



## OPEN ACCESS

## EDITED BY

Steven Bellman,  
University of South Australia, Australia

## REVIEWED BY

Estela Núñez-Barrionero,  
University of Alcalá, Spain  
Nela Filimon,  
University of Girona, Spain

## \*CORRESPONDENCE

Khalid Ali Alshohaib  
✉ k.alshohaib@ubt.edu.sa

RECEIVED 14 January 2024

ACCEPTED 18 April 2024

PUBLISHED 01 May 2024

## CITATION

Alshohaib KA (2024) From screens to carts: the role of emotional advertising appeals in shaping consumer intention to repurchase in the era of online shopping in post-pandemic. *Front. Commun.* 9:1370545. doi: 10.3389/fcomm.2024.1370545

## COPYRIGHT

© 2024 Alshohaib. This is an open-access article distributed under the terms of the [Creative Commons Attribution License \(CC BY\)](https://creativecommons.org/licenses/by/4.0/). The use, distribution or reproduction in other forums is permitted, provided the original author(s) and the copyright owner(s) are credited and that the original publication in this journal is cited, in accordance with accepted academic practice. No use, distribution or reproduction is permitted which does not comply with these terms.

# From screens to carts: the role of emotional advertising appeals in shaping consumer intention to repurchase in the era of online shopping in post-pandemic

Khalid Ali Alshohaib\*

Jeddah College of Advertising, University of Business and Technology, Jeddah, Saudi Arabia

This study examines the evolving dynamics of online shopping behavior in the post-COVID-19 era, focusing on the intricate relationship between perceived usefulness, ease of use, pleasure, arousal, dominance emotional state, and intention to repurchase by integrating and employing the technology acceptance model and pleasure, arousal, and dominance emotional model. These emotional states, identified as pivotal drivers of online shopping behavior, contribute to recognizing a brand's function and aesthetic features. Five hundred and nine male and female respondents from Saudi Arabia participated in the present study. The statistical tools unveil significant indirect relationships and mediation effects, offering insights into the nuanced pathways through which perceived usefulness and ease of use impact consumer intentions to repurchase. Demographic variables, particularly age, and gender, are explored to understand variations in emotional responses, guiding businesses in tailoring marketing strategies to diverse consumer segments. Practical implications highlight the importance of strategic considerations for brand retailers, emphasizing enhancements to elements related to emotional branding, product presentations, interface design, and interactive services on websites. The research advocates for a dynamic and personalized approach to online experiences, positioning brands favorably in the competitive digital landscape. Overall, the findings contribute valuable insights for businesses seeking to navigate the dynamic terrain of post-COVID-19 online shopping and foster enduring connections with their digital consumer base.

## KEYWORDS

emotional appeals, advertising, online shopping, consumer intention, post-pandemic

## 1 Introduction

The COVID-19 pandemic has profoundly impacted business operations and consumer shopping perceptions. Health concerns worldwide prompted a surge in online shopping, emphasizing convenience and safety (Erjavec and Manfreda, 2022). In contrast, consumers prioritize contactless transactions, which are accelerated by lockdowns and social distancing measures and affect the brands' digital transformation (Shoaib and Saleem, 2023). Practically, the pandemic strengthened e-commerce trends, influencing consumers' perceptions of in-store experiences (Saoula et al., 2023). Previous reports from the industry indicated that the pandemic had expedited a pre-existing trend toward e-commerce (i.e., online shopping)

(Yang et al., 2020). The apprehension surrounding the pandemic has notably impacted how consumers perceive the economic and environmental advantages of e-commerce platforms (Trivedi, 2022). Alonso-Garcia et al. (2023) highlighted the significant growth of digital channels in B2B marketing, driven by factors such as changing buyer behaviors and technological advancements. Prior scholars anticipate that the digitization of the marketplace and the habits acquired during the pandemic lead to lasting changes in consumption patterns, with individuals maintaining altered behaviors even post-pandemic (Lee et al., 2011; Buława, 2021; Shoaib and Saleem, 2023). Overall, COVID-19 catalyzed a fundamental shift in shopping perceptions toward a more digital, safety-conscious, and pragmatic paradigm. Accordingly, Harrigan et al. (2021) stated that online shopping had been particularly pronounced as consumers increasingly turned to digital platforms to fulfill their purchasing needs, mainly via the brands' websites. The advent of the post-COVID-19 era has brought about a new normal characterized by an unprecedented reliance on e-commerce channels for shopping.

Empirically, prior studies discussed that consumers navigate this evolving website shopping landscape in which emotional appeals in advertising become a critical factor influencing their buying decisions (Hassanein and Head, 2007; Saleem et al., 2023). The interaction between consumers and brands in a virtual environment has become a pivotal moment in the consumer journey, providing marketers with a unique opportunity to leverage emotional appeals strategically. Understanding how emotional states such as pleasure, arousal, and dominance play a critical role in shaping consumer perceptions and choices for brands seeking to thrive in this dynamic environment (Huang, 2017).

Several past studies on online shopping experiences during the COVID-19 pandemic have been carried out (e.g., Zhang et al., 2020; Erjavec and Manfreda, 2022; Saleem et al., 2022; Shoaib and Saleem, 2023) in which scholarly work highlighted that there are limited studies regarding how online shopping websites harnesses an affective, emotional state that results in direct and indirect consumer decision to buy after COVID-19 pandemic era (Makkonen et al., 2019) and lack of online shopping awareness among users (Abayi and Khoshtinat, 2016; Cuesta-Valino et al., 2023). Yang et al. (2020) mentioned that the emotional contents of online shopping websites shape consumers' positive attachment to the brands. Thus, the aim is to investigate and conclude how and why perceived usefulness and ease of use influence consumers' emotional state and behavioral intention to repurchase in Saudi Arabia, relying on the technology acceptance model (TAM) and emotional states of pleasure, arousal, and dominance (PAD) model. Specifically, the purposes of this study are (1) to investigate the impacts of perceived usefulness and ease of use on the pleasure, arousal, and dominance emotional experience and (2) to examine the mediating role of pleasure, arousal, and dominance between perceived usefulness, ease of use, and intention to repurchase from online shopping websites in post COVID-19 pandemic era in Saudi Arabia. However, in 2022, the number of e-commerce users in Saudi Arabia reached 19.3 million, indicating a significant penetration of online shopping among the population (Statista, 2023). The Saudi Arabia e-commerce market size is estimated to be approximately USD 13.61 billion for the fiscal year 2022–23 (Mordor Intelligence, 2023). This figure highlights the substantial growth and economic significance of the e-commerce sector within the country, driven by factors such as increasing internet penetration,

rising consumer confidence in online transactions, and the availability of diverse online shopping platforms catering to various consumer needs.

This study will not only contribute to the academic understanding of consumer intention to repurchase in the context of online shopping websites. Still, it will also offer practical implications for businesses aiming to tailor their online advertising approaches to better resonate with the emotional appeal of their target audience. As the digital sphere continues to evolve, unraveling the complexities of emotional appeals in online advertising becomes essential for staying ahead in the competitive e-commerce landscape shaped by the aftermath of the COVID-19 pandemic.

## 2 Literature review and theoretical development

### 2.1 Pleasure, arousal, and dominance emotional state model

The PAD (pleasure, arousal dominance) emotional state model was proposed by Russell and Mehrabian (1974) and originated as a psychological model. Numerous researchers have employed the PAD model to conclude individuals' emotional state toward products and/or services in different contexts of shopping (Kulviwat et al., 2016; Xu et al., 2020; Yang et al., 2020). Zhang et al. (2023) investigated and concluded that pleasure induces a consumer's willingness to purchase in an online environment, while arousal fosters a positive desire to engage with the online store environment, increasing the likelihood of the consumer returning to the same setting. Dominance, closely tied to an online shopping website's usability attribute (Yang et al., 2020), ultimately impacts a consumer's intention to buy (Shah et al., 2023). However, pleasure, arousal, and dominance have practically been regarded as distinct affective states existing at the same level in various studies, and recent research suggested that these three dimensions of the emotional model are hierarchical. In addition, theoretical and empirical evidence suggests that emotional affect is a three-dimensional construct, with pleasure, arousal, and dominance as the primary dimensions underlying the spectrum of emotional experiences (Wen et al., 2022), representing hedonic tone and engagement, respectively (Huang, 2017; Castillo-Abdul et al., 2022). However, this study on emotional states on online shopping websites stimulates consumers' recognition under the assumption that pleasure, arousal, and dominance mainly predict the consumers' intention to repurchase in an online shopping website environment (Kim and Lennon, 2010). Thus, prior studies confirmed that pleasure, arousal, and dominance, as emotional states, significantly influence consumer purchase intention in online shopping websites (Lee et al., 2011; Yang et al., 2020). In sum, these emotional dimensions shape user perceptions, impacting their likelihood to purchase and engage with the website.

### 2.2 Technology acceptance model

The technology acceptance model (TAM) proposed by Davis (1989) posits that perceived usefulness and ease of use are pivotal dimensions influencing the acceptance and use of any system. Initially,

TAM is rooted in the theory of reasoned action (TRA) (Lu et al., 2003); TAM suggests that behavioral intention is shaped by actual behavior driven by practical practices of any system and/or technology. Within TAM, perceived usefulness and ease of use, a key predicating construct, reflects an individual's belief in a system's capacity to enhance performance efficiency (Saleem et al., 2022). Previously, prior studies widely applied and indicated a positive and significant relationship between perceived usefulness, ease of use, and consumers' intention to buy (Moslehpour et al., 2018; Wilson et al., 2021a,b). Mainly in the online shopping website environment (Guritno and Siringoringo, 2013) and concluded that perceived usefulness and ease of use are the dominant constructs to predicate users' intention to buy. Therefore, limited studies applied and investigated the post-COVID-19 influence of perceived usefulness and ease of use on the consumers' intention to buy (Iriani and Andjarwati, 2020). Notably, interaction with perceived usefulness proves more influential than ease of use in consumers' behavioral intention to buy online (Prasad and Mitra, 2022).

Empirical studies, e.g., Lee and Pan (2023) and Xin et al. (2023), advocated consumers' emotional states using the TAM in online shopping via websites post-COVID-19 era. Building on Davis's (1989) TAM, which emphasizes perceived usefulness and ease of use, researchers propose extending this model to incorporate emotional factors (Lee et al., 2011), given the evolving consumer landscape after the pandemic (Qu and Chen, 2021). Previous research indicates that emotional states significantly influence technology adoption and purchase behavior by integrating emotional dimensions into the TAM model offer insights into post-COVID-19 online shopping dynamics, enhancing users understanding of how affective responses, such as pleasure, arousal, and dominance, shape consumers' intentions and behaviors in the digital marketplace (Ismail et al., 2023).

## 3 Hypotheses development

### 3.1 Perceived usefulness and pleasure

Perceived usefulness refers to an individual's belief that a particular technology or system would enhance their efficiency or performance in achieving specific goals or tasks (Davis, 1989). In online marketplaces, it encompasses how consumers perceive a website or app as valuable and beneficial in facilitating their shopping experience (Núñez-Barriopedro et al., 2023). Pleasure to buy signifies the positive affective response or emotional state of satisfaction and enjoyment experienced by consumers when engaging in online shopping activities. This pleasure is influenced by the perceived usefulness of the online platform, including factors such as user-friendly interfaces, personalized recommendations, and efficiency in meeting consumer needs and preferences (Qu and Chen, 2021). Accordingly, Xu et al. (2023) pointed out that the connection between perceived usefulness and pleasure lies in fulfilling consumer needs and preferences. For instance, a user-friendly interface streamlining the shopping process or personalized recommendations matching the consumer's preferences enhances the perceived usefulness, eliciting pleasure. Previously, Lee et al. (2011) explored and indicated a positive and significant impact of perceived usefulness on the pleasure emotional state of mind. When consumers find the online shopping website valuable, efficient, and aligned with their needs, it cultivates

satisfaction, generating a sense of pleasure derived from fulfilling expectations (Shiau and Luo, 2013). Additionally, the perceived usefulness contributes to excitement, as users anticipate and experience novel features that enhance their shopping journey (Saleem et al., 2022). Therefore, we posed the following hypotheses.

*H1: The perceived usefulness of online shopping platforms positively influences the emotional pleasure state experienced by consumers.*

### 3.2 Perceived usefulness and arousal

Perceived usefulness refers to an individual's subjective evaluation of the extent to which a particular technology or system would enhance their efficiency or performance in accomplishing specific tasks or goals (Saleem et al., 2022). In the context of online shopping, perceived usefulness relates to consumers' beliefs about how effective a website or app is in facilitating their shopping experience, such as its ability to provide relevant product information, streamline the purchasing process, or offer personalized recommendations (Iriani and Andjarwati, 2020). Lee et al. (2011) mentioned that perceived usefulness influences the arousal emotional state of consumers in an online shopping environment by providing a sense of novelty, excitement, or even a challenge. When consumers perceive a shopping platform as applicable, it introduces new features, technologies, or exclusive deals that evoke a sense of excitement. For example, integrating virtual try-ons or limited time offers based on user preferences elevates perceived usefulness, triggering arousal. Empirically, Mummalaneni (2005) investigated and confirmed that the anticipation of discovering beneficial features and the prospect of efficient and rewarding interactions contribute to the arousal dimension, influencing the overall emotional state during online shopping activities. Another study by Ashraf et al. (2016) confirmed a significant impact of perceived usefulness on the arousal emotional state of the consumers. Therefore, we posed the following hypothesis.

*H2: Perceived usefulness of online shopping platforms positively influences the arousal emotional state experienced by consumers.*

### 3.3 Perceived usefulness and dominance

Perceived usefulness can be defined as an individual's subjective assessment of the extent to which a specific technology or service is perceived to enhance their ability to accomplish tasks or achieve desired outcomes (Davis, 1989). In the context of online shopping, perceived usefulness pertains to consumers' perceptions of how valuable an online platform, such as a website or app, is in facilitating their shopping experience, which includes factors such as the ease of navigation, availability of product information, efficiency of transaction processes, and personalized recommendations tailored to the individual's preferences and needs (Yang et al., 2020). Perceived usefulness in online shopping impacts dominance by empowering consumers with a sense of control over their shopping experiences (Al-Natour et al., 2011). Features such as intuitive navigation,

customization options, and transparent information contribute to perceived usefulness, fostering a sense of dominance (Daud et al., 2018). Harrigan et al. (2021) concluded that the online platform enhances consumers' ability to find relevant products, make informed decisions, and navigate effortlessly; it instills a feeling of control. Thus, Lee et al. (2011) confirmed a significant relationship between the dominance emotional state and perceived usefulness. Furthermore, the perception of being in command during online shopping contributes to the dominance emotional state, influencing the overall user experience. Therefore, we posed the following hypothesis.

*H3: Perceived usefulness of online shopping platforms positively influences the dominance emotional state experienced by consumers.*

### 3.4 Perceived ease of use and pleasure

Perceived ease of use encompasses the user's perception of the simplicity and effortlessness with which they can navigate and utilize a technology or system (Davis, 1989). The online shopping era relates to consumers' perceptions of the simplicity and convenience of navigating an e-commerce website or app, finding desired products, and completing transactions (Ramayah and Ignatius, 2005). Saoula et al. (2023) mentioned that a straightforward and intuitive interface, uncomplicated navigation, and minimal cognitive effort in completing tasks create a positive user experience. Empirically, several previous studies investigated and concluded a positive and significant impact of ease of use on the pleasure emotional state in the context of users' intention to buy in an online shopping platform, mainly when users find the platform easy to navigate and interact with, it fosters a sense of accomplishment and satisfaction, leading to the emotional state of pleasure. Moreover, Ramayah and Ignatius (2005) elaborated that a user-friendly online shopping experience, marked by ease of use, enhances pleasure by reducing cognitive load and increasing satisfaction, positively influencing consumers' emotional inclination to purchase. Thus, we proposed the following hypotheses.

*H4: Perceived ease of use of online shopping platforms positively influences the pleasure emotional state experienced by consumers.*

### 3.5 Perceived ease of use and arousal

Perceived ease of use in online shopping refers to the subjective assessment of how effortless and intuitive consumers perceive navigating and interacting with an e-commerce website or app (Davis, 1989). The influence of perceived ease of use on emotional arousal in an online shopping environment is evident in the engagement and excitement users experience (Tao et al., 2022). Novel features, promotions, or interactive elements become more accessible, contributing to heightened arousal levels. Cheng and Huang (2022) conducted a survey and illustrated that the ease of use in an online shopping environment creates a stimulating and accessible environment, elevating arousal. Reduced barriers, intuitive navigation, and simplified interactions contribute to an exciting and engaging

experience, influencing consumers' emotional readiness to purchase and actively participate in shopping (Zhang et al., 2020). The simplicity associated with perceived ease of use enhances the overall user experience, making interactions more enjoyable and stimulating, thus influencing the arousal emotional state. Thus, we proposed the following hypothesis.

*H5: Perceived ease of use of online shopping platforms positively influences the arousal emotional state experienced by consumers.*

## 3.6 Perceived ease of use and dominance

Perceived ease of use in online shopping reflects consumers' perceptions of the platform's usability, efficiency, and convenience in facilitating their shopping journey. A website or app that is perceived as easy to use is more likely to attract and retain customers (Cuesta-Valino et al., 2023), leading to increased satisfaction, loyalty, and positive word-of-mouth recommendations (Hassanein and Head, 2007). Likely, when users encounter a platform that requires less mental effort to navigate, it contributes to a more pleasurable and enjoyable online shopping experience (Cho and Sagynov, 2015). However, an intuitive platform with minimal learning curves empowers users to navigate product options effortlessly, make informed decisions, and complete transactions (Lee et al., 2021). Empirically, Anifa and Sanaji (2022) stated that a user-friendly online shopping website interface instills a sense of control and mastery, fostering a dominance emotional state. Intuitive navigation and simplified processes empower consumers, enhancing their confidence and influencing a positive emotional state (Cinar, 2020), ultimately encouraging active participation and purchase decisions (Wilson et al., 2021a,b); notably, when users feel in control, it contributes to the emotional state of dominance (Koo and Lee, 2011). The perceived ease of use enables users to assert authority over online interactions, fostering a positive and confident emotional experience. Thus, we proposed the following hypothesis.

*H6: Perceived ease of use of online shopping platforms positively influences the dominance emotional state experienced by consumers.*

## 3.7 Pleasure emotional state and intention to repurchase

Previous research has posited a hierarchical relationship between pleasure, arousal, and dominance, suggesting that it contributes to the experiential state, fostering the intention to buy (Huang, 2017). A pleasurable experience for users creates a foundation for positive emotions, setting the stage for heightened arousal and a sense of dominance. For example, a user-friendly platform (dominance) that offers exciting features (arousal) contributes to an overall pleasurable experience. Richard and Chebat (2016) study indicates a robust correlation between the pleasure emotional state and the usability of products and online shopping environments. In the current landscape of empowered consumers, experiencing pleasure on an online

shopping website may heighten consumer sentiments, fostering prolonged intention to purchase (Agrebi et al., 2022). Therefore, pleasure, as an emotional state, is closely tied to the overall satisfaction of users derived from online shopping (Koshksaray and Nabizadeh, 2019). Thus, during the post-COVID-19 era, consumers seek both convenience and emotionally gratifying experiences (Trivedi, 2022). Pleasurable encounters, characterized by joy, contentment, and fulfillment during shopping, significantly impact the intention to repurchase. A positive emotional state contributes to lasting impressions, encouraging customers to return for future purchases. Therefore, we developed the following hypothesis.

*H7: The pleasure emotional state of consumers positively influences the intention to repurchase.*

### 3.8 Arousal emotional state and intention to repurchase

Arousal represents a heightened state of excitement and engagement. In an online shopping environment, arousal is triggered by novel features, interactive elements, or exclusive deals (Porat and Tractinsky, 2012). Post-COVID-19 era, creating a sense of excitement becomes crucial when consumers have become accustomed to the digital marketplace (Buława, 2021). Arousing emotional experiences during online shopping contribute to an enhanced overall journey, influencing the intention to repurchase by making the shopping process more dynamic and enjoyable (Hsieh et al., 2021). In the post-COVID-19 era, prior studies investigated and concluded the significant impact of arousal emotional states on online shopping behavior (Gupta and Mukherjee, 2022). In addition, novel features, interactive elements, and exclusive deals that evoke arousal contribute to a more enjoyable and stimulating shopping experience (Islam et al., 2021). This heightened engagement increases the likelihood of immediate purchases and fosters a positive association with the online brand, encouraging repeated visits and sustained buying behavior (Ghouse et al., 2022). Aroused consumers are more likely to be actively involved, shaping a dynamic and vibrant online shopping ecosystem (Mummalaneni, 2005). Thus, we developed the following hypothesis.

*H8: Arousal emotional state of consumers positively influences the intention to repurchase.*

### 3.9 Dominance emotional state and intention to repurchase

Dominance emotional state, referring to a sense of control or mastery, plays a unique role in the online shopping experience. In the post-COVID-19 era, where consumers value autonomy and control, a platform fostering dominance enhances the overall emotional state (Szymkowiak et al., 2021). Features like intuitive navigation, customization options, and transparent information contribute to perceived dominance. This emotional experience influences the intention to repurchase, as consumers are more likely to return to a platform where they feel in control of their interactions (Simanjuntak

et al., 2020). In the post-COVID-19 online shopping landscape, the dominance emotional state significantly shapes consumer behavior. Previously, Erjavec and Manfreda (2022) stated that the dominance emotional state represents a sense of control and mastery that empowers users to navigate effortlessly through online platforms, which shapes users' intention to buy.

On the other hand, Yang et al. (2020) stated that consumers experiencing a dominant emotional state feel more confident in their interactions, influencing their decision-making process and purchase behavior. This heightened sense of control fosters positive perceptions of the online shopping experience, leading to increased satisfaction and a greater likelihood of repeat purchases (Meng et al., 2021). Businesses prioritizing creating a dominant emotional state contribute to a user-centric environment, enhancing consumer loyalty and driving sustained buying behavior in the evolving digital marketplace. Therefore, we proposed the following hypothesis.

*H9: Dominance emotional state of consumers positively influences the intention to repurchase.*

### 3.10 Mediating role of the pleasure, arousal, and dominance emotional state

Research has widely recognized the importance of the mediating roles of pleasure, arousal, and dominance emotional state between perceived usefulness, perceived ease of use, and intention to repurchase. For instance, a study by Zhou and Tong (2022) found that positive emotions mediated the relationship between perceived ease of use and intention to purchase in online shopping, indicating that when users perceive an online platform to be easy to use, they experience positive emotions, which in turn influence their intention to rephrase. Similarly, the study by Cachero-Martínez and Vázquez-Casielles (2021) demonstrated that positive emotions mediated the relationship between perceived usefulness and intention to rephrase in online shopping, suggesting that when consumers perceive online shopping platforms to be helpful, they experience positive emotions, leading to a greater intention to rephrase.

Moreover, the pleasure emotional state is a pivotal mediator, as positive emotional experiences during the initial purchase contribute to lasting impressions (Koshksaray and Nabizadeh, 2019). Pleasurable encounters create a sense of satisfaction and contentment, fostering customer loyalty and influencing their inclination to revisit and make subsequent purchases (Zanger et al., 2010). Second, arousal, associated with excitement and engagement, is a mediator by enhancing the online shopping experience (Hsieh et al., 2021). Elevated arousal levels may be linked to discovering new features, exclusive deals, or interactive elements, contributing to sustained interest and a higher likelihood of re-buying. Third, a dominance emotional state, functioning as a mediator, empowers consumers with a sense of control and mastery over their online shopping experiences (Blasco-Arcas et al., 2016). When consumers feel in command, navigating effortlessly through a platform positively influences their emotional state and contributes to the intention to re-buy. In the post-COVID-19 era, where consumers seek both efficiency and emotionally satisfying experiences, these mediating roles underscore the importance of crafting online shopping environments that evoke pleasure, arousal,

and dominance to drive sustained customer engagement and repeat purchases.

However, perceived usefulness and ease of use, as fundamental factors in the TAM, contribute to forming positive attitudes toward online shopping. Pleasure, acting as a mediator, bridges the gap between practical aspects and emotional gratification. A pleasurable shopping experience, driven by perceived usefulness and ease of use, enhances customer satisfaction, fostering the intention to re-buy. Simultaneously, arousal, indicative of heightened engagement and dominance, reflecting a sense of control, mediate the relationship between perceived usefulness, ease of use, and re-buy intentions. On the other hand, dominance empowers users to navigate effortlessly, enhancing their confidence in online transactions and influencing their intention to re-buy.

In the evolving post-COVID-19 consumer landscape, understanding how these emotional mediators operate between functional attributes and purchasing intentions is pivotal. Crafting online shopping environments that facilitate ease of use and perceived usefulness and evoke pleasurable, arousing, and dominant experiences is key to sustaining customer loyalty and driving repeated online purchases. Therefore, we proposed the following hypotheses.

*H10:* Perceived usefulness of online shopping platforms mediates the relationship pleasure emotional state and intention to repurchase.

*H11:* Perceived usefulness of online shopping platforms mediates the relationship arousal emotional state and intention to repurchase.

*H12:* Perceived usefulness of online shopping platforms mediates the relationship dominance emotional state and intention to repurchase.

*H13:* Perceived ease of use of online shopping platforms mediates the relationship pleasure emotional state and intention to repurchase.

*H14:* Perceived ease of use of online shopping platforms mediates the relationship arousal emotional state and intention to repurchase.

*H15:* Perceived ease of use of online shopping platforms mediates the relationship dominance emotional state and intention to repurchase.

## 4 Methodology

### 4.1 Data collection

This study aimed to assess the role of perceived usefulness and ease of use through emotional state in shaping consumer intention to repurchase in the era of online shopping after the COVID-19 pandemic, particularly the most visited websites in Saudi Arabia. Respondents were prompted to focus on one of the six well-known online shopping websites discussed in Table 1.

The abovementioned websites ranked among the top 10 most recognized e-commerce companies in Saudi Arabia (Similarweb, 2023) and served as subjects for the survey. Five hundred and thirty-eight questionnaires were collected from random individuals in Jeddah, Saudi Arabia, with a response rate of 94.6%. After eliminating surveys with missing data ( $n=29$ ),  $n=509$  were considered for final data analysis. Ethical review and approval was not required for the study on human participants in accordance with the local legislation and institutional requirements. The patients/participants provided their written informed consent to participate in this study.

### 4.2 Measurement items

The measurement items for the current study were adapted from past studies. These items are as follows: perceived usefulness (four items), perceived ease of use (five items) adapted from (Saleem et al., 2022), pleasure (three items), arousal (three items), dominance (three

TABLE 1 Top online shopping websites in Saudi Arabia.

Website for online shopping	Description
<a href="http://www.haraj.com.sa">www.haraj.com.sa</a>	Haraj is a popular online marketplace in Saudi Arabia where individuals and businesses can buy and sell various goods such as electronics, vehicles, clothing, and real estate.
<a href="http://www.noon.com">www.noon.com</a>	Noon is an e-commerce platform based in the Middle East, mainly catering to customers in Saudi Arabia and the United Arab Emirates. It offers various products, including electronics, fashion, beauty, home goods, and groceries.
<a href="http://www.temu.com">www.temu.com</a>	Temu is a newly launched online marketplace in Saudi Arabia. The company offers online buying and selling of products such as clothes, cosmetics, groceries, and home appliances.
<a href="http://www.amazon.sa">www.amazon.sa</a>	Amazon is the Saudi Arabian version of the global e-commerce giant Amazon. It offers various products across various categories, including electronics, books, clothing, and household goods. Customers in Saudi Arabia can shop on Amazon and benefit from fast delivery, competitive pricing, and a user-friendly shopping experience.
<a href="http://www.jarir.com">www.jarir.com</a>	Jarir is a leading online platform in Saudi Arabia specializing in books, electronics, office supplies, personal use, and educational materials. The website offers various products, including smartphones, laptops, tablets, stationery, and accessories.
<a href="http://www.nahdionline.com">www.nahdionline.com</a>	Nahdi Online is an e-commerce platform in Saudi Arabia. The company provides a comprehensive range of healthcare and personal care products, including pharmaceuticals, beauty and personal care items, baby products, and medical equipment.

Source: Similarweb (2023).

items), and intention to repurchase (three items) were adapted from (Yang et al., 2020). Therefore, following the aim and context of the present study, we made minor modifications to make items suitable for this study. The final questionnaire consisted of 21 items. Importantly, scales for perceived usefulness, ease of use, and intention to repurchase were measured using a five-point Likert scale, and a five-point and bipolar semantic differential scale was used to measure pleasure, arousal, and dominance emotional state. Thus, the descriptive values of all constructs are presented in Table 2.

## 5 Results

### 5.1 Sample profile

Among the 509 usable responses, participants were predominantly the gender distribution shows a higher representation of males (62.51%) compared to females (37.49%), the majority of participants fall within the age groups of 25–34 (39.88%) and 35–44 (22.00%), indicating a relatively younger demographic. Therefore, we asked about the frequency of online shopping where a significant portion of participants engaged in monthly online shopping (50.69%), indicating frequent online shopping behavior. This aligns with the current trend of increased reliance on online platforms. Thereby, a substantial portion of participants perceive a significant impact of COVID-19 on their shopping behavior (42.99%). This insight underscores the relevance of considering the pandemic's influence on consumer buying habits.

Individuals with a master's degree represent a significant portion of the population in the study, comprising 58.54% of the respondents. This demographic group typically possesses a higher level of education, which can influence their intention to repurchase power and allow them to engage in online shopping more frequently and for a broader range of products and services. Additionally, master's degree holders will likely be familiar with navigating online platforms and utilizing various digital tools for shopping. Familiarity with technology makes them more receptive to the idea of repurchasing using websites and increases their confidence in conducting online transactions securely. Thus, the overall demographic information of the respondents is stated in Table 3.

### 5.2 Measurement model

To obtain the aim of the present study, three constructs from the TAM, known as perceived usefulness, perceived ease of use, and

behavioral intention to repurchase, and three constructs from the PAD emotional states model, known as pleasure, arousal, and dominance, were posed. All the measured constructs were evaluated using a Cronbach's alpha and composite reliability (CR) reliability test. The average variance extracted (AVE) was employed to assess the convergent validity. The loading for all reflective items above the threshold value criterion  $>0.6$  (Saleem et al., 2023). The reliability of constructs was acknowledged through Cronbach's alpha values and composite reliability, where the values for constructs were reported as  $>0.6$ , and convergent validity was highlighted by AVE values ranging  $>0.5$ , the statistical results validating all constructs and items in the present study. Therefore, discriminant validity is determined when the AVE's square root is higher than the correlation in Tables 4, 5.

### 5.3 Discriminant validity

Discriminant validity is supported when the square root of the AVE for each construct is higher than the correlations with other constructs. In this case, the diagonal elements represent each construct's square root of the AVE. Discriminant validity is established if these values exceed off-diagonal correlations (Aftanorhan et al., 2021). Thereby, the correlation between [i.e., arousal and dominance are quite high (0.902)], indicating a strong positive relationship between these two emotional states. Thus, intention to repurchase positively correlates with all other constructs, suggesting that emotions (arousal, dominance, and pleasure) and cognitive factors (perceived ease of use, perceived usefulness) influence the intention to repurchase in the online shopping context after the COVID-19 pandemic. Therefore, the results are presented in Table 5.

### 5.4 Structural model and hypothesis testing

The values extracted from the SmartPLS analysis represent the relationship, variance explained ( $R^2$ ) for the model, and significance level. A bootstrapping analysis was performed with 1,000 sub-samples to understand the relationship among perceived usefulness, perceived ease of use, pleasure, arousal, dominance emotional state, and intention to repurchase. However, Hypotheses (H1) results show a  $t$ -value of 3.360 and a  $p$ -value of 0.000; thus, perceived usefulness significantly impacts pleasure (statistically significant). Hypotheses (H2) results demonstrate a  $t$ -value of 3.423 and  $p$ -value of 0.000; perceived usefulness significantly impacts arousal emotional state. Hypothesis (H3)  $t$ -value 3.225 and  $p$ -value: 0.000 indicate that perceived usefulness significantly impacts dominance in the emotional state. Thereby, hypothesis (H4) demonstrated a  $t$ -value of 18.803 and  $p$ -value of 0.000, hypothesis (H5) had a  $t$ -value of 16.051 and  $p$ -value of 0.000, and (H6) statistical values indicate that the  $t$ -value of 12.416 and  $p$ -value 0.000 indicates the significant and positive impact of perceived ease of use on the pleasure, arousal, and dominance emotional state.

Finally, we tested the direct relationship between pleasure, arousal, and dominance emotional state and intention to repurchase where the statistical results illustrated as Hypothesis (H7)  $t$ -value 3.859 and  $p$ -value 0.000, hypothesis (H8)  $t$ -value 3. Four hundred sixty-three and  $p$ -value 0.001, and hypothesis (H9)  $t$ -value 12.085 and  $p$ -value 0.000 shows a significant and positive relationship.

TABLE 2 Descriptive statistics.

Constructs	Mean	Std. deviation
Perceived usefulness	3.8077	0.59624
Perceived ease of use	3.8430	0.90679
Pleasure	3.7392	0.98255
Arousal	3.6581	0.98643
Dominance	3.7332	0.86033
Intention to revisit the brand website	3.7229	0.72649

TABLE 3 Demographic information.

	Indicators	Frequency	Percentage
Age	18–24	98	19.24%
	25–34	203	39.88%
	35–44	112	22.00%
	45–54	82	16.10%
	55–64 and above	14	2.75%
Gender	Male	318	62.51%
	Female	191	37.49%
Occupation	Student	72	14.14%
	Employed full-time	308	60.47%
	Employed part-time	27	5.30%
	Self-employed	76	14.93%
	Unemployed	20	3.93%
	Retired	6	1.18%
Income level	Under SAR 25,000	73	14.34%
	Less than 5,000 SAR	108	21.20%
	5,000–8,000 SAR	175	34.40%
	8,001–11,000 SAR	92	18.07%
	11,001 and above	61	11.98%
Education level	High School or less	34	6.67%
	Bachelor's degree	159	31.23%
	Master's degree	298	58.54%
	Doctorate or professional degree	18	3.54%
Websites	<a href="http://www.haraj.com.sa">www.haraj.com.sa</a>	129	25.35%
	<a href="http://www.noon.com">www.noon.com</a>	103	20.24%
	<a href="http://www temu.com">www temu.com</a>	93	18.27%
	<a href="http://www.amazon.sa">www.amazon.sa</a>	80	15.72%
	<a href="http://www.jarir.com">www.jarir.com</a>	63	12.39%
	<a href="http://www.nahdionline.com">www.nahdionline.com</a>	41	8.05%
Frequency of online shopping	Rarely	61	11.97%
	Occasionally	131	25.74%
	Monthly	258	50.69%
	Weekly	47	9.24%
	Daily	12	2.36%
Preferred devices for online shopping	Smartphone	327	64.22%
	Tablet	59	11.59%
	Laptop	116	22.80%
	Desktop computer	7	1.38%
Online shopping experience	Novice	17	3.34%
	Intermediate	178	34.99%
	Expert	314	61.65%
Impact of COVID-19 on shopping behavior	Significant	219	42.99%
	Moderate	102	20.04%
	Minimal	138	27.09%
	No impact	50	9.82%



TABLE 4 Measurement items.

	Loading		CR	AVE
Perceived usefulness (PU)		0.728	0.83	0.55
Using this website enables me to accomplish online shopping tasks more quickly.	0.785			
Using this website enhances my online shopping performance.	0.712			
Using this website increases my online shopping productivity.	0.795			
Using this website enhances my online shopping effectiveness.	0.667			
Perceived ease of use (PEU)		0.871	0.906	0.659
Learning to use this website is easy for me.	0.774			
I find it easy to use this website to do what I want it to do.	0.773			
My interaction with this website is clear and understandable.	0.813			
I find this website is flexible to interact with it.	0.852			
I can easily become skillful at using this website feature for online shopping.	0.844			
Pleasure		0.842	0.905	0.761
Unhappy-happy.	0.872			
Annoyed-pleased.	0.838			
Discontent-content.	0.905			
Arousal		0.836	0.902	0.754
Bored stimulated.	0.871			
Dull-bright.	0.893			
Calm-excited.	0.84			
Dominance.		0.885	0.929	0.813
Influenced-influential.	0.905			
Submissive-dominant.	0.888			
Autonomous-guided.	0.912			
Intention to repurchase the brand website.		0.893	0.934	0.824
I intend to return to this website for online shopping.	0.910			
I intend to revisit the online retailer website in the near future.	0.921			
I expect to revisit and suggest to my peers about this website for online shopping.	0.893			

All direct hypotheses are supported by the statistical values, indicating significant relationships between the identified variables. These findings suggest that perceived usefulness, perceived ease of use, pleasure, arousal, and dominance play crucial roles in shaping consumer intentions to repurchase in the online shopping context after the COVID-19 pandemic. Therefore, the results are presented in Figure 1 and Table 6.

## 5.5 Mediating analysis

In the present study, we posed six mediating hypotheses, H10 to H15, to confirm whether the mediation effects approach included no effect (no-mediation), direct-only (no-mediation), indirect-only (full mediation), competitive only (partial mediation) and complementary (partial mediation) (Saleem et al., 2022). Maxwell et al. (2011) suggested determining the partial mediation effect by measuring the construct with their total direct and indirect effects; if the results are

positive, complementary partial mediation is ultimately presented. A partial mediation effect is achieved when the indirect and direct effects are significant. For the total sample, the H10 – H15 indicates supported hypotheses. The statistical analysis supports all hypotheses (H10 – H15), indicating significant indirect relationships between perceived usefulness, perceived ease of use, emotional states (pleasure, arousal, and dominance), and the intention to repurchase. This suggests that cognitive and emotional factors contribute to the overall intention to revisit the brand website in the online shopping context after the COVID-19 pandemic. Therefore, the results are presented in Table 7.

## 6 Discussion

The era of online shopping environment has undergone a transformative shift, particularly in the wake of the COVID-19 pandemic. This study delves into the interplay between emotional

TABLE 5 Fornell–Larcker criterion.

	A	D	IRP	PEU	PU	P
A	0.868					
D	0.848	0.902				
IRP	0.818	0.880	0.908			
PEU	0.759	0.749	0.735	0.812		
PU	0.552	0.575	0.575	0.727	0.742	
P	0.836	0.808	0.797	0.801	0.62	0.872

A, arousal; D, dominance; IRP, Intention to Repurchase the Brand Website; PEU, perceived ease of use; PU, perceived usefulness; and P, pleasure.

appeals, perceived usefulness, perceived ease of use, and consumer intention to repurchase in online shopping post-COVID-19 era. The comprehensive findings shed light on the relationships and implications for businesses striving to understand and adapt to the evolving landscape of digital commerce. The study unraveled several noteworthy findings, each contributing to a deeper understanding of the factors influencing consumer behavior in the post-pandemic online shopping environment. These key findings are organized into distinct themes for a comprehensive discussion.

First, perceived usefulness and ease of use, rooted in TAM, were explored as critical determinants of technology acceptance and, in this context, online shopping behavior. This study affirmed the foundational role of perceived usefulness and ease of use in shaping consumer intention to repurchase. Perceived usefulness was identified as a key predictor of positive emotional state, i.e., pleasure, arousal, and dominance, which, in turn, influenced consumers' intentions to repurchase. Furthermore, the impact of perceived ease of use on emotional states and subsequent intentions highlights the multifaceted nature of consumer decision-making in online shopping.

Second, emotional appeals, comprising pleasure, arousal, and dominance, emerged as pivotal drivers of consumer behavior. The PAD model, rooted in Mehrabian and Russell's theory, provided a framework for understanding the affective states influencing online shoppers. Pleasure, linked to a consumer's willingness to purchase, was found to be influenced by arousal and dominance. The hierarchical nature of pleasure, arousal, and dominance was confirmed, aligning with recent studies (Huang, 2017; Koshksaray and Nabizadeh, 2019; Trivedi, 2022). Emotional states were critical factors shaping the consumer's recognition of a brand's function and aesthetic features. The arousal and dominance dimensions predicted pleasure and influenced the likelihood of positive intention to repurchase, emphasizing the integral role of emotional branding on online brands' websites.

Finally, the study delved into the mediating role of emotional states, specifically arousal, dominance, and pleasure, in the relationship between perceived usefulness, perceived ease of use, and the intention to repurchase. The findings established significant indirect relationships, providing insights into the pathways through which perceived usefulness and ease of use impact consumer intentions to repurchase. For instance, the positive indirect relationship between perceived usefulness and intention to repurchase, mediated by pleasure, arousal, and dominance emotional state, highlights the crucial role of positive affect in driving the intention to revisit a brand website. Similar patterns were observed for perceived ease of use,

emphasizing the intricate interplay between cognitive evaluations and emotional responses.

## 6.1 Age and gender dynamics

Demographic indicators, particularly age and gender, were considered in understanding the variations in emotional responses and online shopping behavior. The age distribution revealed a diverse online shopping demographic, with the majority falling within the 25–34 age range.

Previously, Sillitoe (2018) stated that individuals in the 25–34 age group are often considered digital natives, having grown up with technology; thus, they are generally more comfortable using digital devices and navigating online platforms, making online shopping a natural choice. Noticeably, prior studies identified that over the past decade, there has been a significant cultural shift toward online shopping, with more consumers embracing e-commerce as a norm rather than an exception (Zhou and Tong, 2022). Such modern cultural acceptance influences individuals in the 25–34 age group to view online shopping as a legitimate and preferred way to make purchases (Ramadhan and Syahputri, 2020). Gender dynamics, mainly digital natives, showcased variations in emotional responses, indicating that emotional appeals may resonate differently across genders. Understanding these nuances is crucial for targeted marketing efforts.

In conclusion, the findings of this study contribute significantly to the evolving understanding of post-COVID-19 online shopping behavior. Linking cognitive evaluations (i.e., perceived usefulness and ease of use) with emotional appeals emerge as key consumer decision influencers. Businesses aiming to thrive in the digital marketplace must recognize the significant relationships between emotional states, perceived usefulness, and ease of use. Tailoring marketing strategies to diverse demographic and economic segments while prioritizing mobile accessibility is a pivotal recommendation derived from the study's findings. As online shopping continues to reshape consumer landscapes, businesses equipped with insights from this study are poised to navigate the dynamic terrain and foster enduring connections with their digital consumers.

## 7 Practical implications

The practical implications drawn from this study emphasize the crucial role of strategic considerations for brand retailers in the digital age. Recognizing that consumer interactions with product presentations, interface design, and interactive services significantly contribute to emotional branding, retailers should prioritize enhancing these elements on their websites. Special attention to personalization and security/privacy services is paramount, as these aspects tend to invoke cognitive persuasion, influencing consumer perceptions.

Practically, online brand retailers should refrain from oversimplifying websites in pursuit of perceived ease of navigation for a generalized audience. Instead, acknowledging consumers' diverse and evolving nature and providing multiple navigation dimensions allows for personalized user experiences, fostering emotional connections and brand loyalty.

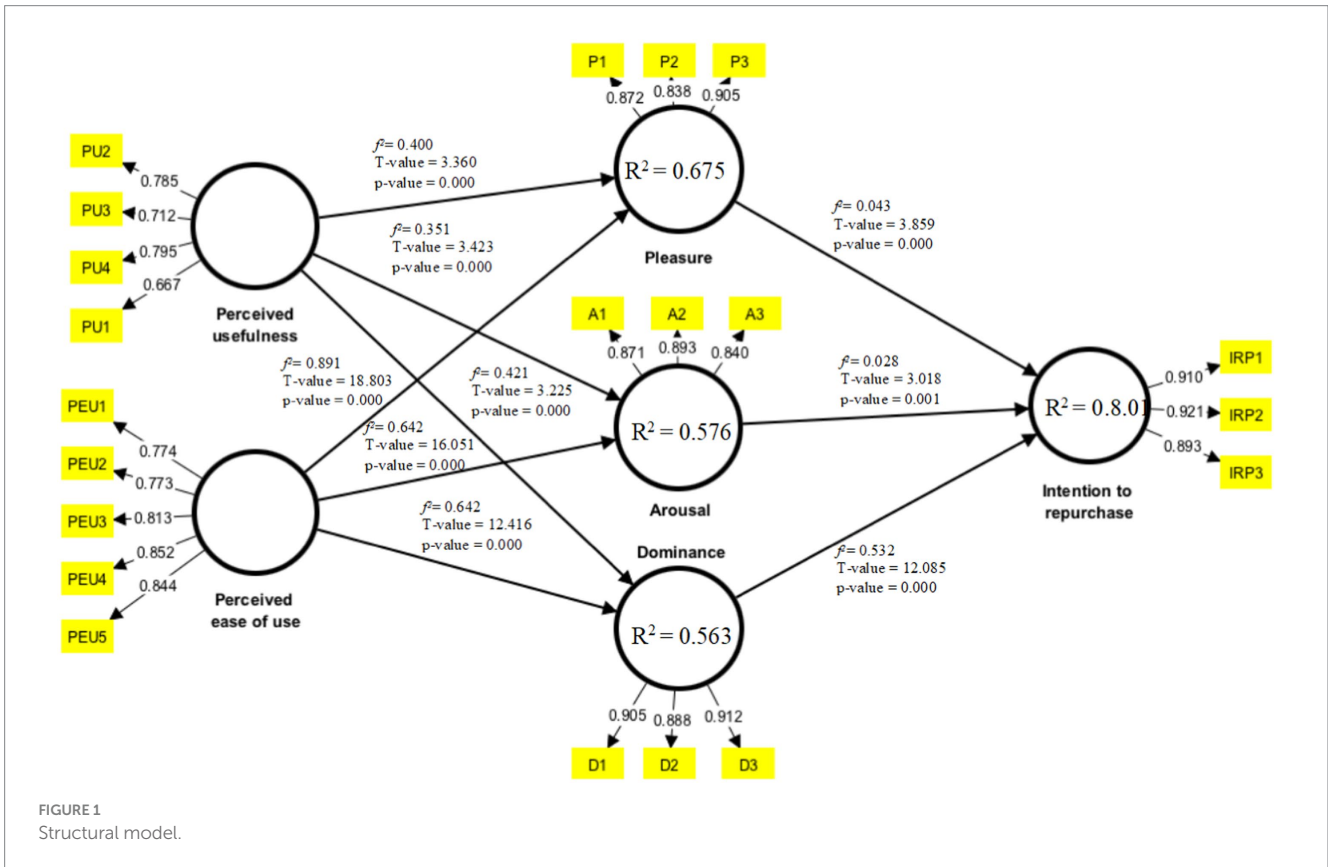


FIGURE 1 Structural model.

TABLE 6 Direct hypotheses.

	$\beta$	T-value	p-values	Hypotheses
PU → P	0.150	3.360	0.000	H1 - Supported
PU → A	0.103	3.423	0.000	H2 - Supported
PU → D	0.164	3.225	0.000	H3 - Supported
PEU → P	0.784	18.803	0.000	H4 - Supported
PEU → A	0.760	16.051	0.000	H5 - Supported
PEU → D	0.703	12.416	0.000	H6 - Supported
P → IRP	0.179	3.859	0.000	H7 - Supported
A → IRP	0.162	3.463	0.001	H8 - Supported
D → IRP	0.598	12.085	0.000	H9 - Supported

PU, perceived usefulness; PEU, perceived ease of use; P, pleasure; A, arousal; D, dominance; IRP, intention to repurchase.

TABLE 7 Mediating hypotheses.

	$\beta$	T statistics	P-values	Hypotheses
PU → P → IRP	0.009	3.118	0.001	H10 - Supported
PU → A → IRP	0.000	3.317	0.000	H11 - Supported
PU → D → IRP	0.038	3.208	0.000	H12 - Supported
PEU → P → IRP	0.140	3.837	0.000	H13 - Supported
PEU → A → IRP	0.123	3.576	0.000	H14 - Supported
PEU → D → IRP	0.420	9.221	0.000	H15 - Supported

Furthermore, integrating interactive services to facilitate omnichannel experiences is a key strategy for retailers. Engaging consumers across various touchpoints strengthens brand-consumer relationships and positions the brand favorably in the evolving digital landscape. Acknowledging consumers' roles as brand promoters on social media platforms, practitioners must extend interactive services seamlessly into these channels, capitalizing on the promotional potential and reinforcing emotional bonds with the audience. This study encourages online brand retailers to embrace a holistic and dynamic approach to online experiences, recognizing the nuanced factors that shape emotional connections with their digital consumer base.

## 8 Theoretical contributions

This study delves into the multifaceted landscape of post-COVID-19 online shopping behavior, offering theoretical contributions and practical insights for businesses navigating the evolving digital marketplace. Integrating Davis's TAM with Mehrabian and Russell's PAD emotional model establishes a comprehensive framework that illuminates the complex relationship between cognitive evaluations and emotional responses in shaping consumer decisions to repurchase. The validation of emotional appeals, particularly pleasure, arousal, and dominance, underscores the significance of emotional branding in influencing consumers' online shopping behavior and recognizing the hierarchical nature of these emotional states. However, exploring indirect relationships and mediation effects reveals pathways through which perceived

usefulness and ease of use impact consumer intentions to repurchase, emphasizing the need for a holistic understanding of the emotional dimensions of online shopping. Demographic considerations, specifically age and gender dynamics, contribute to a richer understanding of how consumer segments respond to emotional appeals, guiding businesses in tailoring marketing strategies.

## 9 Limitations and future research directions

We acknowledged several limitations in the present study. Firstly, the use of convenience sampling and the predominant representation of male respondents in the sample may restrict the generalizability of the findings to a more diverse consumer group, particularly females. This demographic bias could impact the study's applicability to a broader audience. Therefore, the six online shopping websites provided as choices were nationally recognized, and inherent biases may persist. Additionally, the focus on behavioral intention to repurchase states limits the scope of the overall shopping and brand experience. Future researchers should conduct a longitudinal study to determine consumers' intention to repurchase in different time frames.

Secondly, the focus on the online brands' websites limits the generalizability of the results to some specific brand scenarios. Future research should consider incorporating specific brands to capture a more comprehensive understanding of emotional branding across various consumer demographics.

Third, caution should be used when relying on these results, as they are based on regression, and therefore on potentially spurious correlations (Armstrong, 2012). The correlations in Table 5 do not pass Rönkkö and Cho's (2022) guidelines for discriminant validity. The tested model is missing important variables included in the UTAUT2 for consumer technology (Venkatesh et al., 2012).

Finally, the study primarily concentrates on the behavioral intention to repurchase, providing a snapshot of consumer perceptions. A more extensive exploration of the online shopping experience, including post-interaction assessments, would offer a more holistic understanding of the dynamics involved.

In conclusion, this study provides valuable insights; these limitations underscore the need for caution in generalizing the findings, emphasizing the potential for future research to address these constraints and further enrich the understanding of emotional branding in online shopping.

## References

- Abayi, M., and Khoshtinat, B. (2016). Study of the impact of advertising on online shopping tendency for airline tickets by considering motivational factors and emotional factors. *Procedia Econ. Financ.* 36, 532–539. doi: 10.1016/S2212-5671(16)30065-X
- Afthanorhan, A., Ghazali, P. L., and Rashid, N. (2021). Discriminant validity: a comparison of CBSEM and consistent PLS using Fornell & Larcker and HTMT approaches. *J. Phys. Conf. Series* 1874:012085. doi: 10.1088/1742-6596/1874/1/012085
- Agrebi, M., Chandon, J. L., and Zaichkowsky, J. L. (2022). Customer satisfaction and loyalty with corporate multi-brand websites in an era of social media and misinformation. *Int. J. Internet Mark. Advert.* 16, 394–421. doi: 10.1504/IJIMA.2022.123164
- Al-Natour, S., Benbasat, I., and Cenfetelli, R. (2011). The ado adopting shopping assistants: perceived similarity as an antecedent to evaluative beliefs. *J. Assoc. Inf. Syst.* 12, 347–374. doi: 10.17705/1jais.00267
- Alonso-García, J., Pablo-Martí, F., Núñez-Barriopedro, E., and Cuesta-Valiño, P. (2023). Digitalization in B2B marketing: omnichannel management from a PLS-SEM approach. *J. Bus. Ind. Mark.* 38, 317–336. doi: 10.1108/JBIM-09-2021-0421
- Anifa, N., and Sanaji, S. (2022). Augmented reality users: the effect of perceived ease of use, perceived usefulness, and customer experience on repurchase intention. *J. Bus. Manag. Rev.* 3, 252–274. doi: 10.47153/jbmr33.3462022
- Armstrong, J. S. (2012). Illusions in regression analysis. *Int. J. Forecast.* 28, 689–694. doi: 10.1016/j.ijforecast.2012.02.001
- Ashraf, A. R., Thongpapanl, N. T., and Spyropoulou, S. (2016). The connection and disconnection between e-commerce businesses and their customers: exploring the role of engagement, perceived usefulness, and perceived ease-of-use. *Electron. Commer. Res. Appl.* 20, 69–86. doi: 10.1016/j.elerap.2016.10.001
- Blasco-Arcas, L., Hernandez-Ortega, B. I., and Jimenez-Martinez, J. (2016). Engagement platforms: the role of emotions in fostering customer engagement and brand image in interactive media. *J. Serv. Theory Pract.* 26, 559–589. doi: 10.1108/JSTP-12-2014-0286
- Bulawa, B. (2021). The role of the marketplace in the post-Covid-19 City of tomorrow. *Builder* 289, 56–63. doi: 10.5604/01.3001.0015.0415

## Data availability statement

The raw data supporting the conclusions of this article will be made available by the author, without undue reservation.

## Ethics statement

Ethical approval was not required for the study on human participants in accordance with the local legislation and institutional requirements. The participants provided their written informed consent to participate in this study.

## Author contributions

KA: Conceptualization, Data curation, Formal analysis, Funding acquisition, Investigation, Methodology, Project administration, Resources, Software, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing.

## Funding

The author(s) declare that no financial support was received for the research, authorship, and/or publication of this article.

## Conflict of interest

The author declares that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

## Publisher's note

All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article, or claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher.

- Cachero-Martínez, S., and Vázquez-Casielles, R. (2021). Building consumer loyalty through e-shopping experiences: the mediating role of emotions. *J. Retail. Consum. Serv.* 60:102481. doi: 10.1016/j.jretconser.2021.102481
- Castillo-Abdul, B., Pérez-Escoda, A., and Núñez-Barriopedro, E. (2022). Promoting social media engagement via branded content communication: a fashion brands study on Instagram. *Media Commun* 10:4728. doi: 10.17645/mac.v10i1.4728
- Cheng, L. K., and Huang, H. L. (2022). Virtual tourism atmospheres: the effects of pleasure, arousal, and dominance on the acceptance of virtual tourism. *J. Hosp. Tour. Manag.* 53, 143–152. doi: 10.1016/j.jhtm.2022.10.002
- Cho, Y. C., and Sagynov, E. (2015). Exploring factors that affect usefulness, ease of use, trust, and purchase intention in the online environment. *Int. J. Manag. Inf. Syst.* 19, 21–36. doi: 10.19030/ijmis.v19i1.9086
- Cinar, D. (2020). “The effect of consumer emotions on online purchasing behavior” in *Tools and techniques for implementing international e-trading tactics for competitive advantage* (USA: IGI Global), 221–241.
- Cuesta-Valino, P., Gutiérrez-Rodríguez, P., Núñez-Barriopedro, E., and García-Henche, B. (2023). Strategic orientation towards digitization to improve supermarket loyalty in an omnichannel context. *J. Bus. Res.* 156:113475. doi: 10.1016/j.jbusres.2022.113475
- Daud, A., Farida, N., Andriansah, A., and Razak, M. (2018). Impact of customer trust toward loyalty: the mediating role of perceived usefulness and satisfaction. *J. Bus. Retail Manag.* Res. 13, 235–242. doi: 10.24052/JBRMR/V13IS02/ART-21
- Davis, F. D. (1989). “Technology acceptance model: TAM” in *Information seeking behavior and technology adoption*. eds. M. N. Al-Suqri and A. S. Al-Aufi, USA 205–219.
- Erjavec, J., and Manfreda, A. (2022). Online shopping adoption during COVID-19 and social isolation: extending the UTAUT model with herd behavior. *J. Retail. Consum. Serv.* 65:102867. doi: 10.1016/j.jretconser.2021.102867
- Ghouse, S. M., Duffett, R. G., and Chaudhary, M. (2022). How twitter advertising influences the purchase intentions and purchase attitudes of Indian millennial consumers? *Int. J. Internet Market. Advert.* 16, 142–164. doi: 10.1504/IJIMA.2022.120973
- Gupta, A. S., and Mukherjee, J. (2022). Long-term changes in consumers' shopping behavior post-pandemic: an exploratory study. *Int. J. Retail Distrib. Manag.* 50, 1518–1534. doi: 10.1108/IJRDM-04-2022-0111
- Guritno, S., and Siringoringo, H. (2013). Perceived usefulness, ease of use, and attitude towards online shopping usefulness towards online airlines ticket purchase. *Procedia Soc. Behav. Sci.* 81, 212–216. doi: 10.1016/j.sbspro.2013.06.415
- Harrigan, M., Feddema, K., Wang, S., Harrigan, P., and Diot, E. (2021). How trust leads to online purchase intention founded in perceived usefulness and peer communication. *J. Consum. Behav.* 20, 1297–1312. doi: 10.1002/cb.1936
- Hassanein, K., and Head, M. (2007). Manipulating perceived social presence through the web interface and its impact on attitude towards online shopping. *Int. J. Hum. Comput. Stud.* 65, 689–708. doi: 10.1016/j.ijhcs.2006.11.018
- Hsieh, S. H., Lee, C. T., and Tseng, T. H. (2021). Branded app atmospherics: examining the effect of pleasure–arousal–dominance in brand relationship building. *J. Retail. Consum. Serv.* 60:102482. doi: 10.1016/j.jretconser.2021.102482
- Huang, L. T. (2017). *Exploring consumers' intention to urge to buy in mobile commerce: the perspective of pleasure-arousal-dominance*.
- Iriani, S. S., and Andjarwati, A. L. (2020). Analysis of perceived usefulness, perceived ease of use, and perceived risk toward online shopping in the era of Covid-19 pandemic. *Sys. Rev. Pharm.* 11, 313–320.
- Islam, T., Pitafi, A. H., Arya, V., Wang, Y., Akhtar, N., Mubarik, S., et al. (2021). Panic buying in the COVID-19 pandemic: a multi-country examination. *J. Retail. Consum. Serv.* 59:102357. doi: 10.1016/j.jretconser.2020.102357
- Ismail, M. H., Saaludin, N., Che Mat, B., and Ali, H. M. S. N. D. (2023). An investigating Malaysian pre-university students' acceptance and use of Microsoft teams for online learning during Covid-19 pandemic. *Int. J. Indust. Eng. Product. Res.* 34, 1–14. doi: 10.22068/ijiepr.34.1.8
- Kim, H., and Lennon, S. J. (2010). E-atmosphere, emotional, cognitive, and behavioral responses. *J. Fashion. Market. Manag. Int. J.* 14, 412–428. doi: 10.1108/13612021011061861
- Koo, D. M., and Lee, J. H. (2011). Inter-relationships among dominance, energetic and tense arousal, and pleasure, and differences in their impacts under online vs. offline environment. *Comput. Hum. Behav.* 27, 1740–1750. doi: 10.1016/j.chb.2011.03.001
- Koshksaray, A. A., and Nabizadeh, E. (2019). “Internet advertising pleasure and purchase intention” in *Brand culture and identity: Concepts, methodologies, tools, and applications* (Manuel Rivera, USA: IGI Global), 716–735.
- Kulviwat, S., Zhang, Y., Fan, J., and Zheng, L. (2016). Understanding consumer shopping behaviour: a comparison of three theories of emotions in predicting online flow. *Int. J. Electron. Market. Retail.* 7, 3–21. doi: 10.1504/IJEMR.2016.075322
- Lee, C. H., Chen, C. W. D., Huang, S. F., Chang, Y. T., and Demirci, S. (2021). Exploring consumers' impulse buying behavior on online apparel websites: an empirical investigation on consumer perceptions. *Int. J. Electron. Comm. Stud.* 12, 119–142. doi: 10.7903/ijecs.1971
- Lee, E. J., Kim, H. N., and Noh, M. J. (2011). Psychological benefits of one-to-one marketing in apparel E-commerce: an approach with perceived usefulness, pleasure, arousal, and attitude toward the E-store. *J. Korean Soc. Cloth. Text.* 35, 646–658. doi: 10.5850/JKSC.2011.35.6.646
- Lee, C. T., and Pan, L. Y. (2023). Smile to pay: predicting continuous usage intention toward contactless payment services in the post-COVID-19 era. *Int. J. Bank Mark.* 41, 312–332. doi: 10.1108/IJBM-03-2022-0130
- Lu, J., Yu, C. S., Liu, C., and Yao, J. E. (2003). Technology acceptance model for wireless internet. *Internet Res.* 13, 206–222. doi: 10.1108/10662240310478222
- Makkonen, M., Riekkinen, J., Frank, L., and Jussila, J. (2019). “The effects of positive and negative emotions during online shopping episodes on consumer satisfaction, repurchase intention, and recommendation intention” in *Bled eConference* (Finland: University of Maribor).
- Maxwell, S. E., Cole, D. A., and Mitchell, M. A. (2011). Bias in cross-sectional analyses of longitudinal mediation: partial and complete mediation under an autoregressive model. *Multivar. Behav. Res.* 46, 816–841. doi: 10.1080/00273171.2011.606716
- Meng, L. M., Duan, S., Zhao, Y., Lü, K., and Chen, S. (2021). The impact of online celebrity in livestreaming E-commerce on purchase intention from the perspective of emotional contagion. *J. Retail. Consum. Serv.* 63:102733. doi: 10.1016/j.jretconser.2021.102733
- Mordor Intelligence (2023). *Saudi Arabia ecommerce market size source*. Available at: <https://www.mordorintelligence.com/industry-reports/saudi-arabia-ecommerce-market/market-size>.
- Moslehpour, M., Pham, V. K., Wong, W. K., and Bilgili, İ. (2018). E-purchase intention of Taiwanese consumers: sustainable mediation of perceived usefulness and perceived ease of use. *Sustain. For.* 10:234. doi: 10.3390/su10010234
- Mummalaneni, V. (2005). An empirical investigation of web site characteristics, consumer emotional states and on-line shopping behaviors. *J. Bus. Res.* 58, 526–532. doi: 10.1016/S0148-2963(03)00143-7
- Núñez-Barriopedro, E., Cuesta-Valiño, P., and Mansori-Amar, S. (2023). The role of perceived usefulness and annoyance on programmatic advertising: the moderating effect of internet user privacy and cookies. *Corp. Commun. Int. J.* 28, 311–324. doi: 10.1108/CIJ-03-2022-0033
- Porat, T., and Tractinsky, N. (2012). It's a pleasure buying here: the effects of web-store design on consumers' emotions and attitudes. *Hum. Comput. Interact.* 27, 235–276. doi: 10.1080/07370024.2011.646927
- Prasad, N., and Mitra, D. (2022). *Impact of perceived security, perceived usefulness (PU) and perceived ease of use (PEOU) on Customers' purchase intent in online shopping during the COVID 19-pandemic*.
- Qu, Y., and Chen, I. H. (2021). Are emotions important for college teachers' intentions to use the online learning system? An integrated model of TAM and PAD. *Int. J. Informat. Educ. Technol.* 11, 73–81. doi: 10.18178/ijiet.2021.11.2.1492
- Ramadhan, M. S. F., and Syahputri, N. A. (2020). How does technological dependence affect consumer shopping behavior among baby boomers, millennials, and digital natives. *Int. J. Innovat. Sci. Res. Technol.* 5, 1004–1009.
- Ramayah, T., and Ignatius, J. (2005). Impact of perceived usefulness, perceived ease of use and perceived enjoyment on intention to shop online. *ICFAI J. Syst. Manag.* 3, 36–51. doi: 10.38124/IJISRT20AUG488
- Richard, M. O., and Chebat, J. C. (2016). Modeling online consumer behavior: preeminence of emotions and moderating influences of need for cognition and optimal stimulation level. *J. Bus. Res.* 69, 541–553. doi: 10.1016/j.jbusres.2015.05.010
- Rönkkö, M., and Cho, E. (2022). An updated guideline for assessing discriminant validity. *Organ. Res. Methods* 25, 6–14. doi: 10.1177/1094428120968614
- Russell, J. A., and Mehrabian, A. (1974). Distinguishing anger and anxiety in terms of emotional response factors. *Journal of Consulting and Clinical Psychology*, 42, 79.
- Saleem, M., Kamarudin, S., Shoaib, H. M., and Nasar, A. (2022). Retail consumers' behavioral intention to use augmented reality mobile apps in Pakistan. *J. Internet Commer.* 21, 497–525. doi: 10.1080/15332861.2021.1975427
- Saleem, M., Kamarudin, S., Shoaib, H. M., and Nasar, A. (2023). Influence of augmented reality app on intention towards e-learning amidst COVID-19 pandemic. *Interact. Learn. Environ.* 31, 3083–3097. doi: 10.1080/10494820.2021.1919147
- Saoula, O., Shamim, A., Mohd Suki, N., Ahmad, M. J., Abid, M. F., Patwary, A. K., et al. (2023). Building e-trust and e-retention in online shopping: the role of website design, reliability and perceived ease of use. *Span. J. Market. ESIC* 27, 178–201. doi: 10.1108/SJME-07-2022-0159
- Shah, A. M., Abbasi, A. Z., and Yan, X. (2023). Do online peer reviews stimulate diners' continued log-in behavior: investigating the role of emotions in the O2O meal delivery apps context. *J. Retail. Consum. Serv.* 72:103234. doi: 10.1016/j.jretconser.2022.103234
- Shiau, W. L., and Luo, M. M. (2013). Continuance intention of blog users: the impact of perceived enjoyment, habit, user involvement and blogging time. *Behav. Inform. Technol.* 32, 570–583. doi: 10.1080/0144929X.2012.671851
- Shoaib, H. M., and Saleem, M. (2023). “An online market in your pocket: how does an augmented reality application influence consumer purchase decision” in *Technological sustainability and business competitive advantage* (Cham: Springer International Publishing), 307–313.

- Sillitoe, K. L. (2018). *Visual communication in the 21st century: A study of the visual and digital communication experiences of post-millennial university students*.
- Simanjuntak, M., Nur, H., Sartono, B., and Sabri, M. (2020). A general structural equation model of the emotions and repurchase intention in modern retail. *Manag. Sci. Lett.* 10, 801–814. doi: 10.5267/j.msl.2019.10.017
- Similarweb. Top Websites Ranking Saudi Arabia (2023). Available at: <https://www.similarweb.com/top-websites/saudi-arabia/e-commerce-and-shopping/>.
- Statista (2023). *Number of online shoppers in Saudi Arabia from 2016 to 2022*. Available at: <https://www.statista.com/statistics/981557/saudi-arabia-number-online-shoppers/#:~:text=In%202018%2C%20the%20number%20of,by%202022%2C%20reaching%2019.3%20million>.
- Szymkowiak, A., Gaczek, P., Jeganathan, K., and Kulawik, P. (2021). The impact of emotions on shopping behavior during epidemic. What a business can do to protect customers. *J. Consum. Behav.* 20, 48–60. doi: 10.1002/cb.1853
- Tao, D., Fu, P., Wang, Y., Zhang, T., and Qu, X. (2022). Key characteristics in designing massive open online courses (MOOCs) for user acceptance: an application of the extended technology acceptance model. *Interact. Learn. Environ.* 30, 882–895. doi: 10.1080/10494820.2019.1695214
- Trivedi, T. (2022). Impact of digital content marketing on purchase intentions for online shopping post Covid-19 pandemic. *Int. J. Manag. Pub. Policy Res.* 1, 24–33. doi: 10.55829/010204
- Venkatesh, V., Thong, J. Y. L., and Xu, X. (2012). Consumer acceptance and use of information technology: extending the unified theory of acceptance and use of technology. *MIS Q.* 36, 157–178. doi: 10.2307/41410412
- Wen, T. J., Choi, C. W., Wu, L., and Morris, J. D. (2022). Empowering emotion: the driving force of share and purchase intentions in viral advertising. *J. Curr. Issue Res. Advert.* 43, 47–67. doi: 10.1080/10641734.2021.1937408
- Wilson, N., Alvita, M., and Wibisono, J. (2021a). The effect of perceived ease of use and perceived security toward satisfaction and repurchase intention. *Jurnal Muara Ilmu Ekonomi dan Bisnis* 5, 145–159. doi: 10.24912/jmie.v5i1.10489
- Wilson, N., Keni, K., and Tan, P. H. P. (2021b). The role of perceived usefulness and perceived ease-of-use toward satisfaction and trust which influence computer consumers' loyalty in China. *Gadjah Mada Int. J. Bus.* 23, 262–294. doi: 10.22146/gamaijb.32106
- Xin, Y., Irfan, M., Ahmad, B., Ali, M., and Xia, L. (2023). Identifying how E-service quality affects perceived usefulness of online reviews in post-COVID-19 context: a sustainable food consumption behavior paradigm. *Sustain. For.* 15:1513. doi: 10.3390/su15021513
- Xu, X., Wang, L., and Zhao, K. (2020). Exploring determinants of consumers' platform usage in "double eleven" shopping carnival in China: cognition and emotion from an integrated perspective. *Sustain. For.* 12:2790. doi: 10.3390/su12072790
- Xu, W., Yao, Z., He, D., and Cao, L. (2023). Understanding online review helpfulness: a pleasure-arousal-dominance (PAD) model perspective. *Aslib J. Inf. Manag.* doi: 10.1108/AJIM-04-2023-0121
- Yang, K., Kim, H. M., and Zimmerman, J. (2020). Emotional branding on fashion brand websites: harnessing the pleasure-arousal-dominance (PAD) model. *J. Fashion Market. Manag. Int. J.* 24, 555–570. doi: 10.1108/JFMM-03-2019-0055
- Zanger, C., Drengner, J., Jahn, S., and Gaus, H. (2010). Events and loyalty formation: the role of satisfaction, felt community, emotional experience, and frequency of use. *Stand und Perspektiven der Eventforschung*, 151–165. doi: 10.1007/978-3-8349-8922-2\_11
- Zhang, W., Leng, X., and Liu, S. (2020). Research on mobile impulse purchase intention in the perspective of system users during COVID-19. *Pers. Ubiquit. Comput.*, 1–9. doi: 10.1007/s00779-020-01460-w
- Zhang, W., Zhang, W., and Daim, T. U. (2023). Investigating consumer purchase intention in online social media marketing: a case study of Tiktok. *Technol. Soc.* 74:102289. doi: 10.1016/j.techsoc.2023.102289
- Zhou, R., and Tong, L. (2022). A study on the influencing factors of consumers' purchase intention during livestreaming e-commerce: the mediating effect of emotion. *Front. Psychol.* 13:903023. doi: 10.3389/fpsyg.2022.903023