



International Journal of Technology Transfer and Commercialisation

ISSN online: 1741-5284 - ISSN print: 1470-6075

<https://www.inderscience.com/ijttc>

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DOI: [10.1504/IJTTT.2025.10069758](https://doi.org/10.1504/IJTTT.2025.10069758)

Article History:

Received:	12 February 2024
Last revised:	13 March 2024
Accepted:	18 August 2024
Published online:	04 April 2025

Online switching behaviour: an empirical investigation using the pull-push-mooring model during the pandemic

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Abstract: The motivation of this study was to understand the online switching consumer behaviour using the pull-push-mooring theory (PPM) of migration, which has not been applied before in the pandemic context. Based on a comprehensive literature review, the study developed hypotheses that PPM factors positively affect switching intention to e-commerce. Then, using a survey of 158 consumers, it assesses the effects of these PPM factors on consumer switching using hierarchical regression analysis. The results showed that consumers are moderately influenced by factors in the push, pull, and mooring categories, with no significant differences based on demographic characteristics. Principal factors are related to ease of use, product quality concerns, attitude/prior switching behaviour, and variety seeking. Perceived risk, perceived cost, and social influence have a moderate effect on purchase intention. Most consumers bought clothes or shoes, health and beauty products and technology products through e-commerce during the pandemic. The study discusses managerial implications, presents limitations, and makes specific recommendations for future research.

Keywords: online switching behaviour; pull-push-mooring model; PPM model; e-commerce; survey; COVID-19; pandemic; Greece.

Reference to this paper should be made as follows: Vlachos, I.P. and Ourgantzoglou, K. (2025) 'Online switching behaviour: an empirical investigation using the pull-push-mooring model during the pandemic', *Int. J. Technology Transfer and Commercialisation*, Vol. 21, No. 2, pp.135–168.

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1 Introduction

The internet is not something new in our lives. It became available to the public in the 1990s and, thanks to its rapid spread, is now an essential part of our daily (McMillan and Morrison, 2016). The internet has given many new opportunities to individuals, businesses, and government agencies. Access to information has become more accessible, data transmission faster, and the decision-making process more efficient. Some areas of human activity have changed radically. Some have undergone significant changes, while others have remained unaffected. One area that underwent profound changes was trade (Mukhopadhyay et al., 2008). Trade was redefined and transformed; it became electronic, eliminating distances and connecting businesses and households on different continents. It brought businesses closer together, enabled the state to provide new services to its citizens, and reorganised the supply chain.

Moreover, the electronic form of commerce enabled consumers to connect from any device that has internet access; the advent of e-commerce has been a historically significant change (Thompson, 2000).

However, many customers still use offline or 'brick-and-mortar' ways for their shopping; hybrid forms that combine online and offline shopping are also becoming popular (Shang et al., 2020), yet the factors that affect switching from online to offline and vice versa are not well understood. Reports indicate that customers prefer to switch to pre-pandemic habits (Sheth, 2020). Several studies indicate critical changes driving consumer behaviour, including public policy, technology, and demographics (Beckers et al., 2021).

The motivation of this study is to understand the factors that affect consumers switching to e-commerce. It reviews and applies the push-pull-mooring theory (PPM) of migration, which has not been applied in the consumer buying switching context. It takes advantage of customers switching to e-commerce during the pandemic to empirically investigate the factors that drove this behaviour.

Specifically, this study poses the following research questions:

- 1 What factors impact consumers switching behaviour?

- 2 Do consumer switching behaviours differ regarding their demographic characteristics?
- 3 How the PPM factors influence specific product switching behaviour?

Based on a comprehensive literature review, it hypothesises that PPM factors positively affect switching intention to e-commerce. Then, using a consumer survey during 2021–2022, it assesses the effects of these PPM factors on consumer switching using hierarchical regression analysis.

Overall, the results of this study suggest that PPM factors play a significant role in shaping consumer behaviour and purchase-switching intentions towards e-commerce. The key factors related to switching intentions are ease of use, product quality concerns, attitude/prior switching behaviour, and variety seeking (Ghasrodashti, 2017; Susanty et al., 2020). Perceived risk, perceived cost and social influence have a moderate effect on purchase intention. This confirms findings from previous research that have shown that perceived risk can negatively affect purchase switching (Habib and Hamadneh, 2021; Kim et al., 2009), while perceived cost can affect purchase switching intention positively or negatively depending on the context (Chen and Chang, 2003; Chen and Dubinsky, 2003; Suryawardani and Wulandari, 2020). Social influence was found to positively affect purchase switching, consistent with previous research showing that social influence can positively affect consumer behaviour in e-commerce (Susanty et al., 2020; Tzavlopoulos et al., 2019). The study also showed that factors such as health issues, perceived benefits, ease of use, time and money-saving, service quality, perceived cost, product quality concerns, and perceived risk all influence consumer behaviour and choices in e-commerce.

These findings have important implications for e-commerce companies seeking to attract and retain customers during the pandemic and for policymakers looking to promote e-commerce adoption and growth.

The following section reviews the theoretical foundation of this study, the PPM model, and examines the factors that relate to customer switching intention. The following section, methods, presents the research design, the questionnaire, and the data analysis. Next, the findings section presents the demographic analysis, the purchase analysis, and the PPM factor analysis, including the hierarchical regression analysis. The last section, the discussion, presents the results, the managerial implications, and limitations for future research.

2 Literature review

The rapid development of technology in recent decades has brought about profound changes in consumer shopping online. Consumers are turning to online shopping for a variety of reasons. Shang et al. (2020) report that consumers may go through a process of consumer behaviour intentionally or accidentally in a conscious or subconscious process of evaluating the benefits of the market. Electronic communication concerns internet promotion (e.g., banner ads, social media, and ads). These ads may attract and motivate consumers to be interested in a product (Katawetawaraks and Wang, 2011). Consumers will look for additional information about the product when purchasing. At this stage, they may seek feedback from other consumers. Then, the consumer will decide which

brand or online store he will choose to make his purchase. During this stage, the website's design and reasonable structure are essential. During the buying process, the variety of products, the services provided by the store during and after and the quality of the information are the most decisive factors for the consumer to decide whether to purchase (Koo et al., 2008). Consumer behaviour after the purchase is more important when shopping is electronic than offline. Consumers feel better after purchase when they can watch the stage at which their order is and know that they can return the product if they change their mind after the purchase (Liang and Lai, 2002).

Consumer behaviour on the internet is of growing interest to many researchers, with many articles and surveys published yearly. Research is conducted in various fields, such as technology, marketing, and psychology. Various incentives motivate the consumer to make an online purchase. Koo et al. (2008) state that the main factor is time-saving followed by the availability of information, their operation 24 hours a day, the wide range of products, the reasonable prices combined with various offers and the easy ordering system. Katawetawaraks and Wang (2011) highlight the friendliness of a website towards the user, the security and the trust provided by the online store regarding their data, and the services provided before and after the purchase (direct communication, order process, feedback). Liang and Lai (2002), examining online bookstore shopping, state that design and functionality are just as crucial to the consumer as the product's price.

The outbreak of the COVID-19 pandemic brought about momentous changes in online markets and consumer behaviour (Sharma and Gaur, 2021). The closure of physical stores due to repeated lockdowns to combat the COVID-19 pandemic has caused significant disruption to consumer behaviour. The boundaries of work and everyday life are blurred since most people work from home and cannot go to a physical store (Eger et al., 2021). Thus, consumers had to change their shopping habits (Sheth, 2020). Due to the elevated risk of infection and the urgent need for isolation (quarantine), consumers turned to online shopping (Beckers et al., 2021). Another reason for turning to e-shopping was the attempt to reduce interpersonal relationships (Sayyida et al., 2021). According to a survey by the National Retail Federation (NRF), 90% of consumers changed how they shop, with over 50% opting for online shopping over traditional methods (Sharma and Gaur, 2021).

The literature shows consumer behaviour has changed during and after the pandemic as consumers adapt to the 'new reality', especially after the recent geopolitical tensions, inflation, and global supply chain issues. Studies estimate that customers would prefer to return to their habits after the pandemic (Sheth, 2020) despite three critical forces of consumer behaviour change: public policy, technology, and demographics (Beckers et al., 2021). There to assess the underlying factors of consumer buying switching behaviour

2.1 Push-pull-mooring theory

The PPM theory is one of the best descriptions of the migration of people as it describes why individuals migrate from one place to another at a particular time (Haridasan et al., 2021; Nguyen et al., 2022). The migration of humans from one place to another destination is regarded as a form of switching behaviour. Similarly, switching from one learning platform to another is also identified as a form of migrating behaviour (Uden et al., 2019). Migration from one place to another is the outcome of the interaction between the pushing forces in the place of origin and the pulling forces of the desired destination (Ghasrodashti, 2018). The factors of migration, i.e., pull, push and mooring,

have a moderating influence and substantial influence on people's switching behaviour and intentions (Isibor and Odia, 2021; Uden et al., 2019). The pushing effects denote the perception and factors that help encourage individuals to leave their place of origin (Shankar and Narang, 2020; Zhang and Chang, 2021). Push factors can negatively influence individual quality of life, whereas pull factors state the positive factors that help attract individuals to migrate toward a better position (Coffin and Egan-Wyer, 2022; Vieira et al., 2022).

The PPM theory analyses migration on an aggregate level and does not explain the considerations of the people deciding to migrate. Therefore, an entirely different variable that can influence the decision-making variable, 'mooring effects', which is observed as a social expression which allows individuals to realise the mental, physical, well-being, and emotional happiness that act to impede as well as accelerate the migration behaviours of the peoples (Ghasrodashti, 2018; Zmud, 1984). Moreover, the mooring effects are also identified to have a specific influence on the intention and behaviour of the individual to migrate. Irrespective of the strength that push and pull factors possess, they are still seen to be affected by the mooring effects (Chen and Keng, 2019; Handarkho and Harjoseputro, 2020).

The critical assumption of this theory is that at the beginning, some aspects push individuals' way, whereas, at the destination, the positive aspects pull individuals towards them (Zmud, 1984). Therefore, PPM theory is suitable for studying consumer behaviour, and several studies have already applied it in the consumer context (Haridasan et al., 2021; Jeong et al., 2023; Nguyen et al., 2022; Zhang and Chang, 2021).

Elements in the migration process can be divided into different original aspects, intervening obstacles, personal factors, and destination factors (Haridasan et al., 2021; Zhang and Chang, 2021). The migration/switching decision is complex, and previous research has suggested that different factors aim to provide a proper understanding of the learner's switching behaviours (Lu and Wung, 2021).

The PPM theory has diverse applications. Nguyen et al. (2022), surveying 478 Taiwanese consumers online, found that traceable agricultural products show that the PPM theoretical model can predict switching decisions in the food sector. Jeong et al. (2023) examined contact-free shopping during the pandemic based on a survey of young consumers and found that the PPM factors significantly affect switching behaviour (along with more factors) for contact-free shopping and actual switching behaviour. Hazen et al. (2017) examine consumer switching behaviour in circular economy remanufacturing and find that consumers' attitude toward remanufactured products is an important moderating factor in predicting consumer switching behaviour toward remanufactured products. Al Adwan (2020), surveying 300 individuals, examines the factors that motivate individuals to choose Jordan as their primary medical tourism destination in the Middle East. Haridasan et al. (2021) developed and assessed a model on cross-channel switching intentions using the PPM framework based on an extensive survey and found the positive influence of push and pull factors on switching intention.

Ghasrodashti (2018) combined the PPM model with the theory of reasoned action (TRA) to examine consumers' brand-switching behaviour and find mooring factors, i.e., attitude, switching costs, and online subjective norms were significant predictors for customers' brand-switching behaviour while only one pull factor (alternative attractiveness) and one push factor (price) impacted brand-switching behaviour.

We review the PPM factors related to e-commerce to develop hypotheses on their effect on consumer switching behaviour.

2.2 *Push factors*

2.2.1 *Perceived benefits*

E-commerce benefits are well documented in the literature (Beatty et al., 2011). Compared to physical stores, e-commerce offers convenience (Beyari, 2021; Escobar-Rodríguez and Bonsón-Fernández, 2017), greater product variety (Christopoulos et al., 2022), lower prices (Kleisiari et al., 2021; Ou et al., 2022), improved customer experience (Do et al., 2023; Ratnasari et al., 2021), increased reach (Lin and Wang, 2015; Tandon et al., 2021), data analytics and product customisation (Kleisiari et al., 2021), and improved sustainability (Ou et al., 2022; Ratnasari et al., 2021).

The conventional definition of economic benefit in e-commerce primarily pertains to customers' perception of price discounts, promotions, and other advantages (Kleisiari et al., 2021; Ratnasari et al., 2021). Such economic benefits may generate positive emotional responses among consumers, which could, in turn, lead to an intention to make online purchases.

E-commerce enhances interactions between sellers and buyers, as well as among buyers, thereby driving online shopping behaviour and generating economic benefits. Economic benefits can also trigger consumers' intention to engage in sustainable consumption during times of uncertainty (Tran, 2021). These benefits may include coupons, cashback, and discounts. If commercial offerings fail to meet consumers' expectations, consumers may initiate the commercial quid pro quo relationship. Tran (2021) posits that economic benefits are associated with consumers' perceived economic advantages, such as cost savings and discounts, for purchasing from e-commerce platforms during pandemic periods.

2.2.2 *Perceived risks*

E-commerce is not risk-free; empirical studies and anecdotal cases have reported many incidents discouraging consumers from purchasing online. These risks include financial risks (Cao et al., 2022), security risks (Tonglet and Johnstone, 2001), product quality risks (Lin and Wang, 2015), delivery risks (Shi et al., 2020), and psychological risks (Olivero and Lunt, 2004). Glover and Benbasat (2010) identify various sources of risk (retailers, third-parties) and risk types (financial, delays, psychological impact, social harm, and physical harm). Despite their popularity, electronic commerce environments often lack information that has traditionally served to ensure trust among exchange partners (Flanagin et al., 2014). These risks that do not exist in physical stores hinder the switching intention to buying from e-commerce stores.

Flanagin et al. (2014) note that consumers often feel insecure about online shopping and rely heavily on web-based ratings. Thus, information credibility relates directly to purchase intention. Huang (2018) developed a risk detection system for e-commerce based on text-based web information, and Ma et al. (2022) developed a similar system for cross-border e-commerce. Shi et al. (2020) also highlight cross-border trade's high demand and tax risks.

Liebermann and Stashevsky (2002) develop a perceived risk map consisting of 9 risks: credit fraud, personal information loss, violence, misinformation, and lack of physical/human contact. Lin and Wang (2015) link quality with risk and value perspective in the e-commerce context and find that electronic word-of-mouth significantly influences perceived e-service quality and perceived risk, affecting the perceived quality of service (value) and customer satisfaction. Olivero and Lunt (2004) also emphasise the risk of disclosing personal information online. Rosillo-Díaz et al. (2020) explore cultural differences in e-commerce buying behaviour and find that perception of the risk is a crucial factor, albeit it depends heavily on the cultural context; while all consumers seek uncertainty-avoidance, collectivist individuals perceive a higher level of risk in the e-commerce sphere.

Therefore, we hypothesise:

Hypothesis H1 Push factors (attitude, service quality) have a positive impact on customer switching intention.

2.3 Pull factors

2.3.1 Behavioural intent

Previous research focusing on technology adoption has reduced users' attitudes toward using a technology system as a significant factor in positive behavioural intention to use this (Tran and Vu, 2019). According to Bhattacharjee and Sanford (2009), a positive attitude towards a new electronic environment can enhance the user's intention to use it. Similarly, Edison and Geissler (2003) find that users' attitude towards a system that integrates technology can affect their behavioural intention to use it. However, Zhu et al. (2019) suggest that users' attitudes towards adopting technology like e-commerce may not necessarily relate to its actual use. On the other hand, Dennis et al. (2009) argue that factors such as attitude, loyalty, experience, and the reputation of a website used by third parties can directly impact users' desire to engage in online transactions. It is worth noting that there are several models available for measuring e-shopping intent.

Chen and Keng (2019) include learning motivation and perceived usefulness in their inventory of pull factors, while Hailat et al. (2022) extend pull factors to knowledge and awareness, referrals or individual suggestions, especially from gatekeepers; the total cost, nearness in terms of geography, culture and social connections. Handarkho and Harjoseputro (2020) use the PPM model in mobile payment switches, including enjoyment, convenience, and deal proneness as pull factors. Haridasan et al. (2021) include one pull factor, i.e., alternative attractiveness, in surveying consumers' cross-channel switching intentions. On the contrary, Hati et al. (2021) examine a wealth of pull factors: product quality, price, promotion, and the fit between product variety and variety-seeking customers; yet, mooring factors (subjective norms, switching cost, past behaviour, variety seeking, and religiosity), which are internal to the customer, prove more important than pull-push factors. Push factors included job dissatisfaction, changing work patterns, and employer help, while pull factors included independence, money, challenge/achievement, opportunity, and lifestyle.

Kirkwood (2009) explores gender differences in entrepreneurship and finds women and men similarly motivated by a combination of push and pull factors. Ghasrodashti

(2017) examines the antecedents of customers' brand-switching behaviour using the theory of PPM and TRA and includes attractiveness as a pull factor.

2.3.2 Reliability/trust

E-commerce has revolutionised businesses' operations, providing sellers access to a vast pull of global customers (Andrade et al., 2021). As there is no face-to-face interaction in e-commerce, building trust between the seller and the buyer can be challenging. This lack of direct contact prevents consumers from using typical physical cues, such as their body language or store appearance, to evaluate the vendor's trustworthiness (Gefen and Straub, 2004). As a result, online trust has become a significant issue in e-commerce, with studies indicating that trust plays a crucial role in consumers' purchase decisions in online marketplaces (Teo and Liu, 2007).

Trust is a complex, context-dependent, multidimensional concept (Tandon et al., 2021; Wongkitrungrueng and Assarut, 2020). A large amount of literature studies consumer trust in e-commerce; however, many empirical studies examine it uni-dimensionally (Jiang and Lau, 2021). For example, Beatty et al. (2011) conducted a meta-study of the empirical literature on trust in e-commerce systems and provided a comprehensive review of psychological, sociological, economic and organisational science perspectives of online trust. McKnight et al. (2002) reviewed 65 academic articles and developed a typology of trust, noting that research on e-commerce trust has used diverse, incomplete, and inconsistent definitions. McKnight et al. (2002) find trust to be a multidimensional concept consisting of the following dimensions: the disposition to trust, institution-based trust, trusting beliefs, and trusting intentions.

Reputation mechanisms, business rating sites, and trust verification sites (trust seals) perform site/vendor evaluations based on several criteria to help online customers develop trust, especially for their first purchase (Andrade et al., 2021). Jiang and Lau (2021) examine trust in sharing platforms and find platform-based and driver-based trust to mediate the satisfaction and continuance intention relationship.

Chen et al. (2022) construct a framework that links web personalisation to consumer decisions (i.e., website loyalty and purchase intention) through consumer trust and reactance and finds that web personalisation strengthens consumer trust when consumers are less concerned about privacy. Gefen and Straub (2004) point out that people as 'social animals' rely on intrinsic trust to reduce social uncertainty, yet e-commerce lacks the typical business's interpersonal exchange and human nature. Thus, consumers lack the learned mechanisms for reducing uncertainty.

Oliveira et al. (2017) develop and assess an empirical model of online trust, consisting of competence, integrity, and benevolence; the authors find that high overall trust is related to higher intention to purchase online.

Therefore, we hypothesise:

Hypothesis H2 Pull factors have a positive impact on customer switching intention.

2.4 Mooring factors

2.4.1 Attitude

Attitude refers to an individual's mental or emotional predisposition that is formed based on their experiences and influences their behaviour in response to all relevant objects or

situations (Wahl and Aroesty-Cohen, 2010). Consumers' needs influence their attitudes, which then shape their purchase decisions. Attitudes are an ongoing and broad assessment of many objects, people and stimuli, and an attitude can be held towards anything.

Duarte and Silva (2020) examine the consumer-cause identification of the intention to purchase products from the companies supporting the cause and find that, more than identification, a positive attitude is vital to predicting the intention to purchase. Borg et al. (2020) find that consumer attitudes depend on descriptive norms, especially regarding sustainability. Borusiak et al. (2021) use the norm activation model to study attitudes towards environmental concerns and find that positive circular economy consumer attitudes can be built on the ascription of environmental responsibility. Pilelienė and Tamulienė (2021) consumer attitudes and related behaviour towards organic products and find structural differences between theory and praxis for the Lithuanian market; for example, ecologically conscious consumer attitudes regarding sustainable consumption choices were altered (e.g., the factor 'social reasons' was reframed as 'social behaviour'; the factor 'psychological reasons' was excluded, and the factor 'active engagement' which was not initially theorised, emerged from the empirical analysis. These findings indicate that attitudes depend on the context – Lithuanian organic market in the case of Pilelienė and Tamulienė (2021) – and are more robust than consumer identification, as Duarte and Silva (2020) uncover.

2.4.2 Service quality

Service quality has been extensively studied in the context of consumer buying behaviour, including e-commerce, mobile commerce, and electronic services (Blut et al., 2015; Haywood-Farmer, 1988). Service quality refers to the degree of disparity between a customer's expectations and their assessment of a service's performance (Cronin and Taylor, 1992). This concept is generally viewed as having five to seven dimensions, as measured by the SERVQUAL model, which involves seven dimensions (Lionello et al., 2020).

In their meta-analysis, Blut et al. (2015) find e-service quality to consist of four dimensions: website design, fulfilment, customer service, and security/privacy. In a similar meta-analysis of 134 studies, Lionello et al. (2020) include the following attributes in service quality: aesthetic design, fulfilment, ease of use, personalisation, information, quality, technical quality, security, and customer service.

David et al. (2021) examine service quality against visual quality in mobile shopping and find that service quality is significantly related to satisfaction in both the augmented reality (AR) and no AR settings. Do et al. (2023) focus on logistics service quality (LSQ) as a critical success factor in e-commerce platforms; LSQ includes personnel quality, order quality, timeliness, and price fairness. Ertekin et al. (2020) studied consumer return behaviour in jewellery retailing in the USA and found that service quality relates to salesperson competence, followed by store environment and friendliness. In a similar study, Iqbal et al. (2020) found that courier service dimensions, such as reliability, visual identification, service complexity, relational capital, social responsibility, responsiveness, and technical quality, affect the courier service – e-commerce clients' relationship performance. In another e-commerce study, Gajewska et al. (2020) find that customers in Poland perceive e-commerce services with increasing trust and consider them increasingly reliable; logistics service quality plays a key role in building trust. Kassim

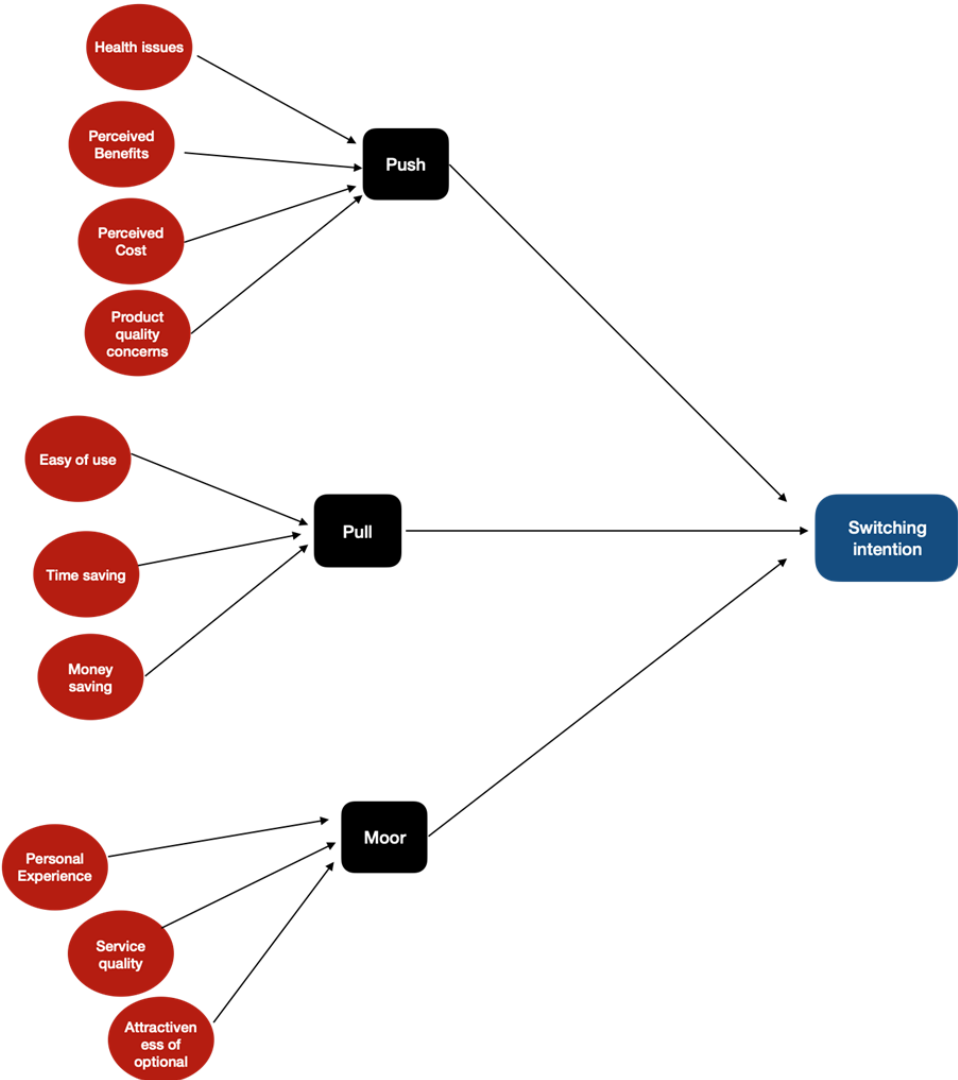
and Abdullah (2010) arrived at similar findings about perceived service quality, satisfaction, trust, and loyalty in e-commerce in Malaysia and Qatari. Among many studies using the SERVQUAL model, Palese and Usai (2018) analyse online reviews in Italy and find that knowledge extracted directly from customer reviews can improve service quality.

Therefore, we hypothesise:

Hypothesis H3 Mooring factors have a positive impact on customer switching intention.

Hypothesis H4 The combined effect of PPM factors has a strong positive impact on customer switching intention.

Figure 1 Push-pull-moor model (see online version for colours)



3 Methodology

3.1 Research design

This study is based on a survey of customers who have used e-commerce services during the pandemic period. The questionnaire was pre-tested with randomly selected firms and then refined before being distributed to respondents during 2021–2022. After removing incomplete responses, 152 were collected from customers in Greece; four were excluded as incomplete. Thus, the sample size is 148, which is representative of the Greek population (Kousi et al., 2021) and comparative to similar studies (Anastasiadou et al., 2020; Meramveliotakis and Manioudis, 2021). All responses were collected via an online survey inviting respondents via their email. The effective response rate was about 12% after considering all responses excluded for several reasons (incomplete, wrong details, etc.). A seven-item Likert scale was used. Non-response bias was estimated by comparing early with late responses for both channels, and no significant effects were found.

Data analysis consisted of bias, descriptive, and multivariate (hierarchical regression) analysis. Bias analysis used analysis of variance among sample demographics (country, industry, firm size) and no significant difference was found. Descriptive statistics such as frequencies (n), percentage (%), mean (μ) and standard deviation (σ) were used to present the attitude of consumers toward e-commerce. Regression analysis compared the effect of push, pull and mooring factors on the dependent variables (switching intention).

The basic rules of ethics and ethics were used to conduct the research. Citizen participation in the survey was anonymous and voluntary. The participants were informed of a relevant electronic form for the research, personal data security issues, and the optional nature of their participation. In addition, participants were allowed to leave the survey at any stage they wished. Finally, it was ensured that the data would be used for scientific purposes only and that only the researcher would have access to it.

3.2 Questionnaire design and scales

A structured questionnaire was adopted as the primary data collection method. The questionnaire was separated into four sections. The first section recorded the demographic data of the sample (gender, age group, educational level, marital status, and annual income) and some characteristics of e-commerce services that consumers used during the COVID-19 era. The second section recorded the consumers' attitudes toward e-commerce. More specifically, the second section consisted of 6 questions on a Likert scale with a rating from 1 = strongly disagree to 5 = strongly agree. The third section recorded why consumers changed their behaviour during the COVID-19 era. More specifically, the third section consisted of 31 questions on a Likert scale with a rating from 1 = strongly disagree to 5 = strongly agree. The 31 questions evaluate the following factors:

1 Pull factors:

- a health issues: items 1–3
- b perceived benefits: items 4–6

- c ease of use: items 12–14.
 - d time-saving: items 15–16
 - e money saving: items 17–18
 - f service quality: items 22–23.
- 2 Push factors
- a perceived cost: items 7–8
 - b product quality concerns: items 9–11
 - c perceived risks: 30–31.
- 3 Mooring factors
- a attitude/prior switching behaviour: items 19–21
 - b social influence: items 26–27
 - c switching cost: items 28–29
 - d variety seeking: items 24–25.

The fourth section recorded the consumers' purchase intention to change their behaviour about e-commerce. More specifically, the fourth section consisted of 4 questions on a Likert scale with a rating from 1 = strongly disagree to 5 = strongly agree.

3.3 The context: e-commerce in Greece during the pandemic

The spread of the pandemic finds the Greek economy and companies at a point of low upward economic growth after the ten-year economic recession. A prolonged economic recession with adverse economic, investment, and business activity were the key features of the 2010 decade. The last phase of the recession, characterised by an improvement in business performance indicators, seems to stop abruptly from the current health-economic crisis. Measures to limit socio-economic activity have disrupted supply and demand conditions. A series of changes in how the market operates appear very suddenly, while the traditional forms of the market cannot work, and the online markets that operate in the Greek market are insufficient. Especially for small businesses, adopting and utilising information and communication technologies (ICT) adoption and utilisation will be necessary for the latter to survive and grow (Anastasiadou et al., 2020).

It is estimated that 8.3 million people, which accounts for 79% of Greece's population, are internet users. The reported average internet connection speed is 25.63 Mbps for fixed connections and 39.19 Mbps for mobile connections (ELSTAT, 2022). The e-commerce expenditures for each sector in Greece in 2019 were as follows: 2.84bn for travel and accommodation, 379m in clothing and beauty products, 924m in electronic and physical media, 362m in furniture and other appliances, 511m in games and hobbies and 126m in food and personal hygiene. It is estimated that 7.2 million citizens bought consumer goods in 2019, with a total of 2.3 billion euros spent (Dionysiou et al., 2021).

In the pandemic year 2020, e-commerce increased by up to 134% compared to 2019, particularly from March onwards. Some products had exponential growth, such as puzzles. With +1.654%, web cameras with +1.256% and exercise mats with +772% compared to February 2020 (GRECA, 2020). In addition, in terms of traffic, in all significant categories of e-commerce, there is a weekly increase, starring entertainment products with +433%, sports and hobby with +129% and children-baby products with +118% for the week of 30 March to 5 April 2020, compared to the week 2–8 March 2020, which was the last week before the quarantine. At the same time, the traffic in the physical network of shops, malls, and entertainment venues is dramatically reduced by a percentage that reaches - 85% during the week of 30 March to 5 April 2020, compared to the base of 5 weeks 3 January to 6 February 2020. Automotive and motorcycle products, fashion and travel and transportation items show decreased online spending, such as car shock absorbers with -99%, travel suitcases with -63% and heels with -51% (Argyropoulou et al., 2023).

For Greek companies, the pandemic was a catalyst for drastic developments and an accelerator in the transition to the new digital age. However, the citizens and consumers themselves recognised the convenience of e-commerce and accepted it wholeheartedly. Typically, in December 2020, when physical stores were open for purchase by consumers using the click-away method, only 18% of citizens chose this method, while about 70% continued shopping online stores (Meramveliotakis and Manioudis, 2021).

4 Findings

4.1 Demographics analysis

The demographic data of the sample are given in detail in Table 1. Regarding gender, 90 (60.8%) women and 58 (39.2%) men participated in the research. Regarding age, 47.3% (n = 70) of the participants were aged 35 to 44. In addition, 21.6% (n = 32) of participants were aged 25 to 34 years, and 20.9% (n = 31) were aged 45 to 54. People observed minor participation by up to 24 years old (n = 7 4.7%) and by people older than 54 years (n = 8, 5.5%). Regarding education, 43.9% (n = 65) of the participants had a master's or doctoral degree, and 27.7% (n = 42) were university graduates. A smaller percentage of the sample was compulsory education graduates (n = 25, 16.9%), while a = 11.5% (n = 17) of the sample stated another educational level. Regarding marital status, 58.8% (n = 87) of the participants were married, and 25.7% (n = 38) were divorced. In contrast, a smaller percentage of the sample were divorced (n = 7, 4.7%) or declared another marital status (n = 16, 10.8%). Regarding occupational status, 36.5% (n = 54) of the participants were private employees, and 33.8% (n = 50) were civil servants. In addition, 13.5% (n = 20) of the participants were freelancers, 3.4% (n = 5) were students, 4.1% (n = 6) were unemployed, and 1.4% (n = 2) were retired. In addition, 7.4% (n = 11) of participants reported another working condition. Regarding annual family income, 34.5% (n = 51) of the participants had 20,001–40,000 euros annual income, while 33.8% (n = 50) had 10,001–20,000 annual income. Furthermore, 23.6% (n = 35) of the sample had an annual income of less than 10,000 euros, while 8.1% (n = 12) had an annual income of more than 40,001 euros.

Table 1 Demographics of the sample

<i>Demographic</i>	<i>Category</i>	<i>Number (n)</i>	<i>Percentage (%)</i>
Gender	Male	58	39.2%
	Female	90	60.8%
Age	Up to 24	7	4.7%
	25 to 34	32	21.6%
	35 to 44	70	47.3%
	45 to 54	31	20.9%
	54 to 64	6	4.1%
	65 and over	2	1.4%
Education level	Compulsory education	25	16.9%
	Bachelor's degree	41	27.7%
	Master/PhD	65	43.9%
	Other	17	11.5%
Marital status	Married	87	58.8%
	Single	38	25.7%
	Divorced	7	4.7%
	Other	16	10.8%
Occupational status	Civil servant	50	33.8%
	Private employee	54	36.5%
	Freelancer	20	13.5%
	Student	5	3.4%
	Unemployment	6	4.1%
	Other	11	7.4%
	Retired	2	1.4%
Annual family income	Up to €10,000	35	23.6%
	€10,001–20,000	50	33.8%
	€20,001–40,000	51	34.5%
	€40,001 and above	12	8.1%

4.2 *Purchases during the pandemic*

The next section of questions was intended to explore the e-commerce habits of consumers. The analysis showed that 79.7% ($n = 118$) of the participants had purchased online clothes/or shoes, while 70.9% ($n = 105$) had purchased healthy and beauty products. In addition, most participants had purchased electronic devices or technology products ($n = 96$, 64.9%). A smaller percentage of the sample stated that during the pandemic, they bought online food or supermarket products ($n = 62$, 41.9%), household goods ($n = 69$, 46.6%) or other products ($n = 65$, 43.9%).

Participants more often bought food or supermarket products ($\mu = 3.8$, $\sigma = 1.1$) and clothes or shoes ($\mu = 3.9$, $\sigma = 1.2$). On the contrary, they rarely bought electronic devices or technology products ($\mu = 2.3$, $\sigma = 0.9$), household goods products ($\mu = 2.5$, $\sigma = 1.3$) and health or beauty products ($\mu = 2.3$, $\sigma = 1.4$).

4.3 Product purchase during the pandemic regarding demographics

Then, it investigated whether consumer demographics depend significantly on the types of products purchased online throughout the COVID-19 pandemic. The chi-square test results in Table 4 show the dependency between purchasing food/supermarket products online during the pandemic and the demographics of consumers. The analysis showed a significant dependency between marital status and whether consumers bought food or supermarket products online ($\rho^2 = 9.248$, $p = 0.026$). The results show that the divorced (85.7%) are more likely to have bought food or supermarket products compared to consumers who are single (39.5%), married (43.7%) or have another marital status (18.8%).

The demographic characteristics of consumers are not related to whether they bought clothes or shoes online; in all cases, the significance level of the test was greater than $\alpha = 0.05$. The analysis showed a significant dependency between marital status and whether consumers bought electronic devices/technology products online ($\rho^2 = 12.523$, $p = 0.006$). The results show that the divorced (14.3%) are less likely to have bought electronic devices/technology products compared to consumers who are single (76.3%), married (60.9%) or have another marital status (81.3%). Moreover, the analysis showed a significant dependency between education level and whether consumers bought electronic devices/technology products online ($\rho^2 = 8.659$, $p = 0.034$). Bachelor holders (65.9%) and master/PhD holders (75.4%) are more likely to have bought electronic devices/technology products compared to consumers who are compulsory education graduates (48%) or have another education level (47.1%). The demographic characteristics of consumers are not related to whether they bought household goods online ($\alpha > 0.05$).

A significant dependency existed between education level and whether consumers bought health and beauty products online ($\rho^2 = 8.843$, $p = 0.031$). The bachelor holders (73.2%) and master/PhD holders (80%) are more likely to have bought health and beauty products compared to consumers who are compulsory education graduates (60%) or have another education level (47.1%). Participants who have another education level are more likely to have bought other types of products compared to consumers who are compulsory education graduates (40%), bachelor holders (36.6%) or master/PhD holders (41.5%).

Consumers have a neutral attitude regarding whether the Greek online stores provide enough information to describe the products offered ($\mu = 3.4$, $\sigma = 0.8$), have a good reputation for trusting them ($\mu = 3.4$, $\sigma = 0.9$) and provide telephone numbers and contact forms to their users ($\mu = 3.4$, $\sigma = 1.0$). Similarly, consumers have a neutral stance on whether Greek online stores provide enough alternative payment methods ($\mu = 3.5$, $\sigma = 1.0$) and provide enough services ($\mu = 3.3$, $\sigma = 0.9$).

Then, it investigated whether consumer attitudes towards e-commerce were significantly different regarding demographics. According to the study, there is no statistically significant difference in customer views regarding e-commerce regarding gender ($\alpha > 0.05$). Further, there is no statistically significant difference in consumer attitudes toward e-commerce regarding their age ($\alpha > 0.05$).

Table 4 presents the results of one-way ANOVA comparisons regarding the education level of consumers' attitudes toward e-commerce in Greece. According to the study, consumer opinions toward e-commerce do not differ statistically significantly regarding their education level, marital status, or annual income ($\alpha > 0.05$).

4.4 *Pull factors*

Consumers have a neutral attitude regarding whether they chose e-commerce due to the fear of exposure to the virus during the visit to the physical stores ($\mu = 3.3$, $\sigma = 1.2$) or to avoid contact with other people ($\mu = 3.3$, $\sigma = 1.2$). Also, consumers are neutral about whether they chose e-commerce to be safe ($\mu = 3.4$, $\sigma = 1.2$). The variable 'health issues' average value equals 3.3 ($\sigma = 1.2$). These results show that consumers moderately choose e-commerce for health issues during pandemic times. Consumers have a neutral attitude regarding whether they chose e-commerce because they can shop in the privacy of their home ($\mu = 3.4$, $\sigma = 1.2$) or to save the effort of buying what they want from offline/traditional stores ($\mu = 3.3$, $\sigma = 1.1$). Also, consumers are neutral about choosing e-commerce because they can get product information online ($\mu = 3.3$, $\sigma = 1.1$). The average value of the variable 'perceived benefits' equals 3.3 ($\sigma = 1.0$). These results show that consumers moderately choose e-commerce for reasons related to perceived benefits. Consumers have a neutral attitude regarding whether they chose e-commerce because it is easy to locate the desired product ($\mu = 3.5$, $\sigma = 1.0$) or because it is easy to use customer service ($\mu = 3.1$, $\sigma = 1.0$). Also, consumers are neutral about whether they chose e-commerce because the interaction with the website is easy and clear to understand ($\mu = 3.2$, $\sigma = 1.0$). The variable 'ease of use' average value equals 3.3 ($\sigma = 0.8$). These results show that consumers moderately choose e-commerce for ease of use.

Consumers have a neutral to positive attitude regarding whether they chose e-commerce because purchasing online is fast ($\mu = 3.5$, $\sigma = 1.1$) or because, in this way, they spent less time than visiting physical facilities ($\mu = 3.5$, $\sigma = 1.2$). The variable 'time saving' average value equals 3.5 ($\sigma = 1.0$). These results show that consumers moderately to highly choose e-commerce for time-saving reasons. Consumers have a neutral to positive attitude regarding whether they choose e-commerce because the price of the product in the online store is low-priced ($\mu = 3.2$, $\sigma = 1.0$) or because of the discounts/promotions made by the companies in e-commerce stores ($\mu = 3.5$, $\sigma = 1.0$). The average value of the variable 'money saving' equals 3.3 (SD = 0.9). These results show that consumers moderately choose e-commerce for money-saving reasons.

Consumers have a neutral to positive attitude regarding whether they chose e-commerce because companies have improved their e-commerce platforms ($\mu = 3.6$, $\sigma = 1.0$) and have a neutral attitude regarding whether they chose e-commerce. It offers improved customer service ($\mu = 3.2$, $\sigma = 0.9$). The average value of the variable 'service quality' equals 3.4 ($\sigma = 0.9$). These results show that consumers moderately choose e-commerce for service quality reasons.

4.5 Push factors

Consumers have a neutral to positive attitude regarding whether they do not choose e-commerce because the products have high prices ($\mu = 3.8$, $\sigma = 1.1$) or because it does not help them to save money ($\mu = 3.5$, $\sigma = 1.2$). The average value of the variable 'perceived cost' is equal to 3.6 ($\sigma = 1.1$), which shows that moderate to high degree consumers choose e-commerce for perceived cost reasons. Consumers have a neutral to negative attitude regarding whether they do not choose e-commerce because they have serious reservations about the quality of the products they will receive ($\mu = 2.6$, $\sigma = 1.1$) or because the products are not so good as the physical facilities ($\mu = 2.4$, $\sigma = 1.0$). Moreover, consumers have a neutral attitude regarding choosing e-commerce because the products offered do not have professional quality ($\mu = 3.0$, $\sigma = 1.0$). The average value of the variable 'product quality concerns' is equal to 2.7 ($\sigma = 0.8$), which shows that consumers disagree that they do not choose e-commerce for product quality concerns. Consumers have a neutral to positive attitude regarding choosing e-commerce because they fear being deceived ($\mu = 3.5$, $\sigma = 1.2$). On the contrary, consumers have a neutral attitude regarding e-commerce because they fear the seller's reliability ($\mu = 2.9$, $\sigma = 1.1$). The average value of the variable 'perceived risks' equals 3.2 ($\sigma = 0.9$). These results show that consumers moderately recognise perceived risks in e-commerce services.

4.6 Mooring factors

Consumers are neutral about whether they choose e-commerce because they usually shop online. ($\mu = 2.9$, $\sigma = 1.1$) Alternatively, because they know everything about online shopping stores ($\mu = 2.8$, $\sigma = 1.1$). Also, consumers have a neutral attitude regarding whether they choose e-commerce because, in the past, they had an enjoyable experience in online shopping ($\mu = 3.3$, $SD = 1.1$). The average value of the variable 'attitude/prior switching behaviour' equals 3.0 ($\sigma = 1.0$). These results show that consumers moderately choose e-commerce because of previous attitudes (prior switching behaviour). Consumers have a neutral attitude regarding whether they chose e-commerce because their friends recommended it ($\mu = 2.0$, $\sigma = 1.0$) or because it was a trend ($\mu = 3.1$, $\sigma = 1.0$). The variable 'social influence' average value equals 3.0 ($\sigma = 0.9$). These results show that consumers moderately choose e-commerce for social influence reasons. Consumers have a neutral attitude regarding whether they chose e-commerce because they believe that the benefits of e-commerce are more than the drawbacks ($\mu = 3.4$, $\sigma = 1.0$) or because the cost of switching to e-commerce was zero ($\mu = 2.9$, $\sigma = 1.1$). The average value of the variable 'switching cost' equals 3.2 ($\sigma = 0.9$). These results show that consumers moderately choose e-commerce for switching cost reasons. Consumers have a neutral attitude regarding whether they chose e-commerce because they are more satisfied with the services from the online channel ($\mu = 2.8$, $\sigma = 1.0$) or because the policies of the online channel that they purchased from would benefit them more than another channel ($\mu = 3.1$, $\sigma = 1.0$). The variable 'variety seeking' average value equals 3.0 ($\sigma = 0.9$). These results show that consumers moderately choose e-commerce for variety-seeking reasons.

Table 2 T-test analysis – PPM factors vs. gender

<i>Gender</i>	<i>Male</i>		<i>Female</i>		<i>t</i>	<i>p</i>
<i>PPM factors</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Health issues	3.2	1.2	3.4	1.1	−1.513	0.133
Perceived benefits	3.3	1.1	3.4	0.9	−0.487	0.627
Ease of use	3.2	0.9	3.3	0.8	−0.573	0.568
Time-saving	3.4	1.1	3.6	1.0	−0.885	0.378
Money saving	3.3	0.8	3.4	1.0	−0.603	0.547
Service quality	3.3	0.9	3.5	0.8	−1.196	0.234
Perceived cost	3.7	1.1	3.6	1.1	0.232	0.817
Product quality concerns	2.6	0.8	2.7	0.8	−0.152	0.879
Perceived risk	3.3	0.9	3.2	1.0	0.102	0.919
Attitude/prior switching behaviour	3.1	0.9	3.0	1.0	0.805	0.422
Social influence	2.9	0.9	3.0	1.0	−0.293	0.770
Switching cost	3.2	0.8	3.2	0.9	0.407	0.685
Variety seeking	2.9	0.9	3.0	1.0	−0.293	0.770

Note: M – mean; ST – standard deviation.

Table 3 T-test analysis – PPM factors vs. age

<i>Age</i>	<i>Up to 24</i>		<i>25 to 34</i>		<i>35 to 44</i>		<i>45 to 54</i>		<i>54 and over</i>		<i>F</i>	<i>p</i>
<i>PPM factors</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Health issues	3.5	1.0	3.5	1.1	3.3	1.2	3.2	1.3	3.4	1.0	0.242	0.914
Perceived benefits	3.6	0.7	3.4	1.1	3.3	1.0	3.1	1.1	3.6	0.8	0.616	0.652
Ease of use	3.2	0.7	3.3	0.9	3.2	0.8	3.3	1.0	3.5	0.9	0.199	0.939
Time-saving	3.7	0.8	3.7	1.2	3.5	1.0	3.4	1.2	3.8	0.8	0.510	0.729
Money saving	3.5	1.0	3.4	0.9	3.3	0.8	3.2	1.1	3.6	1.0	0.409	0.802
Service quality	3.6	0.9	3.5	0.8	3.4	0.8	3.2	1.1	3.7	0.8	0.785	0.537
Perceived cost	3.6	1.1	3.7	1.2	3.6	1.0	3.5	1.1	4.2	1.0	0.811	0.520
Product quality concerns	3.2	0.7	2.6	0.8	2.6	0.7	2.7	1.0	3.0	0.8	1.147	0.337
Perceived risk	3.4	0.9	3.3	1.0	3.2	0.9	3.1	1.1	3.3	0.7	0.228	0.922
Attitude/prior switching behaviour	3.4	0.8	3.0	1.0	3.0	0.9	3.0	1.2	3.2	0.8	0.275	0.894
Social influence	3.6	1.1	3.1	0.9	2.9	0.8	2.7	1.2	3.1	1.1	1.548	0.192
Switching cost	3.4	0.8	3.1	0.9	3.2	0.8	3.0	1.0	3.3	0.7	0.401	0.808
Variety seeking	3.6	1.1	3.1	0.9	2.9	0.8	2.7	1.2	3.1	1.1	1.548	0.192

Table 2 shows the t-test results in terms of gender about factors that led consumers to change their behaviour in pandemic times. There is no statistically significant difference in factors that led consumers to change their behaviour regarding consumers' gender ($\alpha > 0.05$). Table 3 presents the results of one-way ANOVA comparisons regarding age and factors that led consumers to change their behaviour. The analysis showed no statistically significant difference in factors that led consumers to change their behaviour regarding consumers' age ($\alpha > 0.05$). Table 4 presents the one-way ANOVA comparisons regarding education level and factors that led consumers to change their behaviour. The analysis showed no statistically significant difference in factors that led consumers to change their behaviour regarding consumers' education level ($\alpha > 0.05$). Table 5 presents the results of one-way ANOVA comparisons in terms of marital status about factors that led consumers to change their behaviour. The analysis showed no statistically significant difference in factors that led consumers to change their behaviour regarding consumers' marital status.

Table 4 T-test analysis – PPM factors vs. education

<i>Education</i>	<i>Compulsory education</i>		<i>Bachelor's degree</i>		<i>Master/PhD</i>		<i>Other</i>		<i>F</i>	<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
<i>PPM factors</i>										
Health issues	3.1	1.3	3.3	1.0	3.4	1.2	3.4	1.1	0.337	0.799
Perceived benefits	3.2	1.1	3.3	0.9	3.4	1.0	3.2	0.9	0.394	0.757
Ease of use	3.5	0.7	3.1	0.9	3.3	0.9	3.3	0.8	0.879	0.453
Time-saving	3.5	1.1	3.5	1.1	3.5	1.0	3.4	1.0	0.073	0.974
Money saving	3.6	1.0	3.2	1.0	3.3	0.9	3.4	0.8	0.913	0.436
Service quality	3.4	0.9	3.4	0.9	3.4	0.8	3.4	0.9	0.088	0.966
Perceived cost	3.7	1.1	3.6	1.2	3.7	1.0	3.2	0.9	1.132	0.338
Product quality concerns	2.9	0.9	2.6	0.8	2.5	0.8	3.0	0.8	2.759	0.054
Perceived risk	3.2	0.8	3.3	1.0	3.2	1.0	3.3	1.1	0.031	0.993
Attitude/prior switching behaviour	3.1	1.0	3.0	1.0	2.9	1.0	3.4	0.9	1.100	0.351
Social influence	3.2	1.0	3.0	0.9	2.8	0.9	3.2	1.0	1.268	0.288
Switching cost	3.1	1.0	3.2	0.9	3.2	0.8	3.3	1.0	0.217	0.885
Variety seeking	3.2	1.0	3.0	0.9	2.8	0.9	3.2	1.0	1.268	0.288

Table 6 presents the results of one-way ANOVA comparisons regarding annual income and factors that led consumers to change their behaviour. The analysis showed no statistically significant difference in factors that led consumers to change their behaviour regarding consumers' annual income.

Table 5 T-test analysis – PPM factors vs. marital status

<i>Marital status</i>	<i>c</i>		<i>Single</i>		<i>Divorced</i>		<i>Other</i>		<i>F</i>	<i>p</i>
<i>PPM factors</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Health issues	3.3	1.2	3.4	1.2	3.0	1.1	3.8	1.0	1.003	0.294
Perceived benefits	3.3	1.0	3.4	1.0	3.0	1.1	3.3	1.1	0.203	0.894
Ease of use	3.3	0.8	3.3	0.8	2.9	0.9	3.2	1.0	0.591	0.622
Time-saving	3.5	1.0	3.7	1.1	3.4	0.7	3.5	1.3	0.458	0.712
Money saving	3.3	0.9	3.4	0.9	3.6	0.7	3.4	1.0	0.359	0.783
Service quality	3.4	0.9	3.4	0.8	3.3	1.1	3.3	0.7	0.244	0.866
Perceived cost	3.6	1.0	3.9	1.1	3.4	1.1	3.5	1.2	1.010	0.390
Product quality concerns	2.6	0.8	2.7	0.9	3.0	1.0	2.6	0.5	0.400	0.753
Perceived risk	3.2	1.0	3.3	0.9	3.1	0.6	3.2	1.1	0.200	0.896
Attitude/prior switching behaviour	3.1	1.0	3.1	0.9	3.0	0.8	2.9	0.9	0.218	0.884
Social influence	2.9	0.9	3.0	1.1	3.3	1.1	2.8	0.8	0.515	0.673
Switching cost	3.2	0.9	3.2	0.8	3.1	0.9	3.1	0.9	0.165	0.920
Variety seeking	2.9	0.9	3.0	1.1	3.3	1.1	2.8	0.8	0.515	0.673

Table 6 T-test analysis – PPM factors vs. annual income

<i>Marital status</i>	<i>Up to 10,000</i>		<i>10,001–20,000</i>		<i>20,001–40,000</i>		<i>40,000+</i>		<i>F</i>	<i>p</i>
<i>PPM factors</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Health issues	3.4	1.1	3.1	1.2	3.6	1.1	3.1	1.1	1.705	0.169
Perceived benefits	3.3	1.1	3.2	1.0	3.4	0.9	3.3	1.0	0.396	0.756
Ease of use	3.3	0.8	3.2	0.9	3.4	0.8	3.2	1.0	0.412	0.745
Time-saving	3.6	1.1	3.3	1.1	3.7	0.8	3.3	1.4	2.020	0.112
Money saving	3.5	0.9	3.4	0.8	3.3	1.0	3.1	0.9	0.709	0.548
Service quality	3.4	0.8	3.3	1.0	3.5	0.8	3.2	1.0	0.533	0.660
Perceived cost	3.7	1.2	3.7	1.0	3.7	1.0	3.4	1.0	0.266	0.850
Product quality concerns	2.8	0.7	2.7	0.9	2.7	0.9	2.3	0.6	1.187	0.317
Perceived risk	3.2	1.0	3.1	1.0	3.4	0.9	3.1	1.1	1.034	0.380
Attitude/prior switching behaviour	3.0	0.9	2.9	1.0	3.1	0.9	3.3	1.1	0.652	0.583
Social influence	3.0	1.0	2.9	1.0	3.0	0.9	2.6	0.7	0.771	0.512
Switching cost	3.1	0.9	3.1	0.9	3.3	0.8	3.3	0.9	0.280	0.840
Variety seeking	3.0	1.0	2.9	1.0	3.0	0.9	2.6	0.7	0.771	0.512

Table 7 Correlation results between push, pull and mooring factors and switching intention

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1 Health issues	1													
2 Perceived benefits	.591**	1												
3 Ease of use	.465**	.663**	1											
4 Time-saving	.517**	.633**	.690**	1										
5 Money saving	.344**	.514**	.611**	.560**	1									
6 Service quality	.449**	.613**	.721**	.713**	.650**	1								
7 Perceived cost	.254**	.574**	.506**	.546**	.645**	.570**	1							
8 Product quality concerns	.257**	.410**	.519**	.378**	.489**	.471**	.291**	1						
9 Perceived risk	.407**	.596**	.618**	.803**	.575**	.648**	.558**	.465**	1					
10 Attitude/prior switching behaviour	.335**	.558**	.603**	.568**	.573**	.685**	.498**	.480**	.828**	1				
11 Social influence	.287**	.555**	.552**	.547**	.514**	.670**	.373**	.482**	.575**	.623**	1			
12 Switching cost	.411**	.592**	.522**	.585**	.480**	.582**	.506**	.383**	.835**	.834**	.515**	1		
13 Variety seeking	.287**	.555**	.552**	.547**	.514**	.670**	.373**	.482**	.575**	.623**	1.000*	.515**	1	
14 Switching intention	.494**	.571**	.515**	.583**	.396**	.544**	.443**	.215**	.604**	.520**	.461**	.744**	.461**	1

Table 8 Hierarchical multiple regression analysis

	Model 1			Model 2			Model 3			Model 4		
	Beta	t	p	Beta	t	p	Beta	t	p	Beta	t	p
Constant		7.750	.000		2.633	.009		2.816	.006		1.055	.293
Gender	-.073	-.873	.384	-.135	-2.105	.037	-.112	-1.797	.075	-.120	-2.474	.015
Age	-.082	-.922	.358	-.043	-.631	.529	-.018	-.277	.782	-.044	-.853	.395
Education level	.058	.698	.486	.050	.773	.441	.029	.468	.641	.055	1.138	.257
Annual family income	.062	.711	.478	.025	.362	.718	-.034	-.496	.621	.031	.592	.555
Health issues				.176	2.172	.032	.211	2.642	.009	.126	1.974	.050
Perceived benefits				.197	2.029	.044	.155	1.548	.124	-.019	-.230	.818
Ease of use				.036	.339	.735	.094	.898	.371	.162	1.984	.049
Time-saving				.238	2.345	.020	-.023	-.189	.851	.147	1.308	.193
Money saving				-.023	-.254	.800	-.071	-.741	.460	.010	.134	.894
Service quality				.176	1.639	.103	.174	1.668	.098	.129	1.385	.168
Perceived cost							.059	.653	.515	.026	.364	.716
Product quality concerns							-.179	-2.309	.022	-.131	-2.154	.033
Perceived risk							.365	3.224	.002	-.193	-1.324	.188
Attitude/prior switching behaviour										.513	4.344	.000
Variety seeking										.148	2.065	.041
R ²		.014			.458			.511			.715	
Adjusted R ²		.014			.418			.463			.681	

Note: Standardised beta values; ***p < .001; **p < .01; *p < .05.

4.7 Switching intention

The variable 'switching intention' average value equals 3.3 ($\mu = 0.9$). These results show that consumers moderately changed their behaviour towards e-commerce due to the COVID-19 pandemic. Consumers neither agree nor disagree whether they recommend e-commerce to anyone seeking their advice ($\mu = 3.4$, $\sigma = 1.0$). Also, consumers neither agree nor disagree that online stores are their first choice when they want to buy something during the pandemic ($\mu = 3.3$, $\sigma = 1.2$) and that they encourage friends and relatives to buy from online stores ($\mu = 3.2$, $\sigma = 1.0$). Moreover, consumers neither agree nor disagree that in the coming years, they will buy products/services from an online store ($\mu = 3.3$, $\sigma = 1.2$). 22.3% of the sample stated that they would use e-commerce less than in the pre-pandemic era, while 29.1% of the sample stated that they would use e-commerce the same as in the pre-pandemic era, and a considerable proportion (48.6%) would use it more.

4.8 Regression analysis-PPM model

The latest analysis aimed to investigate whether pull, push and mooring factors influence the change in consumer behaviour regarding e-commerce. Table 7 shows the results of the correlations between the factors in the categories pull, push and, mooring and switching intention. The findings revealed a statistically significant positive correlation among the factors 'health issues' ($r = 0.494$), 'perceived benefits' ($r = 0.571$), 'ease of use' ($r = 0.571$), 'time-saving' ($r = 0.515$), 'money saving' ($r = 0.396$), 'service quality' ($r = 0.544$), 'attitude/prior switching behaviour' ($r = 0.520$), 'social influence' ($r = 0.461$), 'switching cost' ($r = 0.744$) and 'variety seeking' ($r = 0.461$) and the change in consumer behaviour (switching intention). On the contrary, 'perceived cost' ($r = -0.443$), 'product quality concerns' ($r = -0.215$, $p = 0.009$) and 'perceived risk' ($r = -0.604$, $p = 0.009$) correlated negatively with change in consumer behaviour (switching intention).

In addition, significant positive correlations were observed among push, pull and mooring factors. More specifically, a statistically significant positive correlation was observed between the pull factors (Health issues, perceived benefits, ease of use, time-saving, money saving and service quality ($\alpha < 0.05$)). Similarly, a statistically significant positive correlation was observed between the push factors (perceived cost, product quality concerns and perceived risks ($\alpha < 0.05$)). Also, a statistically significant positive correlation was observed between the mooring factors (attitude/prior switching behaviour, social influence, switching cost and variety seeking).

Moreover, significant positive correlations were observed between push and pull factors, push and mooring factors and between pull and mooring factors.

The results of hierarchical multiple regression analysis using gender, age, educational level, and yearly family income as control variables, push, pull, and mooring factors as predictors, and switching intention as an outcome variable are reported in Table 8. The control variables were introduced in the first block of the analysis: gender, age, educational level, and annual family income. The research results revealed that the factors added in the first model have no bearing on the switching intention ($F(4,143) = 0.504$, $p = 0.733$). In addition, the control variables explain 1.4% of the variance of switching intention ($R^2 = 0.014$, adjusted $R^2 = 0.014$). The pull factors were combined with the three control variables from block 1 in the second block of the

analysis. The variables incorporated in the second block were found to be important in predicting switching intention ($F(10,137) = 11.559$, $p = 0.000$). Furthermore, control variables with pull factors account for 45.8% of the variance in switching intention ($R^2 = 0.458$, adjusted $R^2 = 0.418$). According to the study, including the pull factors in a regression model containing the control variables increased the model's predictive capacity by 44.4%. From the beta value, we can see that significant predictors of switching intention are gender ($\beta = -0.257$, $p = 0.037$), health issues ($\beta = 0.142$, $p = 0.032$), perceived benefits ($\beta = 0.185$, $p = 0.044$) and time-saving ($\beta = 0.213$, $p = 0.020$).

The push factors, control variables and push factors from block two were introduced in the third block of the study. The third-block factors were found to help predict switching intention ($F(13,134) = 10.578$, $p = 0.000$). Furthermore, the control variables with pull and push factors account for 51.1% of the variance in switching intention ($R^2 = 0.511$, adjusted $R^2 = 0.463$). According to the study, adding push components to a regression model that already incorporates control variables and pull factors increased the model's predictive capacity by 5.3%. From the beta value, we can see that significant predictors of switching intention are health issues ($\beta = 0.170$, $p = 0.009$), product quality concerns ($\beta = -0.205$, $p = 0.022$) and perceived risk ($\beta = 0.354$, $p = 0.002$).

In the final block of the analysis, the mooring factors, along with control variables, push factors, and pull factors from block 3, were added. The factors introduced in the fourth block were shown to be significant in predicting switching intention ($F(16,131) = 20.580$). Furthermore, the control variables that include pull, push, and mooring factors account for 71.5% of the variance in switching intention ($R^2 = 0.715$, adjusted $R^2 = 0.681$). The inclusion of mooring components to a regression model that already included control variables, pull, and push factors increased the model's predictive capacity by 20.5%, according to the study. From the beta value, we can see that significant predictors of switching intention are gender ($\beta = -0.229$, $p = 0.015$), health issues ($\beta = 0.102$, $p = 0.050$), ease of use ($\beta = 0.179$, $p = 0.049$), product quality concerns ($\beta = -0.150$, $p = 0.033$), attitude/prior switching behaviour ($\beta = 0.492$) and variety seeking ($\beta = 0.147$, $p = 0.041$).

5 Discussion

5.1 Conclusions

Technological developments, the integration of innovative technologies in everyday life and the widespread use of the internet have found fertile ground during the health crisis. Online shopping has grown and reached 60% of all shopping movements in the European Union in 2019, over the first year of the COVID-19 pandemic (Giotopoulos et al., 2022; Zwanka and Buff, 2021). The pandemic affected e-commerce businesses, depending on the type of business, industry, and location of production and manufacturing facilities. According to the empirical findings of this study, COVID-19 has shown evidence of favourable effects for several e-commerce enterprises. However, the ramifications and how they will influence them are unknown (Oliveira et al., 2021). Due to the situation, current information on e-commerce and the pandemic indicates that e-commerce is increasing and producing even more profit than before. The increase is primarily due to people who do not want to go out and risk being infected with the virus. Thus, they prefer

online businesses to physical shops through this time. Most e-commerce businesses have seen an increase in revenues, which has impacted their operations. Some e-commerce enterprises, on the other hand, behave differently and are influenced in diverse ways by the majority, while others are barely affected (Christopoulos et al., 2022).

This study aimed to investigate the impact of COVID-19 on e-commerce in Greece from a consumer perspective. The results confirmed findings from several related literature studies that PPM factors are associated with changing consumer behaviour (Handarkho and Harjoseputro, 2020; Haridasan et al., 2021; Hati et al., 2021; Isibor and Odia, 2021; Ghasrodashti, 2017). The most important predictors of switching intention are ease of use, product quality concerns, attitude/prior switching behaviour and variety seeking.

The research showed that factors moderately influence consumers in the push category (health issues, perceived benefits, ease of use, time-saving, money-saving, and service quality). Similarly, consumers are moderately influenced by factors in the pull category (perceived cost, product quality concerns and perceived risk). Consumers are moderately influenced by factors in the mooring category (attitude/prior switching behaviour, social influence, switching cost and variety seeking). The analysis showed that factors influencing consumers to purchase through e-commerce do not differ significantly regarding their demographic characteristics. In addition, the analysis showed that consumers moderately changed their behaviour towards e-commerce due to the COVID-19 pandemic, while about 50% of consumers stated that they would use e-commerce more than before the COVID-19 era.

These results confirm that consumer health issues (such as fear of getting stuck) were significant in purchasing e-commerce (Raza and Khan, 2021). They also confirm that product quality concerns (Beyari, 2021; Oliveira et al., 2017), attitude/prior switching behaviour (Ghasrodashti, 2017; Li and Ku, 2018; Susanty et al., 2020) and variety seeking (Handarkho and Harjoseputro, 2020) can significantly predict the intention of consumers to purchase e-commerce.

Further, findings confirm that dimensions such as health issues (Fihartini et al., 2021; Tran, 2021), perceived benefits (Pham et al., 2020; Riquelme and Román, 2013), ease of use (Blázquez, 2014; Punj, 2022), time and money saving (Gilly and Wolfenbarger, 2011; Ratnasari et al., 2021), and service quality (Dhingra et al., 2020; Tzavlopoulos et al., 2019; Wilson et al., 2019) are factors that influence consumer behaviour and choices in e-commerce. In addition, the results of the research confirm that factors such as perceived cost (Chen and Keng, 2019), product quality concerns (Beyari, 2021) and perceived risk (Habib and Hamadneh, 2021; Kim et al., 2009; Ou et al., 2022) influence consumer behaviour and choices in e-commerce.

5.2 Managerial implications

The results of this study point to critical aspects that influence customers' attitudes toward e-commerce and their willingness to utilise e-commerce platforms even after the pandemic has passed.

Findings show that consumers have a neutral attitude towards e-commerce services in Greece. More specifically, consumers expressed a neutral stance on whether the Greek online stores provide enough information to describe the products offered, have a good reputation, provide enough alternative payment methods, provide enough services, and

provide telephone numbers and contact forms to their users. The analysis showed that consumers' attitudes toward e-commerce do not differ significantly regarding their demographic characteristics. These results confirm the findings of relevant research on consumer attitudes toward e-commerce services. The results of surveys showed that consumers were moderately satisfied with e-commerce services as well as the willingness of companies to provide the information they wanted and the quality of services that promise (Dhingra et al., 2020; Ratnasari et al., 2021; Wuisan and Elton, 2021).

Findings also show that many consumers (over 60%) bought clothes or shoes, health and beauty products and technology products through e-commerce. A smaller percentage but a significant percentage of consumers (between 40% and 50%) bought food or supermarket products, household goods or other products through e-commerce during the pandemic. Furthermore, the analysis showed minimal significant correlations between consumer demographics and the purchase of specific product types. These findings align with data from previous worldwide research suggesting that throughout the epidemic, many consumers went to e-commerce (Beckers et al., 2021). Consumers turn to e-commerce to a considerable extent in a wide range of product categories (Anastasiadou et al., 2020; Ou et al., 2022). The only deviation of the present research from surveys that have been conducted concerned electronic purchases from the supermarket, as in the present research, the percentage of consumers who stated that they bought products from the supermarket through an e-commerce platform was less than 50%. In contrast, in several studies, the corresponding percentage of consumers turning to supermarket products through an e-commerce platform is much higher (Kleisiari et al., 2021; Wuisan and Elton, 2021).

Based on the above, this study makes the following recommendations:

- Businesses should turn to e-commerce as a sizeable percentage of consumers have turned to electronic shopping in all sectors (food/super market, clothes/shoes, electronic devices/technology, household goods, healthy and beauty products). Businesses operating in the clothes/shoes, healthy and beauty products and electronic devices/technology sectors have a greater incentive to improve their electronic shopping services as in these sectors, the percentage of consumers who prefer electronic shopping is higher than in the other sectors.
- The survey highlighted the areas where businesses need to improve. More specifically, we would suggest that businesses provide enough information to describe the products offered, alternative payment methods, telephone numbers, and contact forms to their users as in these areas.
- The research results showed that key factors (apart from issues related to the health context) of consumer behaviour are ease of use, product quality concerns, attitude/prior switching behaviour and variety seeking. Thus, businesses should improve the purchase and payment process on their website, pay attention to the quality of the products they provide and try to provide an overall quality experience for consumers. Through these improvements, businesses could attract more customers and perform better.
- E-commerce businesses should improve their reputation (this can be achieved through appropriate marketing strategies and improving the overall customer experience). Businesses would eliminate potential consumer concerns about the quality of products or services (for example, through appropriate advertising that will

boost consumer confidence and trust). Businesses should meet customer demands on e-commerce platforms, meet expectations, and provide benefits (variety seeking) to attract more customers.

5.3 Limitations and future research

Because this situation is so new and unexpected, there is no research on the pandemic in the context of international e-commerce. As a result, this diplomacy contributes by offering new data. Furthermore, several limitations of this study could be used to identify areas for future research. Scholars and practitioners unanimously agree that more e-commerce studies are needed after the pandemic. Although this study applied the under-utilised PPM model topic, future research may employ other theories and models to examine this phenomenon more deeply, particularly those causal relationships in which regression models produced mixed results.

Methodologically, this study used self-reported data. While this is a widespread practice, it is suggested that future studies should overcome this limitation by collecting data from more respondents via several ways, e.g., personal interviews and focus groups. The findings of this study should be interpreted with the typical caveat that causal results from regression models should not be considered conclusive. Future research designs may incorporate longitudinal panel data and observe buying behaviour as it evolves, thus testing causality over time and better controlling for confounding factors. Future studies would collect data across more countries and regions to control for contextual and cultural effects and compare findings.

Future research should also investigate the following questions:

- 1 What impact would future crises have on e-commerce enterprises in different markets/countries, and how can they be dealt with? Future studies would also investigate the country context that affects firms' e-commerce presence, especially for small and medium enterprises (SMEs).
- 2 What are the effects of future crises on all business sectors and how they have been impacted throughout the process/circumstance? Examining industry effects could help to improve resilience responses to companies and formulate proper policy measures according to firm size and industry sector.

References

- Al Adwan, A. (2020) 'The impact of motivation factors and intention to adopt Jordan as a destination for medical tourism in the Middle East', *Innovative Marketing*, Vol. 16, No. 2, pp.146–158, [https://doi.org/10.21511/im.16\(2\).2020.11](https://doi.org/10.21511/im.16(2).2020.11).
- Anastasiadou, E., Anestis, M.C., Karantza, I. and Vlachakis, S. (2020) 'The coronavirus' effects on consumer behavior and supermarket activities: insights from Greece and Sweden', *International Journal of Sociology and Social Policy*, Vol. 40, Nos. 9–10, pp.893–907, <https://doi.org/10.1108/ijssp-07-2020-0275>.
- Andrade, A.A., Cardoso, M.G.M.S. and Lopes, V.V. (2021) 'Logical rules characterization of online consumer trust', *International Transactions in Operational Research*, Vol. 28, No. 3, pp.1393–1416, <https://doi.org/10.1111/itor.12630>.

- Argyropoulou, M., Tzavara, D. and Argyropoulou, R. (2023) *Exploring How the Covid-19 Pandemic has Changed Greek Consumers' Habits, in Economies of the Balkan and Eastern European Countries*, pp.61–72, KnE Social Sciences, <https://doi.org/10.18502/kss.v8i1.12635>.
- Beatty, P., Reay, I., Dick, S. and Miller, J. (2011) 'Consumer trust in e-commerce web sites: a meta-study', *ACM Computing Surveys*, Vol. 43, No. 3, pp.1–46, <https://doi.org/10.1145/1922649.1922651>.
- Beckers, J., Weekx, S., Beutels, P. and Verhetsel, A. (2021) 'COVID-19 and retail: the catalyst for e-commerce in Belgium?', *Journal of Retailing and Consumer Services*, Vol. 62, p.102645, <https://doi.org/10.1016/j.jretconser.2021.102645>.
- Beyari, H. (2021) 'Recent e-commerce trends and learnings for e-commerce system development from a quality perspective', *International Journal for Quality Research*, Vol. 15, No. 3, pp.797–810, <https://doi.org/10.24874/ijqr15.03-07>.
- Bhattacharjee, A. and Sanford, C. (2009) 'The intention-behaviour gap in technology usage: the moderating role of attitude strength', *Behaviour & Information Technology*, Vol. 28, No. 4, pp.389–401, <https://doi.org/10.1080/01449290802121230>.
- Blázquez, M. (2014) 'Fashion shopping in multichannel retail: the role of technology in enhancing the customer experience', *International Journal of Electronic Commerce*, Vol. 18, No. 4, pp.97–116, <https://doi.org/10.2753/jec1086-4415180404>.
- Blut, M., Chowdhry, N., Mittal, V. and Brock, C. (2015) 'E-service quality: a meta-analytic review', *Journal of Retailing*, Vol. 91, No. 4, pp.679–700.
- Borg, K., Curtis, J. and Lindsay, J. (2020) 'Social norms and plastic avoidance: testing the theory of normative social behaviour on an environmental behaviour', *Journal of Consumer Behaviour*, Vol. 19, No. 6, pp.594–607, <https://doi.org/10.1002/cb.1842>.
- Borusiak, B., Szymkowiak, A., Lopez-Lluch, D.B. and Sanchez-Bravo, P. (2021) 'The role of environmental concern in explaining attitude towards second-hand shopping', *Entrepreneurial Business and Economics Review*, Vol. 9, No. 2, pp.71–83, <https://doi.org/10.15678/EBER.2021.090205>.
- Cao, Y., Shao, Y. and Zhang, H. (2022) 'Study on early warning of e-commerce enterprise financial risk based on deep learning algorithm', *Electronic Commerce Research*, Vol. 22, No. 1, pp.21–36, <https://doi.org/10.1007/s10660-020-09454-9>.
- Chen, S.J. and Chang, T.Z. (2003) 'A descriptive model of online shopping process: some empirical results', *International Journal of Service Industry Management*, Vol. 14, No. 5, pp.556–569, <https://doi.org/10.1108/09564230310500228>.
- Chen, X., Sun, J. and Liu, H. (2022) 'Balancing web personalization and consumer privacy concerns: mechanisms of consumer trust and reactance', *Journal of Consumer Behaviour*, Vol. 21, No. 3, pp.572–582, <https://doi.org/10.1002/cb.1947>.
- Chen, Y-H. and Keng, C-J. (2019) 'Utilizing the Push-Pull-Mooring-Habit framework to explore users' intention to switch from offline to online real-person English learning platform', *Internet Research*, Vol. 29, No. 1, pp.167–193, <https://doi.org/10.1108/IntR-09-2017-0343>.
- Chen, Z. and Dubinsky, A.J. (2003) 'A conceptual model of perceived customer value in e-commerce: a preliminary investigation', *Psychology and Marketing*, Vol. 20, No. 4, pp.323–347, <https://doi.org/10.1002/mar.10076>.
- Christopoulos, K., Eleftheriou, K. and Nijkamp, P. (2022) 'The role of pre-pandemic teleworking and E-commerce culture in the COVID-19 dispersion in Europe', *Lett. Spat. Resour. Sci.*, Vol. 15, No. 1, pp.1–16, <https://doi.org/10.1007/s12076-021-00286-1>.
- Coffin, J. and Egan-Wyer, C. (2022) 'De-romanticising critical marketing theory: capitalist corruption as the Left's Žižekian fantasy', *Journal of Marketing Management*, Vol. 38, Nos. 1–2, pp.48–70, <https://doi.org/10.1080/0267257X.2021.1996445>.
- Cronin Jr., J.J. and Taylor, S.A. (1992) 'Measuring service quality: a reexamination and extension', *Journal of Marketing*, Vol. 56, No. 3, pp.55–68.

- David, A., Senn, W.D., Peak, D.A., Prybutok, V.R. and Blankson, C. (2021) 'The value of visual quality and service quality to augmented reality enabled mobile shopping experience', *The Quality Management Journal*, Vol. 28, No. 3, pp.116–127, <https://doi.org/10.1080/10686967.2021.1920868>.
- Dennis, C., Dennis, C., Merrilees, B., Jayawardhena, C. and Wright, L.T. (2009) 'E-consumer behaviour', *European Journal of Marketing*, Vol. 43, Nos. 9–10, pp.1121–1139, <https://doi.org/10.1108/03090560910976393>.
- Dhingra, S., Gupta, S. and Bhatt, R. (2020) 'A study of relationship among service quality of e-commerce websites, customer satisfaction, and purchase intention', *International Journal of E-Business Research*, Vol. 16, No. 3, pp.42–59, <https://doi.org/10.4018/ijebr.2020070103>.
- Dionysiou, G., Fouskas, K. and Karamitros, D. (2021) 'The impact of Covid-19 in e-commerce. Effects on consumer purchase behavior', in Kavoura, A., Havlovic, S.J. and Totskaya, N. (Eds.): *Strategic Innovative Marketing and Tourism in the COVID-19 Era*, Springer Proceedings in Business and Economics, Springer, Cham., https://doi.org/10.1007/978-3-030-66154-0_22.
- Do, Q.H., Kim, T.Y. and Wang, X. (2023) 'Effects of logistics service quality and price fairness on customer repurchase intention: the moderating role of cross-border e-commerce experiences', *Journal of Retailing and Consumer Services*, Vol. 70, p.103165, <https://doi.org/10.1016/j.jretconser.2022.103165>.
- Duarte, P.A.d.O. and Silva, S.C. (2020) 'The role of consumer-cause identification and attitude in the intention to purchase cause-related products', *International Marketing Review*, Vol. 37, No. 4, pp.603–620, <https://doi.org/10.1108/IMR-04-2018-0159>.
- Edison, S.W. and Geissler, G.L. (2003) 'Measuring attitudes towards general technology: antecedents, hypotheses and scale development', *Journal of Targeting, Measurement and Analysis for Marketing*, Vol. 12, No. 2, p.137, <https://go.exlibris.link/sGfJvDnr>.
- Eger, L., Komárková, L., Egerová, D. and Mičík, M. (2021) 'The effect of COVID-19 on consumer shopping behaviour: generational cohort perspective', *Journal of Retailing and Consumer Services*, Vol. 61, pp.102542–102542, <https://doi.org/10.1016/j.jretconser.2021.102542>.
- ELSTAT (2022) *Research on the Use of Information, Communication and E-Commerce Technologies in Business, 2020* [online] <https://www.statistics.gr/documents/20181/804557ad-ac72-ee8a-2244-918ac94fe6d7> (accessed 2 February 2024).
- Ertekin, N., Ketzenberg, M.E. and Heim, G.R. (2020) 'Assessing impacts of store and salesperson dimensions of retail service quality on consumer returns', *Production and Operations Management*, Vol. 29, No. 5, pp.1232–1255, <https://doi.org/10.1111/poms.13077>.
- Escobar-Rodríguez, T. and Bonsón-Fernández, R. (2017) 'Analysing online purchase intention in Spain: fashion e-commerce', *Information Systems and E-Business Management*, Vol. 15, No. 3, pp.599–622, <https://doi.org/10.1007/s10257-016-0319-6>.
- Fihartini, Y., Helmi, A., Hassan, M. and Oesman, Y.M. (2021) 'Perceived health risk, online retail ethics, and consumer behavior within online shopping during the COVID-19 pandemic', *Innovative Marketing*, Vol. 17, No. 3, pp.17–29, [https://doi.org/10.21511/im.17\(3\).2021.02](https://doi.org/10.21511/im.17(3).2021.02).
- Flanagin, A.J., Metzger, M.J., Pure, R., Markov, A. and Hartsell, E. (2014) 'Mitigating risk in ecommerce transactions: perceptions of information credibility and the role of user-generated ratings in product quality and purchase intention', *Electronic Commerce Research*, Vol. 14, No. 1, pp.1–23, <https://doi.org/10.1007/s10660-014-9139-2>.
- Gajewska, T., Zimon, D., Kaczor, G. and Madzik, P. (2020) 'The impact of the level of customer satisfaction on the quality of e-commerce services', *International Journal of Productivity and Performance Management*, Vol. 69, No. 4, pp.666–684, <https://doi.org/10.1108/IJPPM-01-2019-0018>.
- Gefen, D. and Straub, D.W. (2004) 'Consumer trust in B2C e-Commerce and the importance of social presence: experiments in e-Products and e-Services', *Omega (Oxford)*, Vol. 32, No. 6, pp.407–424, <https://doi.org/10.1016/j.omega.2004.01.006>.

- Ghasrodashti, E.K. (2017) 'Explaining brand switching behavior using pull-push-mooring theory and the theory of reasoned action', *Journal of Brand Management*, Vol. 25, No. 4, pp.293–304, <https://doi.org/10.1057/s41262-017-0080-2>.
- Ghasrodashti, E.K. (2018) 'Explaining brand switching behavior using pull-push-mooring theory and the theory of reasoned action', *The Journal of Brand Management*, Vol. 25, No. 4, pp.293–304, <https://doi.org/10.1057/s41262-017-0080-2>.
- Gilly, M.C. and Wolfinbarger, M. (2011) 'A comparison of consumer experiences with online and offline shopping', *Consumption Markets & Culture*, Vol. 4, No. 2, pp.187–205, <https://doi.org/10.1080/10253866.2000.9670355>.
- Giotopoulos, I., Kontolaimou, A. and Tsakanikas, A. (2022) 'Digital responses of SMEs to the COVID-19 crisis', *International Journal of Entrepreneurial Behaviour & Research*, Vol. 28, No. 7, pp.1751–1772, <https://doi.org/10.1108/IJEER-11-2021-0924>.
- Glover, S. and Benbasat, I. (2010) 'A comprehensive model of perceived risk of e-commerce transactions', *International Journal of Electronic Commerce*, Vol. 15, No. 2, pp.47–78, <https://doi.org/10.2753/JEC1086-4415150202>.
- GRECA (2020) *Up to 134% Weekly Expenses of Greeks in Online Product Stores* [online] <https://www.greekecommerce.gr/news/neatoy-syndesmoy/ereyna-ecommerce-at-covid-19-period-phase-ii/> (accessed 2 February 2024).
- Habib, S. and Hamadneh, N.N. (2021) 'Impact of perceived risk on consumers technology acceptance in online grocery adoption amid COVID-19 pandemic', *Sustainability*, Vol. 13, No. 18, p.10221, <https://doi.org/10.3390/su131810221>.
- Hailat, K.Q., Alsmadi, S., Nassar, M. and Chung, S.B. (2022) 'An investigation of the push-pull factors influencing student selection of higher education: the case of Arabian Gulf students in the UK', *Journal of Public Affairs*, Vol. 22, No. 4, <https://doi.org/10.1002/pa.2657>.
- Handarkho, Y.D. and Harjoseputro, Y. (2020) 'Intention to adopt mobile payment in physical stores: individual switching behavior perspective based on push-pull-mooring (PPM) theory', *Journal of Enterprise Information Management*, Vol. 33, No. 2, pp.285–308, <https://doi.org/10.1108/JEIM-06-2019-0179>.
- Haridasan, A.C., Fernando, A.G. and Balakrishnan, S. (2021) 'Investigation of consumers' cross-channel switching intentions: a push-pull-mooring approach', *Journal of Consumer Behaviour*, Vol. 20, No. 5, pp.1092–1112, <https://doi.org/10.1002/cb.1918>.
- Hati, S.R.H., Gayatri, G. and Indraswari, K.D. (2021) 'Migration (Hijra) to Islamic bank based on push-pull-mooring theory: a services marketing mix perspective', *Journal of Islamic Marketing*, Vol. 12, No. 8, pp.1637–1662, <https://doi.org/10.1108/JIMA-07-2019-0157>.
- Haywood-Farmer, J. (1988) 'A conceptual model of service quality', *International Journal of Operations & Production Management*, Vol. 8, No. 6, pp.19–29.
- Hazen, B.T., Mollenkopf, D.A. and Wang, Y. (2017) 'Remanufacturing for the circular economy: an examination of consumer switching behavior', *Business Strategy and the Environment*, Vol. 26, No. 4, pp.451–464, <https://doi.org/10.1002/bse.1929>.
- Huang, A. (2018) 'A risk detection system of e-commerce: researches based on soft information extracted by affective computing web texts', *Electronic Commerce Research*, Vol. 18, No. 1, pp.143–157, <https://doi.org/10.1007/s10660-017-9262-y>.
- Iqbal, S., Bhatti, Z.A. and Khan, M.N. (2020) 'Assessing e-service quality of B2C sites: a proposed framework', *International Journal of Information Technology (Singapore, Online)*, Vol. 12, No. 3, pp.933–944, <https://doi.org/10.1007/s41870-018-0247-4>.
- Isibor, O.F. and Odia, E.O. (2021) 'Adherents' switching behavior: exploring the push-pull-mooring framework in the Christian religious market', *International Review on Public and Nonprofit Marketing*, Vol. 18, No. 1, pp.95–127, <https://doi.org/10.1007/s12208-020-00261-4>.
- Jeong, D., Ko, E. and Taylor, C.R. (2023) 'Don't touch the Merchandise! Factors associated with consumer preference for contact free shopping', *Journal of Business Research*, Vol. 154, p.113261, <https://doi.org/10.1016/j.jbusres.2022.08.025>.

- Jiang, Y. and Lau, A.K.W. (2021) 'Roles of consumer trust and risks on continuance intention in the sharing economy: an empirical investigation', *Electronic Commerce Research and Applications*, Vol. 47, p.101050, <https://doi.org/10.1016/j.elerap.2021.101050>.
- Kassim, N. and Abdullah, N.A. (2010) 'The effect of perceived service quality dimensions on customer satisfaction, trust, and loyalty in e-commerce settings: a cross cultural analysis', *Asia Pacific Journal of Marketing and Logistics*, Vol. 22, No. 3, pp.351–371, <https://doi.org/10.1108/13555851011062269>.
- Katawetawaraks, C. and Wang, C.L. (2011) 'Online shopper behavior: influences of online shopping decision', *Asian Journal of Business Research*, Vol. 1, No. 2, p.66.
- Kim, D.J., Ferrin, D.L. and Rao, H.R. (2009) 'Trust and satisfaction, two stepping stones for successful e-commerce relationships: a longitudinal exploration', *Information Systems Research*, Vol. 20, No. 2, pp.237–257, <https://doi.org/10.1287/isre.1080.0188>.
- Kirkwood, J. (2009) 'Motivational factors in a push-pull theory of entrepreneurship', *Gender in Management*, Vol. 24, No. 5, pp.346–364, <https://doi.org/10.1108/17542410910968805>.
- Kleisiari, C., Duquenne, M-N. and Vlontzos, G. (2021) 'E-commerce in the retail chain store market: an alternative or a main trend?', *Sustainability*, Vol. 13, No. 8, p.4392, <https://doi.org/10.3390/su13084392>.
- Koo, D.M., Kim, J.J. and Lee, S.H. (2008) 'Personal values as underlying motives of shopping online', *Asia Pacific Journal of Marketing and Logistics*, Vol. 20, No. 2, pp.156–173, <https://doi.org/10.1108/13555850810864533>.
- Kousi, T., Mitsi, L.C. and Simos, J. (2021) 'The early stage of COVID-19 outbreak in Greece: a review of the national response and the socioeconomic impact', *Int. J. Environ. Res. Public Health*, Vol. 18, No. 1, p.322, <https://doi.org/10.3390/ijerph18010322>.
- Li, C-Y. and Ku, Y-C. (2018) 'The power of a thumbs-up: will e-commerce switch to social commerce?', *Information & Management*, Vol. 55, No. 3, pp.340–357, <https://doi.org/10.1016/j.im.2017.09.001>.
- Liang, T-P. and Lai, H-J. (2002) 'Effect of store design on consumer purchases: an empirical study of on-line bookstores', *Information & Management*, Vol. 39, No. 6, pp.431–444, [https://doi.org/10.1016/s0378-7206\(01\)00129-x](https://doi.org/10.1016/s0378-7206(01)00129-x).
- Liebermann, Y. and Stashevsky, S. (2002) 'Perceived risks as barriers to Internet and e-commerce usage', *Qualitative Market Research*, Vol. 5, No. 4, pp.291–300, <https://doi.org/10.1108/13522750210443245>.
- Lin, M-J. and Wang, W-T. (2015) 'Examining e-commerce customer satisfaction and loyalty: an integrated quality-risk-value perspective', *Journal of Organizational Computing and Electronic Commerce*, Vol. 25, No. 4, pp.379–401, <https://doi.org/10.1080/10919392.2015.1089681>.
- Lionello, R.L., Slongo, L.A. and Matos, C.A. d. (2020) 'Electronic service quality: a meta-analysis', *Marketing Intelligence & Planning*, Vol. 38, No. 5, pp.619–635.
- Lu, H-P. and Wung, Y-S. (2021) 'Applying transaction cost theory and push-pull-mooring model to investigate mobile payment switching behaviors with well-established traditional financial infrastructure', *Journal of Theoretical and Applied Electronic Commerce Research*, Vol. 16, No. 2, pp.1–21, <https://doi.org/10.4067/S0718-18762021000200102>.
- Ma, S., Chai, Y. and Jia, F. (2022) 'Mitigating transaction risk for cross-border e-commerce firms: a multiagent-based simulation study', *International Business Review*, Vol. 31, No. 4, p.101965, <https://doi.org/10.1016/j.ibusrev.2021.101965>.
- McKnight, D.H., Choudhury, V. and Kacmar, C. (2002) 'Developing and validating trust measures for e-commerce: an integrative typology', *Information Systems Research*, Vol. 13, No. 3, pp.334–359, <https://doi.org/10.1287/isre.13.3.334.81>.
- McMillan, S.J. and Morrison, M. (2016) 'Coming of age with the internet', *New Media & Society*, Vol. 8, No. 1, pp.73–95, <https://doi.org/10.1177/1461444806059871>.
- Meramveliotakis, G. and Manioudis, M. (2021) 'Sustainable development, COVID-19 and small business in Greece: small is not beautiful', *Administrative Sciences*, Vol. 11, No. 3, p.90.

- Mukhopadhyay, S., Mahmood, M.A. and Joseph, J.L. (2008) 'Measuring internet-commerce success: what factors are important?', *Journal of Internet Commerce*, Vol. 7, No. 1, pp.1–28, <https://doi.org/10.1080/15332860802004113>.
- Nguyen, T.H.N., Yeh, Q.J. and Huang, C.Y. (2022) 'Understanding consumer' switching intention toward traceable agricultural products: push-pull-mooring perspective', *International Journal of Consumer Studies*, Vol. 46, No. 3, pp.870–888, <https://doi.org/10.1111/ijcs.12733>.
- Oliveira, M., Gomes, S., Santos, T. and Lopes, J.M. (2021) 'Alterations in consumer behavior on food purchase during COVID-19 pandemic', *Academy of Strategic Management Journal*, Vol. 20, pp.1–9, <https://go.exlibris.link/J9Q2fv8L>.
- Oliveira, T., Alhinho, M., Rita, P. and Dhillon, G. (2017) 'Modelling and testing consumer trust dimensions in e-commerce', *Computers in Human Behavior*, Vol. 71, pp.153–164, <https://doi.org/10.1016/j.chb.2017.01.050>.
- Olivero, N. and Lunt, P. (2004) 'Privacy versus willingness to disclose in e-commerce exchanges: the effect of risk awareness on the relative role of trust and control', *Journal of Economic Psychology*, Vol. 25, No. 2, pp.243–262, [https://doi.org/10.1016/S0167-4870\(02\)00172-1](https://doi.org/10.1016/S0167-4870(02)00172-1).
- Ou, C.-C., Chen, K.-L., Tseng, W.-K. and Lin, Y.-Y. (2022) 'A study on the influence of conformity behaviors, perceived risks, and customer engagement on group buying intention: a case study of community e-commerce platforms', *Sustainability*, Vol. 14, No. 4, p.1941, <https://doi.org/10.3390/su14041941>.
- Palese, B. and Usai, A. (2018) 'The relative importance of service quality dimensions in E-commerce experiences', *International Journal of Information Management*, Vol. 40, pp.132–140, <https://doi.org/10.1016/j.jinfomgt.2018.02.001>.
- Pham, V.K., Nguyen, T.L., Do, T.T.H., Tang, M.H. and Hoai, H.L.T. (2020) 'A study on switching behavior toward online shopping of vietnamese consumer during the COVID-19 time', *SSRN Electronic Journal*, <https://doi.org/10.2139/ssrn.3651300>.
- Pilelienė, L. and Tamulienė, V. (2021) 'Consumer attitudes and behavior towards organic products: evidence from the Lithuanian market', *Journal of Entrepreneurship, Management And Innovation*, Vol. 17, No. 1, pp.269–299, <https://doi.org/10.7341/20211719>.
- Punj, G. (2022) 'The effect of shopping goals and in-store mobile device use on purchase outcomes in brick-and-mortar stores', *Journal of Retailing and Consumer Services*, Vol. 64, p.102816, <https://doi.org/10.1016/j.jretconser.2021.102816>.
- Ratnasari, I., Siregar, S. and Maulana, A. (2021) 'How to build consumer trust towards e-satisfaction in e-commerce sites in the COVID-19 pandemic time?', *International Journal of Data and Network Science*, 127–134, <https://doi.org/10.5267/j.ijdns.2021.2.001>.
- Raza, S.A. and Khan, K.A. (2021) 'Corona fear and e-commerce adoption in an emerging economy: paradigm shift of consumer intention', *Foresight*, Vol. 24, No. 2, pp.195–209, <https://doi.org/10.1108/fs-02-2021-0034>.
- Riquelme, I.P. and Román, S. (2013) 'The influence of consumers' cognitive and psychographic traits on perceived deception: a comparison between online and offline retailing contexts', *Journal of Business Ethics*, Vol. 119, No. 3, pp.405–422, <https://doi.org/10.1007/s10551-013-1628-z>.
- Rosillo-Díaz, E., Blanco-Encomienda, F.J. and Crespo-Almendros, E. (2020) 'A cross-cultural analysis of perceived product quality, perceived risk and purchase intention in e-commerce platforms', *Journal of Enterprise Information Management*, Vol. 33, No. 1, pp.139–160, <https://doi.org/10.1108/JEIM-06-2019-0150>.
- Sayyida, S., Hartini, S., Gunawan, S. and Husin, S.N. (2021) 'The impact of the COVID-19 pandemic on retail consumer behavior', *Aptisi Transactions on Management (ATM)*, Vol. 5, No. 1, pp.79–88.
- Shang, Q., Jin, J. and Qiu, J. (2020) 'Utilitarian or hedonic: event-related potential evidence of purchase intention bias during online shopping festivals', *Neurosci. Lett.*, Vol. 715, p.134665, <https://doi.org/10.1016/j.neulet.2019.134665>.

- Shankar, V. and Narang, U. (2020) 'Emerging market innovations: unique and differential drivers, practitioner implications, and research agenda', *Journal of the Academy of Marketing Science*, Vol. 48, No. 5, pp.1030–1052, <https://doi.org/10.1007/s11747-019-00685-3>.
- Sharma, D. and Gaur, B. (2021) 'A sociological study of increasing trends of e-commerce in Indian society: during COVID-19 pandemic', *MINDSHARE: International Journal of Research and Development*, pp.85–97, <https://doi.org/10.55031/mshare.2021.40.Cd.5>.
- Sheth, J. (2020) 'Impact of COVID-19 on consumer behavior: will the old habits return or die?', *J. Bus. Res.*, Vol. 117, pp.280–283, <https://doi.org/10.1016/j.jbusres.2020.05.059>.
- Shi, Y., Wang, T. and Alwan, L.C. (2020) 'Analytics for cross-border e-commerce: inventory risk management of an online fashion retailer', *Decision Sciences*, Vol. 51, No. 6, pp.1347–1376, <https://doi.org/10.1111/deci.12429>.
- Suryawardani, B. and Wulandari, A. (2020) 'Determinant factors of customers switching behavior to customer satisfaction and loyalty in online transportation users in Bandung', *Jurnal Dinamika Manajemen*, Vol. 11, No. 1, pp.12–26, <https://doi.org/10.15294/jdm.v11i1.21432>.
- Susanty, A., Handoko, A. and Puspitasari, N.B. (2020) 'Push-pull-mooring framework for e-commerce adoption in small and medium enterprises', *Journal of Enterprise Information Management*, Vol. 33, No. 2, pp.381–406, <https://doi.org/10.1108/jeim-08-2019-0227>.
- Tandon, U., Mittal, A. and Manohar, S. (2021) 'Examining the impact of intangible product features and e-commerce institutional mechanics on consumer trust and repurchase intention', *Electronic Markets*, Vol. 31, No. 4, pp.945–964, <https://doi.org/10.1007/s12525-020-00436-1>.
- Teo, T.S.H. and Liu, J. (2007) 'Consumer trust in e-commerce in the United States, Singapore and China', *Omega (Oxford)*, Vol. 35, No. 1, pp.22–38, <https://doi.org/10.1016/j.omega.2005.02.001>.
- Thompson, L. (2000) 'E-commerce: changing the rules of strategy implementation', *Strategy & Leadership*, Vol. 28, No. 4, p.35, <https://doi.org/10.1108/sl.2000.26128dab.002>.
- Tonglet, M. and Johnstone, P. (2001) 'E-commerce risks in the 'open and competitive market'', *Journal of Financial Crime*, Vol. 8, No. 3, pp.218–225, <https://doi.org/10.1108/eb025987>.
- Tran, L.T.T. (2021) 'Managing the effectiveness of e-commerce platforms in a pandemic', *Journal of Retailing and Consumer Services*, Vol. 58, pp.102287–102287, <https://doi.org/10.1016/j.jretconser.2020.102287>.
- Tran, V-D. and Vu, Q.H. (2019) 'Inspecting the relationship among e-service quality, e-trust, e-customer satisfaction and behavioral intentions of online shopping customers', *Global Business Finance Review*, Vol. 24, No. 3, pp.29–42, <https://doi.org/10.17549/gbfr.2019.24.3.29>.
- Tzavlopoulos, I., Gotzamani, K., Andronikidis, A. and Vassiliadis, C. (2019) 'Determining the impact of e-commerce quality on customers' perceived risk, satisfaction, value and loyalty', *International Journal of Quality and Service Sciences*, Vol. 11, No. 4, pp.576–587, <https://doi.org/10.1108/ijqss-03-2019-0047>.
- Uden, L., Ting, I.H. and Corchado, J.M. (2019) 'Understanding consumers' continuance intention toward self-service stores: an integrated model of the theory of planned behavior and push-pull-mooring theory', *Knowledge Management in Organizations*, Vol. 1027, pp.149–164, Springer International Publishing AG, https://doi.org/10.1007/978-3-030-21451-7_13.
- Vieira, V.A., Severo de Almeida, M.I., Gabler, C.B., Limongi, R., Costa, M. and da Costa, M.P. (2022) 'Optimising digital marketing and social media strategy: from push to pull to performance', *Journal of Marketing Management*, Vol. 38, Nos. 7–8, pp.709–739, <https://doi.org/10.1080/0267257X.2021.1996444>.
- Wahl, O. and Aroesty-Cohen, E. (2010) 'Attitudes of mental health professionals about mental illness: a review of the recent literature', *Journal of Community Psychology*, Vol. 38, No. 1, pp.49–62.

- Wilson, N., Keni, K. and Tan, P.H.P. (2019) ‘The effect of website design quality and service quality toward repurchase intention in the e-commerce industry: a cross-continental analysis’, *Gadjah Mada International Journal of Business*, Vol. 21, No. 2, pp.187–222, <https://doi.org/10.22146/gamaijb.33665>.
- Wongkitrungrueng, A. and Assarut, N. (2020) ‘The role of live streaming in building consumer trust and engagement with social commerce sellers’, *Journal of Business Research*, Vol. 117, pp.543–556, <https://doi.org/10.1016/j.jbusres.2018.08.032>.
- Wuisan, D. and Elton, K. (2021) ‘The effect of experience quality, customer perceived value and customer satisfaction on customer loyalty of outdoor restaurant during the COVID-19 pandemic’, *Conference Series*, Vol. 3, No. 2, pp.511–519, <https://doi.org/10.34306/conferenceseries.v3i2.618>.
- Zhang, J.Z. and Chang, C-W. (2021) ‘Consumer dynamics: theories, methods, and emerging directions’, *Journal of the Academy of Marketing Science*, Vol. 49, No. 1, pp.166–196, <https://doi.org/10.1007/s11747-020-00720-8>.
- Zhu, W., Mou, J. and Benyoucef, M. (2019) ‘Exploring purchase intention in cross-border e-commerce: a three stage model’, *Journal of Retailing and Consumer Services*, Vol. 51, pp.320–330, <https://doi.org/10.1016/j.jretconser.2019.07.004>.
- Zmud, R.W. (1984) ‘An examination of ‘push-pull’ theory applied to process innovation in knowledge work’, *Management Science*, Vol. 30, No. 6, pp.727–738, <https://doi.org/10.1287/mnsc.30.6.727>.
- Zwanka, R.J. and Buff, C. (2021) ‘COVID-19 generation: a conceptual framework of the consumer behavioral shifts to be caused by the COVID-19 pandemic’, *Journal of International Consumer Marketing*, Vol. 33, No. 1, pp.58–67, <https://doi.org/10.1080/08961530.2020.1771646>.