brain, potentially stimulating the need for urgent gratification (van Leijenhorst et al., 2010), while on the other hand, having an inherently impulsive nature, leading individuals to mindlessly and habitually use smartphones without considering whether they should intervene in ongoing, more significant tasks after receiving a notification (Hatfield and Murphy, 2007) is evident (Kim, 2014). Given the potential impetus brought about by push notifications and the fact that impulsivity appears to be associated with widespread concerns related to smartphones (such as behaviors fostering addiction and habituation), examining the relationship between push notifications and impulsivity is crucial (van Straten, 2019: 6). Considering the widespread use of such notifications across various organizations, from news media to banks, accommodation, or health services, and the escalating competition among them to

deliver messages, understanding how smartphone users interact with push notifications and the opportunities and challenges they pose for brands becomes increasingly essential (Gavilan and Martinez-Navarro, 2022: 234).

On the other hand, from a marketing perspective, push notifications, when designed to create a sense of urgency or scarcity that could trigger impulsive purchase tendencies, have the potential to exploit the instantaneous gratification and reward-sensitive nature of human cognition to activate the urge for purchase and impulsive buying behavior (Rigollet and Kumlin, 2015; Tiffany et al., 2020; Anugrah et al., 2023; Rani and Rex, 2023). This potential situation can be addressed within the S-O-R (Stimulus-Organism-Response) paradigm, representing the mental process leading to purchase decisions (Campbell and Diamond, 1990; Dholakia, 2000; Dawson and Kim, 2009; Park and Noh, 2012; Kim and Johnson, 2016; Anugrah et al., 2023).

The S-O-R framework proposed by Mehrabian and Russell (1974) is one of the prominent models in environmental psychology. It describes a process where an external environmental factor (stimulus) influences the internal state of consumers (organism), leading to approach or avoidance behavior (response) (Chopdar and Balakrishnan, 2020: 2). Eroğlu et al. (2001) were the first to model the classic S-O-R paradigm in the context of online consumer behavior in e-commerce. Subsequently, studies have increasingly explored various aspects of consumer behavior in online purchase experiences within this paradigm (e.g., Floh and Madlberger, 2013; Greven and Pals, 2014; Amara, 2016; Chen and Yao, 2018; Barros et al., 2019; Roux and Maree, 2021; Temel, 2021; Zhang et al., 2022; Khosasih and Lisana, 2023; Phung et al., 2023; Temel, 2023; Zhang et al., 2023). Examples of studies investigating impulsive buying behavior in online environments within this model can also be found in the literature (e.g., Octavia, 2016; Chen and Yao, 2018; Ming et al., 2021; Temel, 2021; Temel and Armağan, 2022; Zhang and Jiang, 2022; Cuong, 2023; Phung et al., 2023; Zhang et al., 2022; Zhang et al., 2023; Cao et al., 2024; Febrilia et al., 2024). Therefore, to promote a comprehensive understanding of consumer impulsivity, it is essential to investigate and identify internal consumer characteristics and this structure's technological, external, and situational determinants (Chopdar and Balakrishnan, 2020: 2). In this regard, in the specificity of this research and line with the S-O-R model, it is possible to consider push notifications from mobile applications as stimuli that affect an organism, namely the recipient of the notification (user of the mobile device), leading to a response such as opening an application (Wohllebe et al., 2021; Woodworth, 2023).

Several significant justifications exist for adopting the S-O-R paradigm as a comprehensive framework to investigate the potential effects of situational stimuli such as push notifications on consumer impulsive buying behavior. Firstly, it is considered the most prominent theoretical framework for investigating impulsive buying in online environments in the last five years (Chopdar and Balakrishnan, 2020; Zhu et al., 2020). Secondly, this paradigm allows for integrating different external stimuli related to instant purchasing (website, marketing, and situational) into a comprehensive model. It enables exploring how situational stimuli influence consumers' responses, such as impulsive buying (Chan et al., 2017). Thirdly, this framework is suitable for investigating the mediating effects of emotional and cognitive reactions between stimuli, mental processes, and impulsive buying, similar to the mental structure of consumers (Zhang et al., 2022). However, it is observed that

studies adopting such an approach and specifically linking consumers' responses to push notifications with impulsive buying tendencies have a significant limitation in the literature. Therefore, approaching the subject within the context of qualitative research, which can provide in-depth insights, has unique value and potential to contribute significantly to the literature.

In light of all this information, the primary purpose of this study is to determine consumers' attitudes toward mobile push notifications and their tendency toward impulsive purchasing behavior caused by these push notifications. The study aims to provide insights into these two research variables through qualitative interviews and thus contribute to both online shopping practice and mobile marketing, focusing on marketing literature focused on online shopping.

3. Research Method

This section covers the research methodology used, describes the primary data collection approach, provides details about the structured tool used to gather participant data, explains participant information, including sample size and data collection procedures, outlines data analysis methods employed to derive insights, and discusses ethical guidelines followed during the research process.

3.1. Research Type

This research corresponds to the qualitative (or qualitative) research method, which aims to realistically and comprehensively identify thoughts, perceptions, or views related to a particular situation, event, or variable in its natural environment (Yıldırım and Şimşek, 2008: 39). A qualitative approach aims to explore a broader area related to the topic at hand and gain a deeper understanding of the dimensions of the social world. By employing this approach, participants' thoughts, opinions, perceptions, and interpretations are freely obtained, enabling exploratory and interpretive observation of the subject matter and thus facilitating the acquisition of profound insight and understanding (Mason, 2002; Bryman and Bell, 2011; Rigollet and Kumlin, 2015: 30).

3.2. Data Collection Method

The research does not have a longitudinal aspect with a defined time frame; it is cross-sectional. In this context, the study is based on collecting cross-sectional data at a specific time, relying on the structured interview technique. Interviews represent the primary method for uncovering the internal emotions of a research subject. Simultaneously, they are a distinct tool for understanding participants' underlying desires and behavioral tendencies regarding particular subjects (Chitra and Malarvizhi, 2018). The structured interview technique is a systematic data collection method where various predetermined questions with a structural nature are asked to each participant in the same manner and order during each interview. While the questions are structured, the aim is to obtain participants' thoughts and opinions freely, openly, and honestly (Balaban Salı, 2018: 147). In this framework, efforts have been made to allow participants to express their opinions in a structured manner using a

data collection tool appropriate to the research's purpose and to comfortably and freely share their experiences and thoughts as much as possible.

3.3. Data Collection Tool

The interview questions used as the data collection tool in the research are adapted from qualitative interview questions developed by Rigollet and Kumlin (2015) based on established literature on push notifications and impulsive buying. The questions in the data collection tool range from introductory questions aimed at putting participants at ease to specific questions based on a structured approach to enable participants to express their views on push notifications on mobile phones and impulsive buying behavior as freely as possible, in line with the research's objectives (Rigollet and Kumlin, 2015).

The study was built upon applying the study conducted by Rigollet and Kumlin (2015) in Sweden to the Turkish sample. The original study was conducted in the socio-cultural context of Scandinavia and Europe. The most significant difference between this current study and the study of Rigollet and Kumlin is that it was implemented in a different cultural context. In this respect, the study reflects an example of Turkish culture. Since Turkey has a distinct cultural and social structure than Sweden, it was thought that repeating this study in Turkey would provide an opportunity to test the extent to which the findings are valid in another cultural context. On the other hand, the study used a short version of the questionnaire developed by Rigollet and Kumlin. The aim here is to increase the general applicability of the questionnaire in an article format, to improve the motivation of the respondents to participate, and to obtain to-the-point answers that can provide more insights into the questions. In addition, the original study from which the questions were borrowed was conducted as semi-structured focus groups. In this study, these questions were presented according to the structured interview method. Contrary to the group or situation-specific feature of focus group interviews, it was thought that the data obtained from structured interviews in this study, which has an adaptive feature, could contribute to obtaining generalizable results that can be applied to a broader sample.

While adhering to the principle of staying true to the original questions in the adaptation to the Turkish language, efforts have been made to simplify the questions to a level understandable by participants, considering linguistic and cultural differences. The final version of the questions was determined by consulting marketing experts and academics proficient in English.

Although the original study had a higher number of questions, some questions from the original study were not included in this research tool. This decision was made to accomplish a practical interview session and prevent the length/time cost of the data collection process from negatively affecting participants, especially considering the possibility of boredom towards the end of the interviews. Ultimately, the number and distribution of questions in the data collection tool used in the research are as follows:

- Demographic questions (5 questions)
- General consumer attitude questions at the introduction (preparation) stage (3 questions)

- Structural questions on mobile marketing and push notifications (6 questions)
- Structural questions on impulsive buying (6 questions)

3.4. Study Group (Sample) and Data Collection Process

In qualitative research, the universe refers to communities, social groups, or a wide range of events and phenomena that encompass the phenomena the researcher examines or investigates. The universe in qualitative research is essentially the groups the researcher believes will best reflect or provide information on the phenomenon they are studying (Baltacı, 2018: 234). Therefore, in this research, the universe consists of all consumers residing in Turkey, aged 18 and above, who engage in online shopping and use smartphones, which aligns with the research questions and objectives.

Before starting the final data collection, a pilot application was conducted with 5 participants to gain insight into issues such as the understandability of expressions adapted from a foreign language and the adequacy of measuring what is intended to be measured.

Pilot studies play an essential role in research. Pilot studies, which can be conducted in quantitative, qualitative, and mixed-method research, evaluate the effectiveness of data collection and analysis methods. It prepares the researcher for unexpected problems before entering the field (Shakir and Ur Rahman, 2022: 1620). The primary purpose of conducting a pilot study is to increase the research's quality, methodological rigor, validity, and reliability by identifying the need to change questions or other procedures that do not elicit appropriate responses or do not provide researchers with rich data. Therefore, a pilot study is seen as an essential part of a research design (van Teijlingen and Hundley, 2001; Gudmundsdottir and Brock-Utne, 2010; Kim, 2010; Malmqvist et al., 2019: 3).

The pilot study was carried out for these purposes, did not lead to any revisions, and provided appropriate results for the study's conduct. Since no negative situations were observed in the questions during this application, the final data collection process was started, and the data obtained from the pilot test application was also included in the research data.

Due to the nature of qualitative research, ensuring diversity among participants is vital to enable broader generalization and increase representativeness (Papathanassis and Knolle, 2011). In this context, the purposive sampling method was adopted during the research process, and participants were selected based on various demographic factors such as gender, age group, and other social demographic factors, aiming to represent individuals from different segments of society inclusively. Thus, the aim was to prevent clustering in a particular direction by selecting consumers with similar characteristics in this manner. Again, due to the qualitative nature of the study, interviews were chosen not through probability sampling methods but through thoughtful consideration and convenience. In this direction, purposive sampling is a method used to include participants likely to provide relevant and valuable data for the research (Kelly, 2010: 317). In this method, specific samples from a particular part of the population, believed to provide the best estimate of the population parameter of interest, are purposefully selected (Guarte and Barrios, 2006: 278). The inclusion criteria for participation in the research were being a resident

of Turkey, aged 18 and above, engaging in online shopping, using a smartphone, and voluntarily consenting to participate. Individuals who did not meet these criteria were excluded from the scope of the study.

In qualitative research, unlike quantitative research methods, it is not possible to specify a specific number for the sample size determination. This situation may vary depending on each research's characteristics, objectives, and content. Still, the fundamental criterion for determining the optimal sample size is the point at which data saturation is reached, leading to a cycle of repetition. After a certain point, the data, i.e., opinions, thoughts, and interpretations, will repeat themselves. New participants will present data similar, alike, or identical to what previous ones have provided (Morgan and Morgan, 2008). At this stage, the data collection process should be terminated, and the sample size should be fixed when saturation is observed (Onwuegbuzie and Collins, 2007; Baltacı, 2018: 262). Based on this information, it was understood that in the research data collection process, when conversations and observations became repetitive and new interviews would no longer reveal new ideas and perspectives on the subject, data saturation was reached, and the data collection process was concluded. In this context, qualitative data were obtained from 17 voluntary participants. Managing the process to accommodate the schedules of all participants proved to be quite cumbersome; however, the data collection process was completed within the timeframe from early March to early April 2024, respecting the availability of participants. The characteristics of the participants included in the study are shown in Table 1.

Table 1. Characteristics of the Sample

Participant	Gender	Age	Education Level	Occupation	Marital Status
1	Male	38	PhD	Freelancer	Single
2	Male	44	PhD	Academic	Single
3	Male	41	Master's	Industrial Engineer	Single
4	Female	19	Bachelor's	Student	Single
5	Female	50	Master's	Academic	Married
6	Male	39	Bachelor's	Public Servant	Married
7	Female	37	Bachelor's	Bank Manager	Married
8	Female	51	High School	Homemaker	Married
9	Male	20	Bachelor's	Student	Single
10	Female	28	Bachelor's	Social Worker	Single
11	Male	33	Bachelor's	Accounting Specialist	Single
12	Female	41	Master's	Flight Attendant	Married
13	Male	60	High School	Entrepreneur	Married
14	Female	44	Bachelor's	Teacher	Married
15	Male	31	Master's	Psychologist	Single
16	Male	29	Bachelor's	Nurse	Single
17	Female	30	Master's	Real Estate Appraiser	Single

Face-to-face interviews with participants were conducted using Rigollet and Kumlin's (2015) items in two scopes: the "preparation and briefing stage" and the "question-answer stage." Initially, participants were briefed about the purpose of the research and provided with a brief introduction to the topic, obtaining their voluntary consent to participate. To facilitate participants' mental states and to relax them for an in-depth understanding, it was clarified that there were no right or wrong answers to the questions conveyed during the interview, emphasizing that the interview was not a test but aimed to encourage participants to express their views, emotions, and thoughts freely, naturally, and sincerely. Participants were prepared for the interview, and to understand their demographic characteristics, preliminary questions independent of structural questions were directed. In the question-answer part of the interview, adherence to structured questions was maintained. In an environment where the researcher had no intervention or manipulation, efforts were made to obtain as broad verbal responses as possible from the participants. In order not to create geographical limitations and to diversify the participant profile, interviews were conducted online, with participants being informed that they would only be used for scientific analysis, and with their permission, the interviews were recorded. Each interview lasted an average of 40 minutes. The responses provided by the participants during the interviews were recorded in order, transcribed into writing, and prepared for analysis.

3.5. Data Analysis Method

Following the interviews, the data was analyzed using specific themes within the framework of the descriptive analysis method. This method involves the stages of description, classification, and correlation in data analysis. The data obtained through content analysis is attempted to be identified; data found to be similar and related to each other are grouped under specific themes (categories) formed around shared ideas and interpreted (Karataş, 2015: 70). The researcher categorizes the themes emerging through an inductive approach based on the data obtained and makes various interpretations by examining them within the context of these themes (Özdemir, 2010: 330). Thus, the researcher can present findings and relationships that are identified conceptually through coding and classification but may not be initially apparent and evaluate the studied phenomenon (Saruhan and Özdemirci, 2013: 335). The obtained data were grouped under specific themes based on keywords and recurring observations within this framework. Accordingly, the emerging themes and the questions asked (questions are given in the order they were asked to the participants) are presented in Table 2.

Table 2. Themes and Questions of the Research

Variable	Question Asked
Preparatory Questions Regarding General Consumer Attitude	
Mobile Marketing and Push notifications	1. What are your general reactions/thoughts/attitudes when you receive push notifications from online shopping apps on your mobile phone? (General Attitude)
	2. What type of notifications from online shopping apps do you perceive positively? What factors create positive interest/response for you? (Content)
	3. What type of notifications do you perceive negatively? What factors create a negative attitude/response for you? (Content)
	4. How do notifications from online shopping apps affect your perspective on the app, whether you continue receiving or blocking notifications from the app? (Content)
	5. How many times a day do you find receiving notifications from an app acceptable? (Frequency)
	6. What do you think about receiving notifications from an app too frequently? Does it have any impact on your perception of the product/app? (Frequency)
Impulsive Buying	1. What factors lead you to want to visit the app to examine the notification in more detail? What would make you go to the app? (Content)
	2. How does the content of the notification, such as advantage coupons, promotions, deals, and time-limited discounts, affect your buying attitude? For example, does it increase your likelihood of making a purchase? (Incentive)
	3. If they contain incentives, are you more likely to tolerate and continue receiving numerous push notifications? (Incentive)
	4. What type of incentive-driven notifications attracts you to go to the app and make a purchase immediately? (Content)
	5. When are you more interested in notifications, and when do you simply close or ignore them? (Timing)
	6. For example, do incentive-driven push notifications trigger you to purchase when you have free time or are bored? Does it increase your likelihood of making a purchase? (Timing)

Based on the study of Rigollet and Kumlin (2015)

Based on the participants' responses, research findings were presented according to emerging themes, and evaluations were made.

Before gathering information from participants, a consent process was followed where participants could understand the purpose, process, and how the results would be utilized. Participants who voluntarily consented, expressing their consent and decisions, were included in the process.

Furthermore, ensuring the protection and security of participants' personal information throughout the research process is critical in research ethics. Therefore, an approach to preserving the confidentiality and anonymity of participants was adopted. To achieve this, although demographic information was requested to identify the study group, no personal information such as full name was requested. While the demographic profile of the study group was presented in the research, participant numbers were provided instead of their real names in the data

presentation. This practice was adopted to ensure the confidentiality of participants' identities and to protect their privacy, thus preventing them from refraining from participating in the research. There was no intervention or direction from the researcher during the data collection process. A neutral approach was followed in the analysis and presentation of the data. Neither the researchers nor the participants have any connection with any third party that could influence the research or lead to a conflict of interest.

4. Findings

In this section, the findings obtained from the analysis of qualitative research data are presented.

4.1. General Attitude Toward Push Notifications

General consumer attitudes towards push notifications from online shopping applications vary depending on the content of the notifications and personal preferences. However, when the responses are generally considered, it is evident that notifications delivered with correct timing and engaging content receive positive reactions, while automated or repetitive notifications tend to create annoyance.

"Notifications usually catch my attention, but automated or repetitive ones are generally bothersome. I am drawn to different and personalized notifications and usually check them."

"My reactions vary depending on the content and frequency of push notifications. I appreciate notifications with timely and engaging content, but too many or irrelevant notifications can be annoying."

"I also pay attention to whether the content of the notifications aligns with my personal preferences."

"I find useful notifications helpful, but unnecessary ones can be bothersome."

"Sometimes the same notification is sent repeatedly; I close or delete it. So, at least, I review the notification, even if I don't click on it."

As indicated by the participants, the findings suggest that personalized and engaging notifications attract users' attention and elicit positive responses. It is also evident that automated or repetitive notifications generally cause discomfort and negatively impact the user experience.

4.2. Content of Push Notifications

In terms of content, it is observed that participants perceive notifications from online shopping applications positively when they are personalized and include special offers or opportunities relevant to them. Additionally, informative and useful content, such as updates on product price drops, shipping statuses, and favorite product updates, also elicits positive reactions. Users particularly appreciate personalized notifications tailored to their preferences and shopping history, which tend to capture their attention and enhance their shopping experience. Notifications

informing users about discounts and special promotions also attract their interest and encourage them to purchase.

"I may find notifications useful if they are about what I need or am interested in..."

"I generally perceive the notifications related to discounts positively..."

"I don't follow them closely, but if it's a product I've been chasing or wanting for a long time, I respond positively to notifications about it..."

"Notifications about rare special discounts or informative notifications about products I am really interested in can be positively received..."

"Notifications sent based on my interests and past purchase history are more likely to catch my interest..."

"...for example, if it informs me that the price of a product I have added to my favorites has dropped, or if it informs me about an important promotion or campaign, I may respond positively to this notification."

"Notifications about price changes of products I follow are important to me. I also always keep push notifications about the status of shipment."

Participants generally perceive non-personalized and constantly repetitive notifications from shopping applications as unnecessary or spam. Such notifications negatively affect the user experience and may lead users to abandon the application.

"Sometimes, I receive notifications that are irrelevant to my shopping preferences. Because of these, I think about closing notifications."

"It also irritates me when the same notification is sent repeatedly."

"Receiving constant notifications about products in irrelevant categories can distract me from the application. It should know my shopping preferences by now."

"...there is no point in sending the same notification over and over again..."

"If they keep sending the same things constantly, then it becomes a problem."

"Notifications seem unnecessary about topics outside my interests and needs."

Overall, participants' attitudes towards notifications from applications depend on factors such as the content, whether they are personalized or not, the frequency, and the degree of relevance. Personal preferences, potential benefits, and reliability are key factors determining participants' decisions to keep or dismiss notifications.

"I want to see price changes of products I am considering buying or have previously purchased immediately. Or I need to be able to see where my package is instantly. That's why I don't turn off notifications."

"I keep applications' notifications on if they are sent to me personally and if they are correct notifications and not sent in large numbers."

"But when they send me the same notifications a hundred times, when I don't find the content when I go to the application, that is, when it's actually fake guidance,

I observe for a while. If they continue with the same things, I turn off their notifications, I block them."

"Instances like irrelevant products, clickbait content, or asking for personal information may also lead me to block notifications."

"Notifications should be personalized, tailored to my shopping habits and interests."

"Constant and irrelevant notifications may trigger me to delete the application or block notifications."

4.3. Frequency of Push Notifications

According to the responses obtained, participants generally consider an acceptable number of daily notifications to be limited to a few times. Participants typically prefer to receive notifications once or, at most, a few times. However, the content and authenticity of these notifications play a significant role. Notifications about relevant, targeted, and genuine opportunities are generally acceptable, while unnecessary, frequent, or fake notifications can be bothersome. Therefore, the content and frequency of notifications emerge as critical factors determining the acceptability thresholds for participants.

"If an application sends me three targeted, useful notifications, it's enough for me. It shouldn't send any when it's not needed."

"Three to four notifications maximum could be acceptable."

"If it's effective, real, and targeted, I have no problem with getting them a few times a day, but when it's excessive, people naturally get annoyed."

"Receiving notifications once or twice a day is acceptable to me."

"Generally, receiving notifications a few times daily is ideal for me. This way, I see the important things but don't feel disturbed."

According to the responses obtained, receiving notifications too frequently generally leads to a negative experience and can negatively affect the perception of the product/application. Participants mention that constantly receiving notifications is annoying, causing them to become disinterested in the application and even consider turning off notifications or removing the application from their phone. Being bombarded with constant notifications can cause users to lose interest and distance themselves from the application. This indicates that both the content and frequency of notifications significantly impact the user experience.

"The less frequently notifications come, the more attention they will attract from me. If an application sends too many notifications, I start to dislike the product."

"If an application sends too many notifications, it means it's sending empty notifications. The content is empty, aimless."

"If an application sends too many notifications, I block its notifications, and there have been times when I got so annoyed that I removed the application."

"Receiving too many notifications can negatively affect my perception of the product/application. I might consider turning off notifications, and often I do."

"When an application constantly sends notifications, it feels like it's suffocating you. It's the same for me. Especially when notifications keep coming constantly, I start to ignore them."

"Persistent notifications are like a nightmare."

4.4. Content of Offers

According to the responses, various factors led to the desire to examine push notifications from online store applications in detail. One of these factors is the desire not to miss out on short-term discounts or special product offers. Notifications containing special discounts or offers related to categories or products the user is interested in are also considered intriguing. The desire to visit the application arises when notifications are correct, attention-grabbing, and beneficial.

"I check the details of such notifications because I don't want to miss out on short-term instant discounts on products or because I'm curious about where my shipment is."

"A notification about a product that interests me, a special offer or discount notification, a limited or time-based discount notification, additional advantages such as free shipping or gifts..."

"If I am planning to purchase a product, notifications related to that product attract my attention more. Special notifications such as product recommendations based on my past searches or purchases, birthday discounts, or shipment tracking information certainly keep me engaged."

"If there is a product I have been interested in for a long time or if there is a special discount in the notification, then I am directed to the application."

"Sometimes, when a product I'm following is out of stock or has a significant discount, I contemplate purchasing it. Most of the time, I end up buying, I guess."

"For me, notifications about price drops of favorite products I've followed and notifications about coupons created specifically for me lead to purchases."

"Sometimes there are some coupons that come as special offers, and they are good."

4.5. Incentives

According to the responses obtained from participants, factors influencing users' purchasing attitudes include encouraging content such as discount coupons, campaigns, offers, or limited-time discounts, offers or discounts related to products that the user is individually interested in, urgency expressions in notifications, or information about limited stock. It is possible to infer that notifications containing significant promotions, such as high-level discounts or information creating a scarcity perception when stock runs out, are attractive to some participants. Such notifications can guide users to the application and motivate them to purchase.

"If a product I like is about to go out of stock or if there is a high-level discount..."

"I don't want to miss the chance to buy a product at a lower price or with a special offer."

"Usually, if there is a significant discount on a product or a campaign for a limited time, it directs me to the application."

"For example, when I see a message like 'Only today, 70% discount!' I immediately become curious and open it."

"Very high discounts, for example, notifications containing discounts of 50% or more, can be more effective."

"Sometimes, when a product I'm following is out of stock or has a significant discount, I contemplate purchasing it. Most of the time, I end up buying, I guess."

"When I see discount coupons, campaigns, or limited-time discounts in notifications, I feel excited because such opportunities really appeal to people."

"Sometimes I just think, 'Wow, this opportunity shouldn't be missed!' and I want to buy that product right away."

4.6. Timing

Analysis reveals that certain aspects of the timing of notifications are apparent. Generally, participants' responses to notifications vary depending on factors such as time and workload. There is more interest during leisure time or when receiving incentivized shopping notifications. However, notifications received during busy or inappropriate times often annoy and are ignored.

"I usually skip notifications when I'm swamped."

"Even if a notification has been sent to me effectively during office hours, I don't have time to check it, so I ignore it and close it during working hours."

"Inappropriate notifications bother me (for example, during sleeping hours or when I'm busy). For instance, if I'm reading a book and a notification sound comes from my phone, I won't check it at that moment; if it's not appealing, I'll swipe it away."

"I don't usually check during the day... I can't see it all day if I'm in class."

"I'm more inclined to shop in the evenings or on weekends when my workload is lighter."

"I can check notifications more during the evenings or weekends when my workload is reduced."

"Notifications received during busy work hours or late at night can be annoying."

Based on participants' views, receiving incentivized push notifications during personal leisure time or when feeling bored could influence purchase decisions.

"I pay more attention to notifications that come when I'm free or bored."

"If promotions are particularly high when I have free time or when I'm bored, and if they are correct, push notifications can trigger me to purchase."

“When I’m bored, exploring new products and shopping entertains me.”

“In such moments, I may want to treat myself to a small gift or seize the opportunity to find a product I really need while it’s on sale.”

“I think we can colorize our boring time by buying something.”

Based on all these findings, it is clear that adequately handled push notifications from online shopping applications can influence consumers’ purchase decisions and determine their shopping attitudes.

5. Conclusion

This study aimed to determine consumers’ attitudes toward instant notifications and their impact on impulsive buying behavior. Data were obtained from 17 participants through qualitative interviews conducted using a qualitative research approach and evaluated using a descriptive analysis framework. The findings from the analyses indicate that factors such as the content, level of personalization, and frequency of notifications determine users’ attitudes toward them.

Firstly, personalized and engaging notifications were found to capture users’ attention and receive positive responses. Customized notifications tailored to users’ shopping preferences and histories were incredibly positively received. However, automatic or repetitive notifications often annoy and negatively affect the user experience.

Secondly, the content of notifications plays a significant role. Users generally appreciate informative content such as price drops or shipping status notifications. However, irrelevant or unnecessary notifications were found to bother users and could even lead them to abandon the application.

Lastly, the timing of notifications is also crucial. Users typically show more interest in notifications during their free time or when receiving incentivized shopping notifications, while notifications received during busy or inappropriate times could cause annoyance and be ignored. Therefore, sending notifications at the right time is essential to attract users’ interest.

Overall, based on the findings of this study, it is evident that properly designed instant notifications from online shopping applications can influence consumers’ purchase decisions, lead to impulsive purchases, and ultimately shape users’ shopping attitudes. Considering the study results, firstly, factors triggering users’ desire to review notifications typically include short-term discounts, special offers, and advantages related to their interests. Well-crafted, attention-grabbing, and beneficial notifications increase users’ willingness to visit the application, especially notifications featuring high discounts or stock information, creating a sense of urgency.

Secondly, incentivizing content tends to increase users’ purchase intentions. Elements such as advantage coupons, campaigns, time-limited discounts, and special offers can motivate users to shop. Notifications containing high discount rates or extra benefits appeal and can influence purchase decisions.

Lastly, the timing of notifications is significant. Users generally prefer to receive notifications several times a day. However, receiving notifications too frequently or excessively can negatively impact the user experience and lead to disengagement.

In conclusion, online shopping applications can influence consumers' purchase decisions and enhance their shopping experiences. However, providing the right content and timing is essential while considering users' preferences and needs. In this way, user satisfaction can increase, and purchase conversions can be encouraged.

The findings and evaluations obtained from this qualitative research, which explored consumers' experiences with instant smartphone notifications in the context of online shopping platforms, shed light on some insights into these platforms' marketing strategies.

These findings emphasize the importance of notification strategies in mobile shopping applications. Personalized, engaging, and informative content should be provided to capture users' attention and elicit positive responses. Additionally, the frequency of notifications should be carefully managed, as it can significantly impact the user experience.

5.1. Theoretical and Practical Implications

Within the scope of qualitative research, this study can contribute to the literature through its findings and conclusions, particularly in the relationship between push notifications and impulsive buying behavior. The study provides insights into how consciously designed push notifications on mobile phones—considering aspects such as timing, frequency, and content—act as triggering factors that shape consumers' impulsive buying behaviors at the intersection of technology and consumer behavior. The analyses, which delve into consumers' emotional and cognitive responses to real-time notifications, reveal how push notifications can act as triggers for some consumers. In contrast, for others, they may generate resistance or adverse reactions.

The findings from this study suggest the potential to create personalized and targeted notifications to attract users' interest and provide them with a more valuable experience. Delivering personalized notifications tailored to users' shopping preferences and histories is crucial for attracting users' interest and eliciting positive responses. Notification content should be designed to appeal to users' interests.

It is important to avoid sending notifications too frequently or excessively. Users generally prefer to receive notifications a few times daily, which should be sent at this frequency. Excessive notifications can drive users away from the application rather than persuade them to purchase. The units responsible for this area within businesses should not overlook this risk. Attention should be paid to user feedback and behavior to ensure that notifications do not negatively affect the user experience. Annoying or unnecessary notifications should be avoided.

Ultimately, applications can track users' movements, interests, and active times. Organizing notifications and taking these into account can provide a significant advantage in making notification strategies more effective.

Indeed, when smartphone instant notifications are strategically designed as positive incentives, they can become a revenue-generating powerhouse for businesses. By adapting to consumer behavior and leveraging the art of persuasion, companies can create a seamless and enjoyable experience that encourages users to take mutually beneficial actions (nGrow, 2024). However, applications can fall into the trap of sending broad notifications with extensive messaging and weak segmentation to all users. The situation can worsen when combined with poor timing and unspecific general messages. This lack of personalization can result in notifications not resonating with individual users. As a result, these notifications may be ignored or lead users to opt out of receiving them (nGrow, 2024). On the other hand, some developers may send excessive instant notifications to attract user attention. However, bombarding users with notifications can have the opposite effect, causing user fatigue and disappointment, potentially leading to users restricting notifications.

As Gavilan and Martinez-Navarro (2022) emphasized, the user experience design with instant notifications is a tactical decision focused on current content and a strategic method to add value to the user and thus increase brand loyalty. However, inappropriate timing of message delivery, perceived lack of value in content, or inappropriate content, the risk of mismanagement arising from lack of personalization or excessive message frequency can make instant notifications intrusive, annoying, and unwanted, potentially resulting in a negative impact instead of a positive one.

Instant notifications largely depend on user acceptance. Otherwise, the opportunity to provide value to consumers through messages segmented according to their interests, times, and places will disappear. Therefore, instant notification strategies should be designed to deliver content that attracts users' interest, is offered at the right time when the user is most likely to interact, and is designed with a frequency based on user preferences and behaviors.

The critical point in instant notifications is to be compelling, attention-grabbing, and motivating. A notification that does not prompt the consumer to take action does not contribute to the success of the shopping process for both parties.

On the other hand, users need to be aware of the risk of limiting instant notifications in the algorithms developed by online shopping platforms within their developed applications. Because restricting notifications can quickly be done by the user by long pressing or sliding the notification settings, although the application is installed on the user's phone, the user may not receive notifications. In this way, the application may become inactive unless the user voluntarily enters it.

In addition to all this, as highlighted by Geyik (2019), since businesses need to continue repeating mobile campaigns or promotions through instant notifications, i.e., it is a continuous marketing action, evaluating instant notification applications is as crucial as the strategic move itself. In this regard, feedback on notifications, monitoring, analyzing, and adapting consumer reactions and behaviors can be essential.

5.2. Limitations and Future Directions

As with any research, it is possible to identify certain limitations in this study. Firstly, this research was conducted based on qualitative research methodology. Due

to the nature and size of the samples in qualitative studies, the findings obtained from such studies can often be specific to the study. However, they can provide valuable insights that can further develop the concept of consumer behavior and the topic under investigation (Schiffman and Kanuk, 2004; Rigollet and Kumlin, 2015). In this context, it is necessary to consider that the findings obtained from this research are based on qualitative research methodology, and the evaluations made based on these findings are limited to the data received from the study group; therefore, they should be approached within this framework.

Qualitative research allows different interpretations of each study's sample and results in various contexts. Therefore, findings from research conducted at other times, in different contexts, and with different samples on this topic can provide significant contributions to reviewing or supporting insights provided on the subject. Additionally, results obtained through quantitative or mixed quantitative-qualitative methods can also be valuable in this regard.

On the other hand, the study evaluated findings based on a sample representing a single country example. Due to the nature of the study, the push notifications it addressed, strategies developed by online shopping platforms for these notifications and promotions, policies, and implemented practices may vary from country to country. Therefore, it is essential to take this into account. Furthermore, cultural differences arising from geographical variations, shopping habits, phone usage habits, and factors such as consumer characteristics can influence the research results. For example, while some consumers may show significant susceptibility in the context of the variables addressed in this research due to their characteristics, others may be in the opposite situation. All these points are some minor details that inspire further research. In this context, research conducted in different countries and with other samples in the future can provide significant contributions.

From the perspective of business management and, more specifically, marketing discipline, it can be said that future studies aimed at understanding various aspects of consumers' experiences with instant notifications, bringing a new perspective to existing knowledge, and providing various insights on this topic have significant potential to contribute to marketers in terms of the proactive use of this marketing tool and to the established literature in terms of the theoretical development of the subject.

Research and Publication Ethics Statement

The authors declare that ethical rules are followed in all preparation processes of this study. In case of detection of a contrary situation, Journal of Commercial Sciences has no responsibility and all responsibility belongs to the authors of the study. This study does not require ethics committee approval.

Araştırma ve Yayın Etiği Beyanı

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