

Research Article / Araştırma Makalesi

**CLICK, LEAVE, COME BACK:  
THE IMPACT OF PSYCHOLOGICAL TRIGGERS ON ONLINE CART  
ABANDONMENT AND RETURN BEHAVIOR**

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**ABSTRACT**

*This study examined the effects of psychological triggers such as perceived value, risk, price unfairness, transaction inconvenience, emotional ambivalence and hesitation at check-out on online shopping cart abandonment behavior and the Zeigarnik effect on the online purchasing behavior. The Zeigarnik effect is a phenomenon that strengthens purchasing motivation by increasing the retention of incomplete tasks in the mind. The model developed on the basis of S-O-R theory has revealed the complexity of psychological factors in consumer decision-making process. The findings show that psychological triggers have significant effects on online shopping cart abandonment behavior. In addition, the findings indicate that the Zeigarnik effect enhances consumers' purchase motivation by increasing the mental salience of incomplete shopping experiences, thereby playing a moderating role in the relationship between cart abandonment and the online purchasing process. These results provide important theoretical and practical contributions in understanding consumer behavior in online shopping and developing effective marketing strategies.*

**Keywords:** Psychological Triggers, Online Shopping Cart Abandonment, Zeigarnik, Online Buying Behavior

**JEL Classification:** D91, M31

**TIKLAYIN, BIRAKIN, TEKRAR GELİN:  
PSİKOLOJİK TETİKLEYİCİLERİN ÇEVİRİM İÇİ ALIŞVERİŞ SEPETİ  
TERK ETME VE GERİ DÖNÜŞ DAVRANIŞINA ETKİSİ**

**ÖZET**

*Bu çalışma, algılanan değer, risk, fiyat adaletsizliği, işlem zorluğu, duygusal kararsızlık ve ödeme tereddüdü gibi psikolojik tetikleyicilerin çevrim içi alışveriş sepetini terk etme davranışına ve Zeigarnik etkisinin çevrim içi satın alma davranışına etkilerini incelemiştir. Zeigarnik etkisi, tamamlanmamış görevlerin zihinde kalıcılığını artırarak satın alma motivasyonunu güçlendiren bir fenomendir. S-O-R teorisi temelinde geliştirilen model, psikolojik faktörlerin tüketici karar mekanizmalarındaki karmaşıklığını ortaya koymuştur. Bulgular, psikolojik tetikleyicilerin çevrim içi alışveriş sepetini terk etme davranışı üzerinde anlamlı etkilerinin olduğunu göstermektedir. Buna ek olarak bulgular, Zeigarnik*

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*etkisinin tamamlanmamış alışverişlerin tüketici zihninde kalıcılığını sağlayarak satın alma motivasyonunu güçlendirdiğini ve sepet terk etme ve çevrim içi satın alma sürecinde düzenleyici bir rol oynadığını ortaya koymaktadır. Bu bulgular, çevrim içi alışveriş bağlamında tüketici davranışlarını daha iyi kavramaya ve etkili pazarlama stratejilerinin oluşturulmasına yönelik hem teorik hem de pratik düzeyde anlamlı katkılar sağlamaktadır.*

**Anahtar Kelimeler:** Psikolojik Tetikleyiciler, Çevrim İçi Alışveriş Sepeti Terk Etme, Zeigarnik, Çevrim İçi Satın Alma Davranışı

**JEL Sınıflandırması:** D91, M31

## 1. Introduction

The rapid development of e-commerce has deeply affected the consumer purchasing process and behavioral dynamics. Online shopping allows shopping at any desired place and time, as well as examining and comparing alternative products, prices, features, quality and comments. While online shopping offers advantages such as users being able to easily compare products and have instant access, it also brings with it various difficulties. Shopping cart abandonment stands out as one of the most important problems of e-commerce today. Consumers may have difficulty in making decisions due to the uncertainties and emotional conflicts they experience during shopping. Consumers compare the benefits and prices of the products or services they will purchase to form a general value about the product. In this context, the value provided by the product is associated with the price, and if the price is higher than the value and benefits, dissatisfaction or cart abandonment may occur. Grewal & Lewy (2010: 14) state that it reflects the relationship between benefits and costs or what is received and what is given, that consumers make an explicit and/or implicit comparison/trade-off between the perceived benefits and costs of a product or service, and that they naturally tend towards alternatives that provide the greatest benefit at the least cost. The perceived value and perceived price unfairness that consumers encounter during their shopping experiences are critical factors that directly affect their purchasing decisions. In addition, emotional ambivalence and hesitation at check-out are among the factors that increase consumers' shopping cart abandonment behavior. This situation is related to the confusion and uncertainty that consumers experience in their decision-making processes. When consumers feel that the risk of purchasing a particular product is high, they will be cautious about purchasing, providing evidence that perceived uncertainty has an impact on online shopping cart abandonment (Bhatnagar et al., 2000; Cho et al., 2006; Rajamma et al., 2009). Perceived risk plays an important role, especially in online shopping, due to security concerns, which in turn causes users to abandon their purchases. In this context, the Zeigarnik effect suggests that unfinished tasks take up more space in the mind, suggesting that abandoned carts may trigger subsequent purchasing behavior.

While abandoning products in the shopping cart causes significant financial losses for e-commerce businesses, understanding and analyzing these reasons and developing strategies accordingly to reduce the rate of product abandonment in the shopping cart will help businesses improve customer experience and increase conversion rates. In addition, developing strategies suitable for the target audience is a critical step in creating customer loyalty and gaining a competitive advantage. In order to explain why consumers abandon the carts they create during online shopping in a scientific framework, it is of great importance to first understand the mo-

tivations and mental structures of consumers in depth. The shopping process is not limited to just the selection and purchase of products; it also interacts with many factors such as consumers' emotional states, decision-making processes and perceived risks. Consumers' shopping motivations span a wide range from the desire to meet their needs to the desire to gain social status. In addition, their mental structures determine how they react to the complexities and uncertainties they encounter when making choices. In this context, understanding the reasons why consumers abandon their shopping carts is related not only to economic factors but also to psychological and emotional dynamics. Therefore, examining these complex interactions will allow e-commerce companies to develop their strategies and improve customer experience. This study was conducted in full compliance with the rules of scientific research and publication ethics.

## 2. Literature Review

E-commerce is the fastest growing retail market in the world and is one of the fundamental trends changing today's business world. According to TÜİK's 2024 Household Information Technologies (IT) Usage Survey, the rate of individuals using the Internet in the last 12 months purchasing or ordering goods or services over the Internet for private use (e-commerce) was 49.5% in 2023, while it was 51.7% in 2024. By gender, the rate of purchasing or ordering goods or services over the Internet is 54.1% for men and 49.3% for women. 76.7% of individuals who purchased goods or services or ordered them over the Internet in the first 3 months of 2024 purchased clothing, shoes and accessories. This is followed by deliveries from restaurants, fast food chains and catering companies with 47.5%, food products with 34.0%, cosmetics, beauty and health products with 32.4%, and cleaning products and personal care supplies with 29.2%. When examined by gender, the most preferred products by men were clothing, shoes and accessories with 70.3%, followed by restaurant, fast food and catering deliveries with 49.2%, and food products with 33.5%. For women, clothing, shoes and accessories came first with 83.0%, followed by cosmetics, beauty and health products with 46.6%, and restaurant, fast food and catering deliveries with 45.9% (TÜİK, 2024).

E-commerce differs significantly from traditional consumer behavior because it occurs in marketplaces in virtual communities (Ba & Pavlou, 2002; Pavlou & Fygenson, 2006). Research has shown that consumer behavior in computer-mediated interactions is affected by various factors (Hsu et al., 2011). E-service is defined as an action that provides value and benefit to the consumer through online platforms. The quality of e-service arises from the processes that are constantly evaluated by consumers and offered to customers so that they can purchase products effectively and efficiently, and the fulfilment of promises in e-service is very important (Veloso et al., 2020: 3-4). Understanding the basic elements that affect the purchase intention of customers shopping in online environments and being able to determine which purchase antecedents are affected can both enable the maintenance of relationships with existing consumers and the acquisition of new customers (Cheng & Huang, 2013: 186). In addition to the rapid growth of e-commerce, studies have focused on understanding why almost two-thirds of consumers abandon an online portal without completing the transaction (Lee & Lee 2004; Gurley, 2000). In addition, a survey conducted in 2024 shows that approximately 41% of global online shoppers abandon their shopping carts because delivery fees are too expensive. 30% of shoppers abandon their shopping carts due to unexpected costs at checkout or because they

find cheaper products (Beyrouthy, 2024). As of 2023, the average cart abandonment rate in online store shopping in Türkiye is around 75% (Akyol, 2023). This rate, when compared to the average cart abandonment rate of 71.82% worldwide, reflects a similar situation in Türkiye's e-commerce market (Özşahan, 2024). In addition, when examined on a sectoral basis, this rate reaches a high level of 81.8% in the tourism sector, while a lower value of 71.5% is recorded in the fashion sector (Yılmaz, 2025). These data are of critical importance in understanding the reasons why consumers in Türkiye abandon their shopping carts and in developing strategies.

Hedonic and utilitarian motivations for e-shopping cart abandonment provide an important framework for understanding consumer behavior. Hedonic motivations refer to consumers' search for emotional satisfaction and pleasure from the shopping process. When consumers do not find their shopping experiences fun and enjoyable, this may lead to cart abandonment (Öztürk & Şahin, 2020). In addition, social influences and the presence of alternative options may also affect hedonic motivation and cause abandonment of shopping (Song, 2019). On the other hand, utilitarian motivations focus on consumers' practical and functional needs. Factors such as unexpected additional costs, complicated payment processes, and security concerns are utilitarian obstacles that cause consumers to give up on completing their shopping. In particular, factors such as high shipping fees and mandatory registration processes increase the likelihood of consumers abandoning their shopping carts (Rajamma et al., 2009). The interaction between these two types of motivations helps to better understand consumer behavior and allows e-commerce businesses to develop their strategies. Therefore, considering both hedonic and utilitarian factors is critical to reducing cart abandonment rates (Close & Kukar-Kinney, 2010). Knowing the reasons why customers abandon e-cart is of great importance both for consumers to have a better shopping experience and for businesses to increase their sales. While consumers demand an easier and more reliable process that meets their needs, businesses can analyze this data and develop their strategies by improving pricing, user experience and payment processes. This awareness increases customer satisfaction and strengthens loyalty, while allowing businesses to prevent revenue loss and gain competitive advantage. When the literature is examined, it is seen that hedonic variables such as price, risk and entertainment are generally examined as variables of online shopping cart abandonment, but there are not many studies on value, price unfairness, transaction inconvenience, risk, hesitation at check-out, and emotional ambivalence. For this purpose, the basic dimensions explaining shopping cart abandonment were examined in the study in terms of perceived value, perceived price unfairness, perceived transaction inconvenience complexity, perceived risk, hesitation at check-out and emotional ambivalence.

### **3. Theoretical Framework and Hypotheses Development**

Studies examining shopping cart abandonment generally focus on website features or users' past experiences, and the lack of sufficient and detailed consideration of consumer behavior constitutes a significant deficiency (Sondhi, 2017). It's common knowledge that low conversion rates and high cart abandonment rates negatively impact profitability. However, the root cause of this situation may not always be related to the business model or product range. In this context, it is seen that online purchasing decisions are associated with cognitive dissonance and are often shaped by impulsive purchasing behaviors. Especially when faced with a purchase option that exceeds the reference price or in products in high-risk categories, consumers

may feel discomfort and stress and tend to abandon their carts (Magill, 2005). Having a large number of product options and alternatives can make it difficult to make a decision, causing products to be left in the cart. In this context, factors such as choice paradox and emotional ambivalence can cause consumers to hesitate in their purchasing decisions and abandon their carts. In this context, it can be stated that the theory of cognitive dissonance is one of the methods of reducing dissonance (Festinger, 1957). The purchasing behavior that may arise from the effects of environmental stimuli encountered by consumers on the mental processes of individuals can be explained on the basis of the S-O-R theory. As a result, the cognitive dissonance theory (Festinger, 1957), the paradox of choice (Schwartz, 2004) and the Stimulus-Organism-Response-S-O-R theories (Mehrabian & Russell, 1974) provide an important framework in understanding the psychological dynamics behind online cart abandonment behavior, such as psychological triggers such as perceived value, perceived risk, perceived price unfairness, transaction inconvenience, emotional ambivalence, and hesitation at check-out.

### 3.1. Perceived Value

Perceived value is the general evaluations formed in the minds of consumers as a result of the comparison of the concessions and benefits of the products or services. In this context, value definitions consist of four groups as low price, anything desired from a product, the quality the consumer receives in return for the price he pays, and what the consumer receives in return for what he gives (Zeithaml, 1988: 13). Perceived value has a direct positive effect on consumer satisfaction, brand preference, and purchase or repurchase intention (Hellier et al., 2002, Patterson & Spreng, 1997: 428; Musa et al., 2005: 354). Consumers' purchase intention and product preference are directly affected by the value they perceive regarding the product (Dodds et al., 1991; Rajendran & Harikaran, 1996; Patterson & Spreng, 1997; Grewal et al., 1998; Sweeney et al., 1999; Chapman & Wahlers, 1999). Therefore, the hypothesis created regarding the consumer's perceived value affecting online shopping cart abandonment behavior is presented below;

**H1:** The higher the perceived value, the lower the online shopping cart abandonment behavior; that is, low perceived value will lead to more shopping cart abandonment.

### 3.2. Perceived Price Unfairness

Price perception is of critical importance in terms of consumers' subjective evaluation of prices and the impact of these evaluations on purchase decisions. The effect of price fairness on consumer behavior plays a significant role, especially on purchase intentions (Campbell, 1999a; Campbell, 1999b; Maxwell, 2002; Malc et al., 2020). Xia et al. (2004) define price fairness as a consumer's evaluation of a seller's price by comparing it with the prices of other similar products. In this context, it has been shown that fair price perception is positively related to purchase intention (Schmidt et al., 2020). In addition, subjective perceptions, as emphasized by Septiani and Chaerudin (2020), have a significant impact on consumers' classification of prices as expensive or cheap. Neslin et. al. (2006) state that shoppers may find multiple price strategies confusing and unfair. Consumer confusion can cause reduced consumption (Durante & Laran, 2016) or shopping hesitation (Cho et al., 2006) as a source of stress. Garaus (2018) considered consumer basket abandonment as an important consequence of consumer confusion. Therefore, the effect of price injustice on shopping basket abandonment intention is a

critical area of research for a better understanding of consumer behavior. In this direction, the following hypothesis was formulated;

**H2:** The higher the perceived price unfairness, the higher the online shopping cart abandonment behavior.

### **3.3. Perceived Transaction Inconvenience**

Convenience is one of the most important factors affecting consumers' online shopping preferences. The desire to purchase online depends on the ease of use of the website (Childers et al., 2001). Tandon et al. (2016) supported this situation and emphasized that a user-friendly website increases the desire to purchase. In addition, Raman (2019) showed that ease of transaction is a critical variable in shaping consumers' positive attitudes and predicting their desire to purchase online. Complicated transactions, such as long registration forms or technical problems, increase the likelihood of consumers abandoning their shopping carts (Rajamma et al., 2009). Xu and Huang (2015) state that perceived transactional discomfort, such as slow web pages and complicated transaction processes, negatively affects consumers' access to the shopping cart. Chen & Barnes (2007) emphasize that consumers who feel discomfort while accessing useful information on a website have a lower level of trust and a lower desire to visit online stores. Sembada & Koay (2019) suggest that perceived transactional discomfort reduces consumers' trust in social media stores and significantly affects their shopping intentions. Rajamma et al. (2009) found that perceived transactional discomfort is the main predictor of shopping cart abandonment as a result of their study. Therefore, e-commerce platforms' facilitating the user experience and resolving issues that may cause discomfort are vital to increasing customer satisfaction and loyalty. In this direction, the following hypothesis was formulated;

**H3:** The higher the perceived transaction inconvenience, the higher the online shopping cart abandonment behavior.

### **3.4. Perceived Risk**

Perceived risk is defined as the negative consequences experienced when a product or service is purchased if it does not meet expectations (Chang, 2003) or a consumer's subjective expectation of loss (Smith & Sivakumar, 2004). Consumer behavior and decisions are affected by risk perception (Siegrist et al., 2005). Consumers who make a purchase consider not only immediate factors such as price and service but also long-term effects (Sweeney et al., 1999). Therefore, the consumer faces risk in the purchase process because the outcome of the purchase will only become clear in the future. According to Taylor (1974), risk includes uncertainties about the outcome of the purchase and the effects that this outcome will have. Since consumers generally tend to see the least harm rather than the highest benefit, risk perception is an important factor in the purchase decision process.

Risks outside the physical environment such as the Internet, increase the risks associated with transactions (Smith & Sivakumar, 2004). This situation increases the perceived risk because the virtual purchasing environment of e-commerce is associated with uncertainty (Tan, 1999; Bensebaa, 2004). High risk perception leads consumers to spend more time shopping online, which is called "flow" (Hoffman & Novak, 1996; Smith & Sivakumar, 2004). While intensive online flow can reduce perceived risk, it is not suitable for consumers who demand

low involvement for low-risk products. Consumers who purchase low-involvement products aim to keep the shopping process as simple as possible. In addition, online shopping experiences can play a risk-reducing role in the consumer's purchasing process, alleviating anxiety, especially in high-risk purchase decisions (Smith & Sivakumar, 2004). Well-known and trusted brands also stand out as an important factor in reducing consumers' perceived risk level (Davis et al., 1999; Tan, 1999). In this context, understanding and managing the risks perceived by consumers has critical strategic importance for e-commerce companies. In this direction, the following hypothesis was formulated;

**H4:** The higher the perceived risk, the higher the online shopping cart abandonment behavior.

### 3.5. Hesitation at Check-out

Online shopping hesitancy is the tendency of consumers to delay the purchase action or experience uncertainty about additional transaction processes before making a final decision (Cho et al., 2006). Research in this area generally focuses on three basic types of hesitancy: general shopping hesitancy, cart abandonment, and hesitancy to give final confirmation at the checkout stage. These hesitation types are shaped by the influence of different factors; for example, perceived uncertainty is associated with online shopping cart abandonment, but not with hesitation experienced during payment (Cho et al., 2006). Shopping cart abandonment refers to the behavior of leaving a product without completing a purchasing session, while hesitation at the time of payment refers to the situation of experiencing additional processing time during the payment phase, whether or not the transaction is completed. In this context, it is emphasized that an important distinction should be made between the concepts. It is emphasized that consumers' virtual shopping cart abandonment behavior is not limited to concerns about payment alone, but rather includes a multidimensional set of concerns (Cho et al., 2006). The study conducted by Öztürk & Şahin (2020) emphasizes this multidimensionality of online shopping cart abandonment behavior in relation to three basic variables: choice paradox, emotional indecision, and hesitation at the time of payment. Choice paradox represents consumers' difficulty in deciding between many options; emotional indecision represents their feeling of contradiction; and hesitation at the time of payment represents last-minute concerns. Therefore, understanding these factors is of critical importance to better understand the reasons for virtual shopping cart abandonment (Temel, 2023). When consumers are undecided about purchasing, they usually give up on completing the transaction (Ferrari, 1993). Even if the products are selected and ready for payment, consumers who are hesitant are more likely to end the purchase and leave the products in their carts. In other words, indecision can trigger cart abandonment behavior. In this direction, the following hypothesis was formulated;

**H5:** The higher hesitation at check-out, the higher online shopping cart abandonment behavior.

### 3.6. Emotional Ambivalence

Emotional ambivalence describes the emotional dilemma that occurs when consumer emotions become unstable, confused, or contradictory in online shopping (Huang et al., 2018). In other words, consumers feel emotionally conflicted and therefore have difficulty in

the decision-making process. Although ambivalent individuals simultaneously experience both positive and negative emotions, negative emotions tend to exert a stronger influence due to the well-established negativity bias (Kanouse & Hanson, 1972). This may cause the individual to give more weight to negative feelings during the decision-making process and to avoid the relevant object or situation. Additionally, emotional ambivalence is often associated with negative emotions such as discomfort, restlessness, and disgust, which may lead to behaviors such as indecision or procrastination (van Harreveld et al., 2009). Huang (2018) found that emotional ambivalence has a positive and significant effect on online shopping cart abandonment behavior. This finding suggests that emotional ambivalence may prevent the consumer from completing the purchase process. Moreover, studies reveal that customers with emotional ambivalence have low purchase intentions (Xu et al., 2020) and often abandon their shopping carts. As Peng & Chen, (2021) study revealed, emotional ambivalence is one of the main determinants that influence individuals' decisions to purchase or not to purchase. Studies emphasize that emotional ambivalence plays a decisive antecedent role in the consumer decision process. In this direction, the following hypothesis was formulated;

**H6:** The higher emotional ambivalence, the higher online shopping cart abandonment behavior.

### **3.7. Cart Usage and Cart Abandonment**

Close & Kukar-Kinney, (2010) define online shopping cart usage as the behavior of consumers to collect products of interest online. Online shopping carts have a different functionality than traditional in-store carts; traditional carts are usually used to collect products for one-time payments, while online carts are used as a means of gathering information and making purchases (Close & Kukar-Kinney, 2010; Egelin & Joseph, 2012). Consumers add products to their online shopping carts to purchase later, create wish lists, and narrow down the alternatives (Close & Kukar-Kinney, 2010). However, consumers' use of carts may not only serve utilitarian purposes, but may also have a hedonic dimension; consumers may also add products to their carts for entertainment or enjoyment (Close & Kukar-Kinney, 2010). According to Song (2019) and Close & Kukar-Kinney (2010), shoppers use online shopping carts for purposes such as saving products for later purchase, creating wish lists, viewing on different devices, or narrowing down purchasing options. Adding items to an online shopping cart does not necessarily mean that the consumer has made a purchase decision; it often indicates that the consumer is in the middle of the decision-making process and that some items may be removed from the cart later. Shopping cart abandonment is defined as when a consumer fills their virtual shopping cart with items, gathers information about those items but leaves the website without completing the purchase (Rewick, 2000), or initiates the checkout process but does not complete the transaction (Cho, 2004). In essence, filling the cart does not always result in a purchase. This is important for understanding the dynamics of online shopping. With the widespread use of online shopping, studies have shown that approximately 77% of consumers abandon their carts without completing their purchases (Klie, 2015). This situation may arise from dissatisfaction caused by the mismatch between customer expectations and the online site experience (Ahmad et al., 2010). Since cart abandonment is considered a significant revenue loss for online retailers (Cho, 2004; Moore & Mathews 2006), understanding the reasons for this behavior and reducing cart abandonment rates should be among the primary goals of businesses.

Consumers' perceived purchasing risks in online transactions can be a significant obstacle to purchasing decisions and thus cart abandonment (Rajamma et al., 2009). Especially price level and financial risk are accepted as determining factors in shopping cart abandonment (Cho et al., 2006; Egelin & Joseph, 2012; Moore & Mathews, 2006). In online purchases, as in every purchasing situation, consumers face a certain risk. These risks directly affect the consumer's activities of gathering and evaluating product information. Information and interaction between individuals on the Internet can lead to the emergence of new risks or an increase in the current perceived risk level. Consumers feel higher risk when shopping online and as the perceived risk increases, purchase intention decreases. In this context, financial and psychological risks (Tan, 1999; Bensebaa, 2004; Smith & Sivakumar, 2004; Egelin & Joseph 2012; Moore & Mathews, 2006; Sondhi, 2017; Cho et al., 2006; Rajamma et al., 2009), concerns about privacy and security breaches (Odom et al., 2002; Ranganathan & Ganapathy, 2002; Egelin & Joseph, 2012; Kukar-Kinney & Close, 2010; Myazaki & Fernandez, 2001; Park et al., 2005; Zhou et al., 2007), abandonment of virtual carts for the purpose of "information search such as organization and price comparison" (Luo, 2002; Punjand & Moore, 2010), and the increasing use of online shopping carts have been reported (Kukar-Kinney & Close, 2010). Risk or uncertainty associated with products is an important factor explaining online shopping cart abandonment (Cho et al., 2006; Egelin & Joseph 2012; Moore & Mathews, 2006). The online process that requires the consumer to follow a process path that may create stress due to time or privacy issues may lead the consumer to abandon the transaction before completing it (Ahmad et al., 2010). Studies discuss the lack of information as well as lack of physical inspection (Cho, 2004), comparison shopping (Cho et al., 2006), and the use of shopping carts as search and sorting tools (Kukar-Kinney & Close 2010). Additionally, consumers prefer to shop by looking for discounts and promotions, and such monetary incentives are known to have a positive correlation with Internet usage (Arnold & Reynolds, 2003; Charney & Greenberg, 2001). An example of a reason for shopping cart abandonment is that consumers sometimes visit a cheaper alternative site and turn to cheaper products (Kukar-Kinney & Close, 2010; Xia & Monroe, 2004). The paradox of choice that emerges when too many options are offered shows that it complicates consumers' decision-making processes and leads to cart abandonment (Temel, 2023). Emotional ambivalence affects consumers' purchasing decisions and causes them to hesitate at the payment stage (Huang et al., 2018; Cho et al., 2006). Hesitation at check-out leads to cart abandonment as a result of perceived transaction inconvenience (Rajamma et al., 2009). Online price promotion tendency shows a positive relationship between shoppers' desire to evaluate opportunities such as discounts or free shipping and cart abandonment behavior (Kukar-Kinney & Close, 2010). Consumers who shop online can be quite sensitive to the total price of the products in their shopping carts and additional costs. Studies have shown that high total costs, especially with additional costs such as shipping and handling fees or transaction fees, may deter customers from completing their shopping (Li & Chatterjee, 2006; Lueker, 2003) or may wait for a discount. Therefore, it is concluded that price-related factors affect shopping cart usage (Song, 2019; Close & Kukar-Kinney, 2010; Arnold & Reynolds, 2003; Charney & Greenberg, 2001). Regarding perceived uncertainty, if consumers feel that the risk of purchasing a particular product is high, they will be more cautious about purchasing (Cho et al., 2006; Rajamma et al., 2009). Belanger et al. (2002) state that consumers' behavior on online sites is not limited to rational purposes such as gathering information, but also includes seeking emotional satisfaction. Accordingly, it has been revealed that consumers see online shopping as a

means of entertainment and therefore use shopping carts for different purposes. Kukar-Kinney & Close (2010) and other researchers (Mathwick et al., 2001; Moe, 2003; Novak et al., 2003; Wolfinbarger & Gilly, 2001) state that consumers can add products to their virtual carts for entertainment, to relieve boredom, or simply for pleasure, and that this may result in abandonment of the cart. This situation shows that online shopping is perceived as an experience and entertainment platform, beyond being just a purchasing action. Sondhi (2017) examined the effects of factors that put consumers in a dilemma, such as perceived risk and mental budgeting related to online purchasing. Based on the theory of cognitive dissonance (Festinger, 1957), the researcher suggested that abandoning the virtual shopping cart is one of the ways to reduce dissonance. Complicated shopping procedures, long registration forms that need to be filled out, shipping and handling charges that are not disclosed until late in the purchasing process, out-of-stock product information revealed during payment, technical glitches that return orders and the absence of alternative payment methods (other than credit cards) (Harrison-Walker, 2002; Seiders et al., 2000), website speed (waiting time) and website convenience (Rajamma et al., 2009; Harrison-Walker, 2002; Seiders et al., 2000) are also considered as reasons for cart abandonment. In this direction, the following hypothesis was formulated;

**H7:** The higher online cart abandonment do not impact online buying behavior.

### **3.8. Zeigarnik**

The Zeigarnik effect, named after the studies conducted by Russian psychologist Bluma Zeigarnik in 1927, suggests that the human brain remembers interrupted tasks better than completed ones (Hammadi & Qureishi, 2013). The Zeigarnik effect draws attention by keeping incomplete tasks more vivid in the mind and arousing curiosity (Schiffman & Greist-Bousquet, 1992). The Zeigarnik effect studies conducted in marketing mainly focus on advertisements. The research that brought the Zeigarnik effect to the marketing literature was led by Heimbach & Jacoby (1972). These researchers tested the effects of advertisements that used/did not use jingles, were shown in full/incompletely, and were familiar/unfamiliar to the consumer. In their studies, it was determined that the recall rate was higher especially in incomplete and jingle-containing advertisements. The results of the research show that cutting off the advertisement before it is completed increases the consumer's mental involvement and increases the level of recall of the advertisement. It has also been stated that the effect of incomplete advertisements decreases when they are shown repeatedly (Heimbach & Jacoby, 1972). This effect is used to increase consumer interest with intriguing and incompletely presented content (Dale, 2004). While advertisement titles that include unanswered questions in particular direct the consumer to seek information (Dale, 2004), "mysterious" or "cliffhanger advert" advertisement series also ensure that the brand remains in the consumer's mind for a longer period of time (Madrigal & Bee, 2005; Hammadi & Qureishi, 2013). The Sleepy Natural and Lipton campaigns are successful examples of this approach. Therefore, more comprehensive and in-depth academic research is needed on the applications of the Zeigarnik effect in the field of marketing. In particular, increasing the experimental and empirical studies measuring the effects of this effect on consumer perception, attention span, brand recall and purchase intention will both enrich the theoretical knowledge and provide strategic insights to practitioners. In addition, examining the effectiveness of the Zeigarnik effect in the context of different sectors, media types and target audiences can contribute to the development of marketing communication strategies in more effective and original ways.

The Zeigarnik effect was preferred in the study on the basis that incomplete activities are remembered twice as much as completed activities, and that products left in the online cart will constantly occupy the consumer's memory and will be remembered, resulting in product and service purchases. Interrupted actions in purchasing goods or services create discomfort in consumers and lead them to seek to complete unfinished transactions in order to eliminate this discomfort. The Zeigarnik effect states that unfinished tasks take up more space in the mind and therefore consumers feel a desire to complete these tasks (Gürdin, 2020). The Zeigarnik effect can show varying sensitivities among individuals and its effect on behavioral outcomes can change (Masicampo & Baumeister, 2011). In this context, it is evaluated that in individuals with a high Zeigarnik effect, this situation will remain in mind for a longer time, which will increase the tendency to complete the shopping. In individuals with low effect, it can be stated that the abandoned cart will be forgotten more quickly and the probability of returning will decrease. Thus, the Zeigarnik effect can function as a moderating psychological mechanism that shapes the strength of the relationship between online cart abandonment and online buying behavior, and the following hypothesis was formulated;

**H8:** There is a significant moderating relationship of Zeigarnik between online cart abandonment and online buying behavior.

## 4. Methodology

In today's world, where online shopping is rapidly becoming widespread, cart abandonment rates pose a significant problem for e-commerce businesses. Understanding the reasons why consumers abandon their shopping carts allows businesses to improve their sales strategies and increase customer satisfaction. The effects of psychological factors such as perceived value, perceived price unfairness, perceived transaction inconvenience, emotional ambivalence, perceived risk, and hesitation at check-out on this behavior are critical to understanding consumer decision-making processes in depth. In addition, the role of the Zeigarnik effect in these dynamics can help optimize marketing strategies by revealing the mental effects of unfinished tasks. Therefore, this research aims to provide valuable information both theoretically and practically. In this context, the research question: "What is the effect of psychological triggers such as perceived value, perceived price unfairness, perceived transaction inconvenience, emotional ambivalence, perceived risk, and hesitation at check-out on online shopping cart abandonment behavior and purchasing behavior through the Zeigarnik effect?"

### 4.1. Data Collection

The convenience sampling method was preferred among non-probability sampling techniques because it provides the opportunity to collect basic information quickly and effectively in this study (Sekaran, 2000). Primary data was obtained from consumers who added products to their carts but left the site without purchasing during their online shopping journeys in Türkiye. First, a pilot study was conducted with 30 participants. Questions that would cause uncertainty or misunderstanding were revised. 467 consumers who abandoned e-carts completed the survey conducted face-to-face and online in Türkiye. The study was conducted based on the Ethics Committee Decision of Konya Food and Agriculture University dated 30.01.2025 and numbered 2025/01-4. This study was conducted in full compliance with the rules of scientific research and publication ethics. During the research process, ethical principles were meticu-

lously observed, participant rights were protected and data security was ensured. In addition, the accuracy and impartiality of the findings were observed and the principles of academic honesty were followed.

## 4.2. Measures

The measurements used in the study regarding the conceptual model were taken from scales that have been used in previous studies and have proven validity and reliability. The research model created in this context is shown in Figure 1. Scales used in the study; Perceived value (Rizzon et al., 2022), perceived price unfairness (Riquelme et al., 2021), perceived transaction inconvenience (Rajamma et al., 2009), emotional ambivalence (Priester et al., 2007), perceived risk (Rajamma et al., 2009), hesitation at check-out (Cho et al. 2006; Wong & Yeh, 2009), online shopping cart abandonment (Kukar-Kinney & Close 2010) and online buying behavior (Saprikis et al., 2018), and zeigarnik effect (Gürdin, 2020). The items belonging to the variables were evaluated with a five-point Likert scale between 1 (strongly disagree) and 5 (strongly agree). The perceived value and perceived price unfairness (Nural, 2023), perceived transaction inconvenience and perceived risk (Erdil, 2018), emotional ambivalence (Huang et al., 2018), hesitation at check-out (Temel, 2023), online shopping cart abandonment (Genç et al., 2021), online buying behavior (Davidavičienė et al., 2019) and zeigarnik effect (Gürdin, 2020) scales used in the study are measurement tools that are widely used in the literature and whose validity and reliability have been statistically confirmed by previous empirical studies. Some of these scales were adapted to Turkish and used. In the study conducted by Gürdin (2020), an original and theoretically based scale was developed to measure the effect of the Zeigarnik effect on consumers' purchasing behavior. Comprehensive literature review was conducted and a 16-item survey form was created to measure consumers' attitudes towards the Zeigarnik and Diderot effects and their tendency to purchase new products in the scale development process. In order to evaluate the construct validity of the scale, the Kaiser-Meyer-Olkin (KMO) sample adequacy test and the Bartlett sphericity test were applied. The KMO value was found to be 0.887 and the Bartlett test was found to be significant ( $p < 0.001$ ), confirming the suitability of the data set for factor analysis. As a result of the applied explanatory factor analysis, some items showing cross-loading were removed and the analyzes were conducted on 14 items. The factor structure reached a strong representative power by explaining 71.226% of the total variance. The Cronbach Alpha coefficient obtained in the internal consistency analysis conducted to test the reliability of the scale was calculated as 0.890, revealing that the scale was highly reliable. In the Zeigarnik effect (ZE) scale consisting of 6 items, the following items were included in the analysis (Gürdin, 2020):

ZE1: I buy new products when I need them.

ZE2: I usually buy new products to complete some of my deficiencies.

ZE3: I don't need to buy a new one when I have a similar product.

ZE4: The product I leave in my shopping cart makes me feel like my work is unfinished.

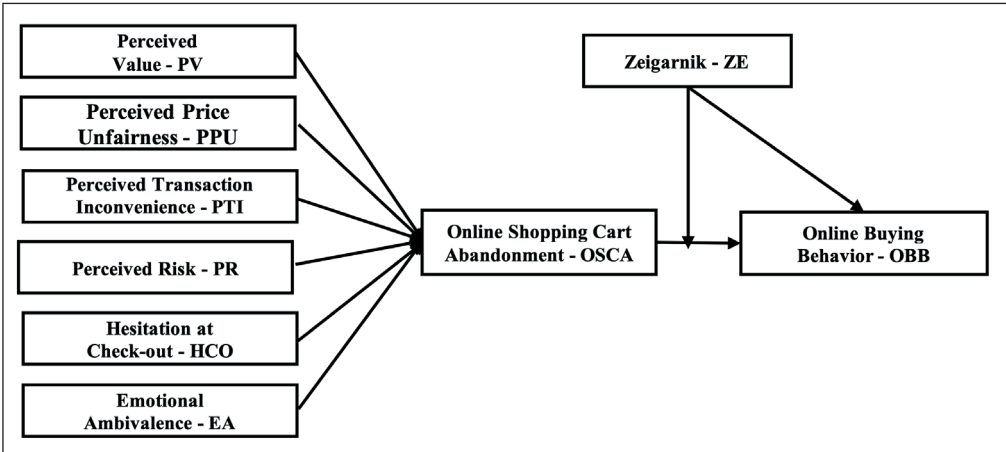
ZE5: I can't start another job without completing the unfinished work I left in my shopping cart without purchasing.

ZE6: If a complementary part of the items I use is missing, I definitely complete it.

### 5. Data Analysis and Results

In this study, SPSS 25.0 and AMOS 24.0 statistical package programs were used to analyze the data. Path analysis model was applied to test the research hypotheses. Path analysis is a powerful statistical technique used to examine the direct and indirect relationships between the variables in the model. Certain assumptions must be met for this method to be applied validly. First of all, the presence of extreme values in the data set was examined. Box plots were used to detect extreme values and as a result of the examination, it was determined that there were no extreme values in the data set. The skewness and kurtosis values of the variables were calculated within the framework of the normal distribution assumption. The skewness values obtained ranged between -0.65 and 0.34, and the kurtosis values ranged between -0.96 and -0.73. Considering the  $\pm 2$  limit values suggested by Tabachnick & Fidell (2019), it was understood that the variables showed a normal distribution and the normality assumption was met.

Figure 1: Research Model



Source: Author’s own work.

Cook distance values were calculated to detect multivariate extreme values. According to the analysis results, Cook distance values remained below 1 for all observations. According to the criterion suggested by Field (2018), if the Cook distance value does not exceed 1, it is accepted that there are no multivariate extreme values in the data set. In addition, Variance Inflation Factor (VIF) values were calculated to evaluate the multicollinearity problem. Multicollinearity can reduce the reliability of the regression coefficients due to the high correlation between the independent variables. As a result of the analysis, the highest VIF value was found to be 2.84, and the fact that this value did not exceed 3 indicates that there was no multicollinearity problem in the model (Yurt, 2023). As a result, it was determined that the data set met the necessary assumptions for multivariate analyses in line with the analyses performed. In this direction, it was concluded that reliable analyses could be performed on the research model.

**Table 1: Demographic Information**

	Category	Frequency (n)	Percentage (%)
<b>Gender</b>	Male	304	65.1
	Female	163	34.9
<b>Total</b>		467	100
<b>Age</b>	18-30	189	40.5
	31-50	193	41.3
	51-70	82	17.6
	71 and above	3	0.6
<b>Total</b>		467	100
<b>Education</b>	Primary	11	2.4
	Secondary	60	12.8
	Higher	396	84.8
<b>Total</b>		467	100
<b>Occupation</b>	Public Employee/Worker	127	27.2
	Tradesman	9	1.9
	Housewife	12	2.6
	Unemployed/Not Working	15	3.2
	Student	131	28.1
	Private Sector Employee	92	19.7
	Self-employed/Freelancer	25	5.4
	Other	56	12
<b>Total</b>		467	100
<b>Monthly Income (TL)</b>	Below 22.104 TL	144	30.8
	22.105 - 40.000 TL	90	19.3
	40.001 - 70.000 TL	142	30.4
	70.001 - 90.000 TL	42	9
	Above 90.001 TL	49	10.5
<b>Total</b>		467	100
<b>Internet Shopping Experience</b>	Just Started	7	1.5
	Less than 1 year	28	6
	1-3 years	71	15.2
	3-5 years	74	15.8
	5 years and above	287	61.5
<b>Total</b>		467	100
<b>Online Shopping Frequency</b>	1-2 times a year	71	15.2
	1 time a month	130	27.8
	2-3 times a month	104	22.3
	1 or more times a week	158	33.8
	Every day	4	0.9
<b>Total</b>		467	100

Data regarding participants' online shopping habits vary in terms of the most preferred platforms. The most frequently used e-commerce sites were determined as Hepsiburada (n=276), Trendyol (n=272), N11 (n=127), Amazon Türkiye (n=110) and Gittigidiyor (n=66), respectively. These platforms are followed by Pazarama (n=47), Getir (n=37), Çiçek Sepeti (n=31) and Yemeksepeti (n=23). In addition, although less frequently, Sahibinden.com, Migros, TEMU, Şok, Carrefoursa, A101, Kitapyurdu and some boutique or private platforms (Karaçay, English Home, Nadir Kitap) were also included by the participants.

### 5.1. Measurement Model

CFA fit values analysis was conducted to test the validity and reliability of the scales, to evaluate how well a particular factor structure fits the observed data, and to ensure the accuracy of the measurement model. The fit values showed good fit ( $\chi^2/df = 2.55$ , CFI = 0.95, TLI = 0.94, GFI = 0.90, AGFI = 0.87, RMSEA = 0.06, and SRMR = 0.04). Each factor loading was found to be significant at the 0.001 level.

**Table 2: Reliability of Research Variables**

Variables	Alpha
PPU	0.92
PTI	0.89
PR	0.94
HCO	0.93
EA	0.93
OSCA	0.91
ZE	0.87
OBB	0.85

Cronbach's Alpha value below 0.60 is considered weak, between 0.60-0.80 is acceptable and above 0.80 is considered good in terms of reliability (Sekaran, 2000). The Chronbach's Alpha values calculated for the research variables in Table 2 are above 0.85, which shows that the scales are quite reliable in measuring the nine variables. According to the CFA analysis results, it is seen that the relationship coefficients (standard regression weights) calculated between the factors and their items vary between .689 and .900.

### 5.2. Structural Model

Table 3 presents the descriptive statistics (means and standard deviations) and Pearson correlation coefficients among the key variables examined in this study. The results indicate significant relationships between perceived value (PV), perceived price unfairness (PPU), perceived transaction inconvenience (PTI), perceived risk (PR), hesitation at check-out (HCO), emotional ambivalence (EA), online shopping cart abandonment (OSCA), the Zeigarnik effect (ZE), and online buying behavior (OBB).

Perceived value (PV) exhibits significant negative correlations with all variables except online buying behavior (OBB), where the relationship is non-significant. Notably, PV shows the strongest negative association with perceived price unfairness (PPU;  $r = -.50, p < .01$ ) and the Zeigarnik effect (ZE;  $r = -.50, p < .01$ ), indicating that higher perceived value is linked to lower perceptions of unfair pricing and reduced cognitive effects related to unfinished shopping tasks.

**Table 3: Means, Standard Deviations, and Correlations of Key Variables**

Variables	M	SD	PV	PPU	PTI	PR	HCO	EA	OSCA	ZE	OBB
<b>PV</b>	2.79	1.08	1								
<b>PPU</b>	3.42	1.19	-.50**	1							
<b>PTI</b>	3.38	1.15	-.47**	.73**	1						
<b>PR</b>	3.35	1.15	-.48**	.69**	.84**	1					
<b>HCO</b>	3.39	1.10	-.45**	.67**	.77**	.81**	1				
<b>EA</b>	3.40	1.12	-.46**	.70**	.78**	.76**	.86**	1			
<b>OSCA</b>	3.25	1.13	-.46**	.66**	.73**	.71**	.74**	.77**	1		
<b>ZE</b>	3.27	1.27	-.50**	.60**	.69**	.65**	.61**	.64**	.71**	1	
<b>OBB</b>	3.79	0.79	-.09	.20**	.27**	.24**	.27**	.26**	.33**	.41**	1

\*\*  $p < 0.01$ , PV = Perceived Value, PPU = Perceived Price Unfairness, PTI = Perceived Transaction Inconvenience, PR = Perceived Risk, HCO = Hesitation at Check-Out, EA = Emotional Ambivalence, OSCA = Online Shopping Cart Abandonment, ZE = Zeigarnik Effect, OBB = Online Buying Behavior

Among the predictors, perceived transaction inconvenience (PTI) and perceived risk (PR) are highly correlated ( $r = .84, p < .01$ ), suggesting that consumers who perceive transaction difficulties also tend to perceive higher risks. Similarly, hesitation at check-out (HCO) is strongly associated with emotional ambivalence ( $r = .86, p < .01$ ), indicating that emotional uncertainty plays a critical role in last-minute purchase hesitations.

The correlation between online shopping cart abandonment (OSCA) and the Zeigarnik effect (ZE) is also notable ( $r = .71, p < .01$ ), supporting the idea that unresolved purchase intentions contribute to lingering cognitive effects. Finally, online buying behavior (OBB) is positively associated with all independent variables, with the highest correlation observed with the Zeigarnik effect ( $r = .41, p < .01$ ), suggesting that the psychological impact of unfinished shopping experiences may influence future purchasing decisions.

To test the research hypotheses, the model presented in Figure 2 was developed and evaluated. The goodness-of-fit indices obtained from the analysis ( $\chi^2/df = 3.59$ , CFI = 0.97, TLI = 0.96, GFI = 0.89, AGFI = 0.86, RMSEA = 0.08, and SRMR = 0.05) indicate that the model demonstrates a good fit with the data (Hu & Bentler, 1999; Yurt, 2023). The standardized regression coefficients ( $\beta$ ), unstandardized coefficients (B), standard errors (S.E.), critical ratios (C.R.), and p-values obtained from the model testing are presented in Table 4.

**Figure 2: Path Diagram of Factors Influencing Online Shopping Cart Abandonment and Buying Behavior**

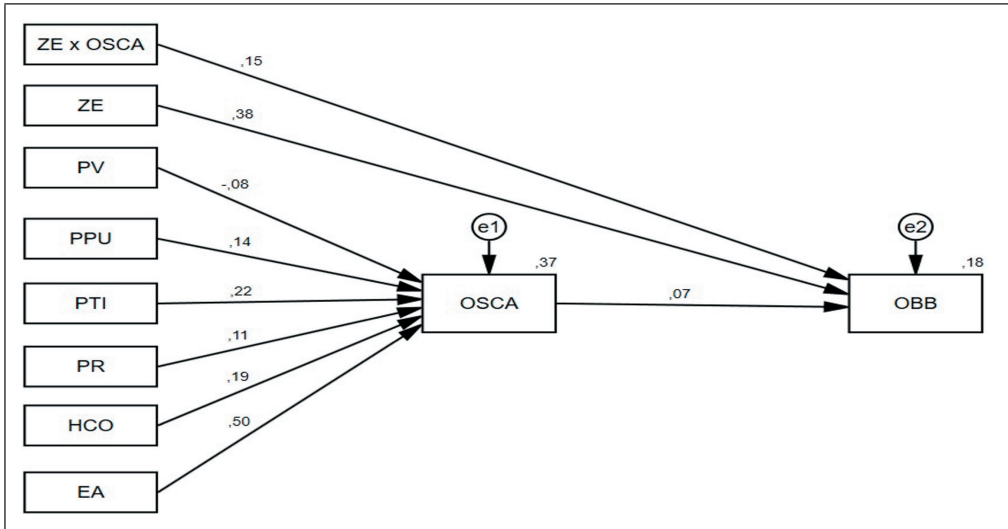


Table 4 presents the results of the path analysis, examining the factors influencing online shopping cart abandonment (OSCA) and online buying behavior (OBB). The findings indicate that perceived value (PV) has a significant negative effect on OSCA ( $\beta = -0.08$ ,  $p = 0.032$ ), whereas perceived price unfairness (PPU) ( $\beta = 0.14$ ,  $p < 0.001$ ), perceived transaction inconvenience (PTI) ( $\beta = 0.22$ ,  $p < 0.001$ ), perceived risk (PR) ( $\beta = 0.11$ ,  $p = 0.002$ ), emotional ambivalence (EA) ( $\beta = 0.50$ ,  $p < 0.001$ ), and hesitation at check-out (HCO) ( $\beta = 0.19$ ,  $p < 0.001$ ) positively predict OSCA. Independent variables explained 37% of the variation in OSCA.

**Table 4: Factors Influencing Online Shopping Cart Abandonment and Buying Behavior**

Paths		$\beta$	B	S.E.	C.R.	p	Hypothesis
PV	---> OSCA	-0.08	-0.06	0.03	-2.15	0.032	<i>cannot be rejected</i>
PPU	---> OSCA	0.14	0.11	0.03	3.91	***	<i>cannot be rejected</i>
PTI	---> OSCA	0.22	0.16	0.03	6.00	***	<i>cannot be rejected</i>
PR	---> OSCA	0.11	0.08	0.03	3.10	0.002	<i>cannot be rejected</i>
EA	---> OSCA	0.50	0.37	0.03	13.53	***	<i>cannot be rejected</i>
HCO	---> OSCA	0.19	0.14	0.03	5.08	***	<i>cannot be rejected</i>
OSCA	---> OBB	0.08	0.10	0.06	1.77	0.077	<i>rejected</i>
ZE	---> OBB	0.384	0.381	0.042	9.119	***	
ZE x OSCA	---> OBB	0.15	0.17	0.05	3.58	***	<i>cannot be rejected</i>

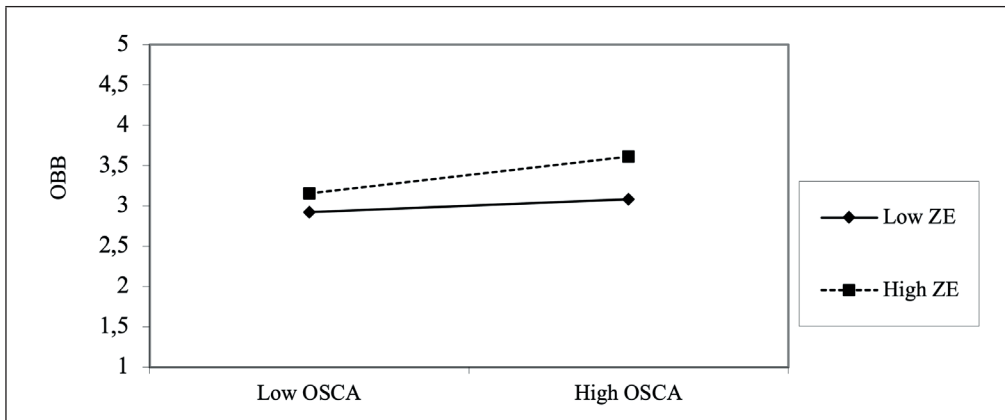
\*\*\*  $p < 0.001$ , PV = Perceived Value, PPU = Perceived Price Unfairness, PTI = Perceived Transaction Inconvenience, PR = Perceived Risk, HCO = Hesitation at Check-Out, EA = Emotional Ambivalence, OSCA = Online Shopping Cart Abandonment, ZE = Zeigarnik Effect, OBB = Online Buying Behavior

Regarding online buying behavior (OBB), OSCA does not significantly predict OBB ( $\beta = 0.08, p = 0.077$ ). However, the Zeigarnik effect (ZE) ( $\beta = 0.38, p < 0.001$ ) and the interaction term  $ZE \times OSCA$  ( $\beta = 0.15, p < 0.001$ ) significantly influence OBB. These results suggest that ZE plays a critical role in predicting online buying behavior, and its interaction with OSCA further strengthens this relationship.

Figure 3 illustrates the moderating effect of the Zeigarnik effect (ZE) on the relationship between online shopping cart abandonment (OSCA) and online buying behavior (OBB). The interaction effect between OSCA and ZE was found to be statistically significant ( $\beta = 0.15, p < 0.001$ ; see Table 4), indicating that the strength of the relationship between OSCA and OBB varies depending on ZE levels.

As depicted in Figure 3, individuals with high ZE (dashed line) exhibit a stronger positive relationship between OSCA and OBB, meaning that when ZE is high, consumers who abandon their shopping cart are more likely to return and complete their purchases. In contrast, for individuals with low ZE (solid line), the relationship between OSCA and OBB remains positive but weaker, suggesting that consumers with lower ZE are less likely to revisit their abandoned purchases.

**Figure 3: Moderating Effect of Zeigarnik Effect (ZE) on the Relationship Between Online Buying Behavior (OBB) and Online Shopping Cart Abandonment (OSCA)**



## 5. Discussions and Conclusion

The findings of the study reveal that psychological triggers such as perceived value, perceived price unfairness, perceived transaction inconvenience, perceived risk, emotional ambivalence and hesitation at check-out have significant effects on online shopping cart abandonment behavior. In particular, it was determined that emotional ambivalence strongly triggers cart abandonment, while perceived value reduces cart abandonment. While cart abandonment behavior has a limited effect on online purchasing, the Zeigarnik effect significantly positively affects online purchasing behavior and its interaction with cart abandonment strengthens this relationship. This situation shows that it increases purchasing motivation by ensuring that un-

finished purchases remain in the consumer's memory. This study aimed to fill the previously mentioned research gap. The findings of the research are discussed below.

Low perceived value can cause online shopping cart abandonment. Conversely, it has been concluded that high perceived value decreases the rate of abandonment in the cart. In addition, psychological triggers such as high perceived risk, perceived price unfairness, perceived transaction inconvenience, emotional ambivalence and hesitation at check-out increase the rate of product abandonment in the cart. Conversely, it has been concluded that low perceived psychological triggers decrease the rate of product abandonment in the cart. The findings obtained are consistent with the literature results explained above. Knowing the reasons for cart abandonment and developing marketing strategies for this purpose are extremely important for businesses. Reducing shopping cart abandonment rates provides great advantages to businesses in terms of preventing customer loss, increasing sales volume, improving customer experience, gaining competitive advantage and developing marketing strategies. Therefore, e-commerce businesses can reduce cart abandonment rates by facilitating the payment process, offering multiple payment methods, transparency in shipping costs, using exit pop-ups, cart recovery emails, building trust with security badges, mobile compatibility, offering a user-friendly shopping experience, organizing reminder email campaigns, providing clear and understandable information, providing customer support, not hiding additional fees, and offering a guest shopping option. In this context, the study concluded that consumers frequently remember unfinished tasks, in short, return to the cart and make a purchase due to the Zeigarnik effect. In other words, it was concluded that the Zeigarnik effect has a regulating effect on shopping cart abandonment and online purchasing. The reminder and memorability of the Zeigarnik effect can be evaluated as a warning. This situation can provide a basis for businesses to develop shopping cart reminder strategies. Businesses can keep the Zeigarnik effect alive by sending consumers reminder alerts such as email, push notifications, SMS or WhatsApp notifications, exit surveys and why-asks, targeted ads, on-site reminders, and personalized discounts and coupons that pop up for abandoned cart items.

Evaluating the model within the framework of Stimulus-Organism-Response (S-O-R) theory explains the effect of psychological triggers (stimulus) on the consumer's internal state (organism) and its reflections on purchasing behavior (reaction). Businesses can reduce cart abandonment rates with practices such as facilitating payment processes, providing transparency and offering multiple payment options. In addition, reminder campaigns via email, SMS, and notifications using the Zeigarnik effect can increase the likelihood of consumers completing their unfinished purchases. These strategies are critical to strengthening customer loyalty and ensuring the sustainability of business success. As a result, considering psychological triggers and the Zeigarnik effect based on the S-O-R model is essential to improve the online shopping experience and optimize marketing strategies. This study was conducted in full compliance with the rules of scientific research and publication ethics.

## **6. Theoretical Implications**

When the literature is examined, it is seen that the reasons for online shopping cart abandonment mostly focus on user experience, pricing and cost factors, psychological factors, security concerns and perception of security, technological factors, timing and external effects, and there are not many studies on consumer perception as psychological factors. In this study,

the findings that psychological triggers such as perceived value, perceived risk, perceived price unfairness, perceived transaction inconvenience, emotional ambivalence and hesitation at check-out affect online shopping cart abandonment, and that online purchasing increases due to the Zeigarnik effect, which refers to unfinished work being remembered frequently, provide various theoretical contributions to the existing literature. First of all, knowing how psychological triggers shape consumers' shopping experience will prevent cart abandonment with more effective marketing strategies. It can also provide a basis for marketers to develop cart reminder strategies. Businesses send reminder stimuli to consumers such as e-mail, push notifications, SMS or WhatsApp notifications, exit surveys and asking why, targeted ads, on-site reminders and pop-up personalized discounts and coupons for products abandoned in the cart. In this context, reminder messages from businesses can be described as a kind of Zeigarnik effect. The Zeigarnik effect is based on the principle that unfinished tasks are kept in mind more. The study can provide a basis for marketers to develop basket reminder strategies by showing how this effect plays a role in consumers' recall and re-evaluation of their purchase decisions after the basket is abandoned. In short, frequent recall of unfinished tasks can occur both internally, without any stimulus, and through reminders implemented by businesses. Regular reminders for products left in the basket in online shopping can lead consumers to mentally complete their unfinished shopping. However, the main focus here should be to understand the reasons for consumer abandonment and to develop marketing strategies in this direction, while not violating ethical issues.

## **7. Practical Implications**

This study, which is conducted on psychological triggers such as perceived value, perceived risk, perceived price unfairness, perceived transaction inconvenience, emotional ambivalence and hesitation at check-out, which cause online cart abandonment and the Zeigarnik effect of this cart abandonment, offers important strategies for e-commerce businesses. First of all, businesses need to take steps to improve the user experience. Among the steps that businesses need to take in order to reduce cart abandonment rates and increase customer satisfaction, improving the user experience. In this context, it is critical for websites to offer user-friendly designs, simplify complex interfaces and speed up payment processes. It is important to increase security measures and provide transparent information sharing to reduce perceived risk. Offering different and reliable payment methods can help customers feel safe while shopping and complete their purchases. In communications to consumers, clear and explicit pricing policies should be adopted in order to reduce the perception of price injustice. One of the reasons why customers abandon their carts is unexpected costs; therefore, it is necessary to be transparent about shipping fees and other expenses. Offering free shipping or discounts on purchases over a certain amount can increase customer motivation. Targeted e-mail campaigns can be organized to remind abandoned carts by using the Zeigarnik effect; thus, the possibility of users completing their unfinished shopping can be increased. In addition, it is possible to regain lost sales by using targeted marketing strategies such as cart reminders. Pop-up notifications based on exit intent can be used to encourage customers to complete their shopping. Implementing these strategies contributes to loyalty by increasing customer acquisition and retention rates. In order to reduce emotional confusion, empathetic approaches should be displayed for possible problems that consumers may encounter during the shopping process and support services should be strengthened. When customers have a positive shopping experience, their loyalty

to the brand increases, which provides a competitive advantage. In terms of revenue, reducing cart abandonment rates will directly increase sales and positively affect the profitability of the business. Therefore, implementing these practical implications plays an important role in e-commerce businesses achieving their sustainable growth goals.

## 8. Limitations and Future Research Directions

In the study addressing the reasons for online cart abandonment, psychological triggers such as perceived value, perceived risk, perceived price unfairness, perceived transaction inconvenience, emotional ambivalence, and hesitation at check-out were examined. However, consumer personality traits and demographic information were not taken into account in the study; this constitutes the limitations of the research because the effects of personal characteristics and demographic factors play an important role on consumer behavior. Suggestions for future studies should include the inclusion of consumer personality traits and demographic information. In this way, the reasons for cart abandonment can be analyzed more comprehensively. Secondly, this study was conducted only in the context of Türkiye. This situation limits the generalizability of the findings across cultures. Consumer behavior is significantly affected by cultural values, social norms, and the level of digitalization. Therefore, it is recommended that comparative studies be conducted in different cultural and geographical contexts in future research. Thus, it can be better understood whether shopping cart abandonment behavior is universal or culture-specific. In addition, experimental studies are needed to more clearly reveal the role of the Zeigarnik effect in online shopping processes. The effect of mental representations of incomplete transactions on consumer decision-making processes can be tested more precisely with experimental methods. In addition, consumers' online shopping experiences and emotional reactions can be analyzed in depth with qualitative research. Thus, interpretative data that gives meaning to quantitative findings can be obtained and a multi-faceted perspective can be gained on the subject.

As a result, it is recommended that studies enriched with demographic and personality variables, including cross-cultural comparisons, and encompassing experimental and qualitative approaches be conducted for a more holistic understanding of online shopping cart abandonment behavior. Such studies will be able to provide more effective suggestions for e-commerce platforms regarding consumer-friendly design, security enhancement, and strategies for completing the purchase process.

### Contribution Rate Declaration

I confirm the sole responsibility for the conception of the study, presented results and manuscript preparation.

### Conflict of Interest Declaration

As the corresponding author, I declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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