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ABSTRACT

South Africa lags behind other economies regarding online shopping adoption. Extant literature has focused on the influence of risk factors on consumers' intention to shop online. However, few studies have considered the effect that mediating factors can have on relationships between other factors related to online shopping. It is particularly important to determine the mediation effect of perceived risk factors on the relationship between perceived website quality and intentions to shop online. A quantitative survey was used to collect data from 300 online shoppers who purchase clothing online and are located in the Soweto Township in Gauteng, South Africa. Perceived website quality was found to have an unexpected, direct positive influence on perceptions regarding perceived social risk, time risk, product risk and financial risk, as well as on intention to shop online. However, perceived website quality also had a direct negative impact on perceived security risk (as perceived website quality increased perceived security risk decreased). The perceived risk factors did not display statistically significant indirect effects (mediation) between perceived website quality and the intention to shop online. This paper contributes to the S-O-R theory in relation to website quality risk factors, perceived risk factors and the intention to shop online. The paper may help online retailers improve website quality by considering the impact of the perceived risk factors from a practical perspective.

Keywords

Perceived website quality, perceived risk, online shopping, South Africa.

INTRODUCTION

Electronic commerce (e-commerce) has emerged as a major trend related to the fourth industrial revolution and has changed consumer behavior in retailing. The increasing adoption of e-commerce, also known as online shopping, has resulted in several online retailers entering the market, locally and globally (Ecommerce, 2024; MyBroadband, 2017). The number of consumers adopting online shopping has grown exponentially globally and in South Africa (SA) (Businessinsider, 2020; Hulley, 2024; Hung-Joubert & Erdis, 2019; Moodley et al., 2021; Nhlapulo, 2020; Oki et al., 2021; Weber & Badenhorst-Weiss, 2018). Nevertheless, SA still lags behind other countries regarding e-commerce adoption. This

could be due to the high costs of data, which is one of the highest in Africa and globally (Alliance for Affordable Internet, 2020). It could also be that SA is an emerging market with a growing middle class. However, it is important to note that the size of the middle class in SA has been negatively affected by the COVID-19 pandemic, which resulted in reduced income and loss of jobs (Swingler & Koyana, 2022). According to StatsSA (2023), the impact of the pandemic caused many businesses to close, leading to job losses and reduced incomes in SA. This has been confirmed by several studies (Köhler et al., 2023; Gamede, 2022) and their findings show that it resulted in increased income inequality in SA.

As mentioned above, there have been reports on the increased rate of growth of online shopping in SA. Ecommerce (2024) predicted that in 2024 in SA there would be 39 million online shoppers who would spend approximately R66 billion by the end of the year. Online shopping is expected to grow three times faster than in-store sales in SA (Accenture, 2020).

There has been an increased uptake of online shopping in other developing countries as well (Hung-Joubert & Erdis, 2019; Weber & Badenhorst-Weiss, 2018) - a developing country is one characterized by a high level of poverty and a high unemployment rate, but with some economic growth, as is the case in SA (Duffett & Cromhout, 2022; Majerova, 2021). Several studies have investigated online shopping and risk factors from a developing economy perspective (for example, Al-Tall & Rawash, 2020; Bobalca et al., 2021; Bhatti et al., 2018; Carstens et al., 2019; Makhitha & Ngobeni 2021; Nhlapulo, 2020; Nia & Shokouhyar, 2020; Smoliana, 2020; Tandon et al., 2017). However, these studies presented conflicting results and hence Kaur and Thakur (2021) advised that countries should not be assumed to be homogenous but should be regarded as different economies with differences in consumer behavior.

Studies have reported that consumers worry about non-delivery, product return processes, identity theft, fraud and security when shopping online, all of which influence their attitude and intention to shop online (MyBroadband, 2017). Website quality has also emerged as a factor influencing online shopping intention (Batbayar et al., 2018; Hung, 2016; Weber & Badenhorst-Weiss, 2018). Website quality refers to the visual appeal and functionality of the website (Septiari, 2018) as well as its usability and the information available (Akgül, 2021). Esho and Verhoef (2021) found that perceived website quality has a greater influence on online shopping behavior than on consumer trust towards online retailers.

Consumer interaction with the online retailer involves browsing the retail website and collecting a variety of information including information about the product (Jiang et al., 2010). The quality of the information influences the online experience of consumers (Santo & Marques, 2022). Zerbini et al. (2022) contended that the recognition by retailers of the importance of shopping environment design in general has led them to use insights into website design to develop online shopping environments which encourage favorable emotions in consumers. Amoah and Marriot (2021) concluded that consumers are attracted to online retailers' websites by entertaining activities such as animation, gaming, texting, music, videos and other multimedia functions. Adding to this, Lin et al. (2019) listed escapism as an attractive feature of online shopping; this requires presenting a wide variety of customized and attractive products or services on online shopping websites and recognizes the importance of the role that website quality plays in the online shopping environment. Khare et al. (2020) claim that easily accessible, high-quality information influences consumer trust and intention to shop online. Websites should provide all the information consumers need before purchasing online, such as information about products, prices, promotions, range, services, delivery and payment methods (Santo & Marques, 2022; Weber & Badenhorst-Weiss, 2018). It was also reported that website design characteristics significantly and negatively affect consumers' perceived irritation (as scores related to website design quality increase, scores related to perceived irritation decrease) when shopping online.

Santo and Marques (2022) state that online retailers should deliberately create trust among consumers to encourage them to shop online since there is no face-to-face interaction. Bhatti et al. (2018) agree that identified factors moderate the impact of perceived risk and need to be considered, as perceived risk influences online shopping behavior significantly. Toska et al. (2023) investigated the moderation effect of the COVID-19 pandemic on the relationship between perceived risks and purchase intention and concluded that panic resulting from the pandemic resulted in increased online shopping. Wu et al. (2016) added that website quality has an effect on consumers' trust and perceived risk, which in turn, influences consumers' purchase intention.

The influence of risk factors on online retail shopping intention has also been examined in several studies and some risk factors were identified as major inhibitors of online shopping intention for inexperienced consumers (for example, Bhattacharya et al., 2023; Duffett & Charles, 2024; Lavuri & et al., 2022; Pentz et al., 2020a; Rahmi et al., 2022). Although some of these studies targeted emerging markets, such as India, SA and other African economies, it is also apparent that risk factors differ between emerging and developed markets.

The consumer's decision to shop at physical stores instead of online is strongly influenced by fears that the products will not be what they want (Santo & Marques, 2022). Online retailers should strive to reduce consumers' perceived risk since consumers perceive a greater level of risk in using online shopping platforms than when physically shopping in-store (Malapane, 2019). Website quality may be used to lessen the shoppers' uncertainty (Toska et al., 2023). There is an increased risk associated with buying clothing products online, since consumers can examine the products physically in a traditional store before purchasing but this is not possible on online shopping platforms. Generally, therefore, there is a higher risk associated with online purchases than with offline purchases (Ariffin et al., 2020). Studies have classified online buyers as belonging to different types and indicate that the various types of consumers differ in their assessment of website design, website reliability and fulfilment; however, the consumers agree regarding website security or privacy issues, indicating the importance of such issues in online shopping (Carstens et al., 2019; Shergill & Chen, 2005; Valdez-Juárez et al., 2021; Wu & Tsai, 2017). The perceived risk has an impact on buying behavior, and a poor attitude will adversely affect the extent to which the consumer finds the website to be useful, their frequency of visit, frequency of purchase, and how much time and money they spend online (Carstens et al., 2019; Chen & Chen, 2019; Kumar & Lata, 2021).

The effect of improved website quality on perceived risk reduction in online shopping platforms has been the subject of several investigations, but researchers have produced a variety of findings. Studies that focused on website quality revealed that system quality and information quality do not affect perceived risk for consumers in Taiwan (Hsieh & Tsao, 2014). A study by Wu et al. (2016) showed that "e-servicescape" dimensions significantly affect consumer attitudes and trust when shopping online. None of the studies found investigated the mediation effect of website quality on other aspects of online shopping. MacKinnon et al. (2007) define mediation as a statistical conduit that assesses the influence of an independent variable on the dependent variable via a third, mediator, variable. Studies that determined the mediation between perceived risk and intention to shop online focused on trust (Lavuri et al., 2022; Qalati et al., 2021), attitude (Bhatti et al., 2018; Tran & Nguyen, 2022), e-commerce experience (Mofokeng, 2021), demographics (Alrawad et al., 2023), usefulness and ease of use (Mutaharet al., 2018), brand awareness (Rahmi et al., 2022) and COVID-19 (Toska et al., 2023). However, none were found that focused on perceived website quality. A limited number of studies considered mediation affecting perceived risk, perceived website quality and intention to shop online. Hung (2016) investigated the mediation effect of perceived website quality on the relationship between

peer influence and online buying behavior, but did not look at risk factors. This gap is addressed in this study as it investigates the mediation effect of perceived risks factors on the effect that website quality factors have on consumers' intention to shop online, and also determines whether website quality influences consumers' intention to shop online.

LITERATURE REVIEW

Theoretical Background

Mehrabian and Russell (1974) established the stimulus-organism-response (S-O-R) model, a widely used framework that incorporates input, process and output into a single framework. The S-O-R theory has been successfully applied to study consumer behavior in the context of online shopping (Albarq, 2021; Zhu et al., 2020; Zhu et al. , 2020). The S-O-R framework posits that the influence of environmental stimuli on an organism causes a behavioral response (Albarq, 2021). The organism also mediates the connection between stimulus and response (Kim & Lennon, 2013). Emir et al. (2016) shows that an individual's internal states can be described as the stimulus, the organism is the intrinsic processor, and the response is the outcome of the stimulus and the organism. How online consumers perceive the information provided online and the opinions formed is considered the cognitive state (internal processes) in the context of online shopping (Kim & Lennon, 2013). The consumer's perceptions and opinions about the quality of a retailer's website can be seen as a cognitive response to the online shopping experience. Chang and Chen (2008) used the S-O-R framework to assess whether the perceived risk (including social, time, product and financial risks) for a given online retailer mediated the relationship between website quality and purchase intention. For the purposes of this study, website quality will be considered to be the stimulus, perceived risk factors are the organism and mediator and intention to shop online are the response.

Perceived Risk Factors in Online Shopping

Previous studies examined perceived risk but could not clearly identify the key risks related to online shopping; this has allowed the researchers to select risks appropriate for the purpose of the investigation reported on in this paper. As stated earlier, risk factors differ between developed and developing economies due to the differences in the characteristics of each country (Kaur & Thakur, 2021). Existing studies support the notion that the most common perceived risks in online shopping are financial, product, security, privacy, time, social and psychological risks. Risk has been investigated from a developed nation perspective (Balogh & Mészáros, 2020; Chang & Chen, 2008; Kim & Lennon, 2012). The risk scales developed have also been applied in developing economies (Alrawad et al., 2023; Duffett & Charles, 2024; Makhitha & Ngobeni, 2021; Yuniarti et al., 2022; Zhang & Yu, 2020). However, none of these studies determined the mediation effect of perceived risk factors. The current study selected five risk factors which were used in some of the previous studies, namely perceived time, product, financial, social and security risks.

Security Risk

From an online perspective, security risk refers to the fear consumers have about the payment mechanism and how safely information is protected during transmission and storage (Ariffin et al., 2018; Chaturuka et al., 2020; Thakur & Srivastava, 2015). Consumers fear that online retailers might misuse their information, or that unauthorized people may access their personal information (Mapande & Appiah, 2018; Rahmi et al., 2022). Hence, websites that require consumers to reveal their personal data for registration purposes are avoided (Ariffin et al., 2018). Alrawad et al. (2023) concluded that

information and privacy risks have a negative influence on customers' intention to use online shopping services, but the findings of Hong et al. (2020) did not support this.

Social Risk

When shopping online, consumers may risk diminishing their social status as the product purchased might not conform to group expectations (Pathak & Pathak, 2017; Yuniarti et al., 2022). Social risk refers to a situation where consumers purchase products that cause dissatisfaction among family, friends or communities (Swiegers, 2018). As a result of the external influence, a consumer may refrain from making a purchase if they foresee that the product may be disapproved of by their family or friends who influence their purchasing decisions (Shang et al., 2017). Fear of being judged negatively if they purchase certain products affects consumers' decisions to purchase those products and is considered to be a social risk (Semeijn et al., 2004). This implies that consumers may perceive potential loss of reputation if they purchase certain products and suffer disapproval from family and friends (Pentz et al., 2020a). Muda et al. (2016) said that reputation influences consumers' willingness to adopt online shopping.

Time Risk

Time risk refers to time lost related to online shopping due to difficulties in making purchases (including time spent navigating the website and submitting an order), as well as time spent waiting for the products to be delivered (Başyazicioğlu, 2020; Rahmi et al., 2022). Time risk also refers to the time consumers spend making purchase decisions, searching for information, browsing, and learning about the product (Pathak & Pathak, 2017) and was regarded as the perceived wasted time or disutility of waiting (Janakiraman et al., 2011; McGuire et al., 2010). Consumers put effort into using online platforms; therefore, easy access to the online platform and its information and features reduces the time they spend online (Leeraphong & Mardjo, 2013). Ariffin et al. (2018) argue that time risk takes place when consumers purchase products that do not meet their level of expectation or they need to return the product if it is malfunctioning and wait for it to be replaced. This defeats the purpose as consumers shop online to save time and to find alternative products to purchase online (Rahman et al., 2018).

Product Risk

Product risk refers to the performance of a product relative to expectations (Thakur & Srivastava, 2015) and refers to products failing to deliver the desired benefits and not doing what they were designed to do (Hubert et al., 2017; Zhang & Yu, 2020). This is largely as a result of consumers being unable to evaluate the products physically before they buy since they cannot touch, feel and try the product before purchase (Bezes, 2016; Pentz et al., 2020a). Furthermore, when there is limited information about the desired product, consumers are unable to evaluate the product properly (Bezes, 2016). In these cases, consumers are hesitant to purchase online due to a lack of certainty about the product's performance (Zhang & Yu, 2020). They may also find it difficult to return or exchange products bought online should they not meet their expectations or needs (Tong, 2010). Website factors, such as the time that consumers spend searching for information, the uncertainty consumers have regarding sales support, and the difficulty experienced when navigating the website, increased product risks (Pappas, 2016).

Financial Risk

Financial risk is described as the possibility of incurring economic loss (Alrawad et al., 2023; Başyazicioğlu, 2020; Guru et al., 2020). Financial risk is a key consideration for consumers when

assessing whether to proceed with an online transaction (Alrawad et al., 2023; Tham et al., 2019). When making purchases online, most consumers opt for payment methods that they consider safer than credit cards as a way to reduce the security and safety risk, since credit cards require them to divulge personal information (Pentz et al., 2020a). Online retailers must, therefore, highlight the privacy and payment protection procedures in place in order to preserve the integrity and quality of their websites (Tran & Nguyen, 2022).

Website Quality in Online Shopping

Website quality is an essential factor in influencing consumers when purchasing products and services on e-commerce platforms (Batbayar et al., 2018). Perceived website quality involves an evaluation of the performance of website systems and higher perceived website quality helps meet consumer needs (Aladwani & Palvia, 2002; Hung, 2016). Website designers can increase aesthetic appeal by focusing on how usable the website is, customizing it and ensuring that the financial security issues on the website are addressed (Kumar & Kashyap, 2018; Wu et al., 2016). Akgül (2021) indicates that website quality refers to the usability and standard of the information provided on the website. Within the context of e-commerce, website quality is defined as the quality and functionality of an online shopping platform (Septiari, 2018). Various elements are considered important for website quality and information quality, service quality, system use, playfulness and system design quality are considered to be crucial factors in online shopping websites (Frooghi et al., 2017; Kumar & Lata, 2021; Weber & Badenhorst-Weiss, 2018). Kouser et al. (2018) found that consumer attitude toward online shopping mediates the relationship between perceived website quality and purchase intention. Shergill and Chen (2005) identified additional key website quality factors that affect consumer decision-making in an online environment (the website), namely the design, reliability or fulfilment, customer services provided and the security and privacy of the website. Websites can provide important information to online consumers, such as the history of the company, availability of products, payment guidelines and services offered after the purchase (Kumar & Lata, 2021).

Given the relatively low percentage of online shopping sales and the need to increase margins, website quality should be a crucial consideration in businesses strategy (Giao & Quan et al., 2020); it influences consumers' hedonic motives and encourages more spontaneous purchases (Widagdo & Roz, 2021). Adding to the existing list of factors determining website quality, Mou et al. (2020) and Srivastava and Thaichon (2023) included the payment protection mechanism that assures security and privacy of consumers, and a positive reputation as factors that inform consumer perception of risks in online shopping. Therefore, this study identifies the perceived website quality as a multidimensional construct that can mediate the relationship between the perception of risks and intention to shop online.

Valdez-Juárez et al. (2021) identified still more website quality and related online shopping items, including high technological innovation of the website, the ease of interaction, shopping enjoyment, reputation of the company, a wide variety of products, corporate image and timely service. Adding to these factors, Ageeva et al. (2019) concluded that navigation, visual appeal, information, usability, customization, security, availability, website credibility, customer service, perceived corporate social responsibility and perceived corporate culture, are factors influencing positive attitudes to website use among consumers. Chen et al., (2015) state that the factors measuring website quality are key to reducing perceived risk and increasing online customer satisfaction, which in turn directly affects their purchase intentions.

Li and Sun (2020) classified website quality factors as a) design which includes easy navigation (i.e., easy to use and speed or response time), b) appearance of the website, c) information (availability of

information and contact information), d) service quality (including the time of delivery), e) customer service (the resolution of issues with the customer) and f) security (secure payments, account information and non-sharing of personal information). On the other hand, Alnawas and Al Khateeb (2022) grouped website quality factors into order-related elements, technical website design elements, social media presence, hedonic website design elements, website experiential elements, product-related elements, website relational elements and security-related elements. Considering these factors, ease of use, loading speed, product availability and variety of product category, and response to customer queries were investigated in the study reported here. It is important to note that online shopping factors vary across countries due to the differences in culture (Ageeva et al., 2019; Alrawad et al., 2023). This highlights the importance of further study on perceived risk and its effect on perceived website quality and online shopping in SA.

Conceptual Model Development and Hypothesis Formulation

Perceived Website Quality and Security Risk

Ariffin et al. (2018) found that the functional attributes of online retail stores are influenced by website attributes such as ease of navigation and product order submission. This is because timesaving and the number of product varieties available have a strong influence in online shopping (Rahman et al., 2018). Kim and Lennon (2013) support this assertion, stating that a positive assessment of a website's quality not only promotes a favorable attitude, but decreases the perceived security risk. Clearly online retailers should design their websites such that consumer risks are minimized. Thakur and Srivastava (2015) argue that the use of poor graphics or an inefficient host server could increase perceived risks associated with online shopping platforms. In support of this, Duffett and Miller (2022) concluded that online advertising design reduces privacy and security concerns. Online retailers share security information on their online website system to assure consumers that information about their purchase is safeguarded (Arffin et al. 2018). Consumer security concerns have an effect on the website design, which must ensure that the website is trustworthy (Metzger, 2006; Kim et al., 2008). A retail organization can build consumers' confidence in online shopping by addressing privacy and security concerns and this requires a website that is easy to use and provides useful information (Tandon et al., 2017). Website designs can be developed and implemented to increase consumer confidence. Against this background, the following hypothesis was formulated:

H1. Perceived security risk mediates the relationship between perceived website quality and consumers' intention to shop online.

The use of online reviews on retailer websites may help to reduce perceived social risks (Argo & Dahl, 2020) since social risk refers to the consumers' fear of losing social status when newly acquired products do not conform to group expectations (Pathak & Pathak, 2017). Social influence by means of website reviews can be used to reduce the perceived risks as potential consumers can make decisions based on reviews (Fernandes et al., 2021). A website that engages consumers by means of appropriate content can be expected to reduce perceived risk in online shopping (Roy & Sharma, 2021). Perceived website quality and positive electronic word of mouth has an influence on customer satisfaction (Kumar & Lata, 2021; Ramadhani & Sukawati, 2021) as well as on online shopping behavior (Amponsah & Antwi, 2021; Saleem et al., 2022). Buying 'the wrong' product online can cause embarrassment and negatively impact on a consumer's status in the community. Alrawad et al. (2023) suggest that website quality can mitigate this perceived risk, thereby increasing the likelihood of a purchase. The consumer's high perceived social risk is often a result of limited information about the product, and this may

negatively influence their perception of the online company's website quality and result in their not purchasing online (Pappas, 2016). The greater the perceived social risk, the greater the impact of the website's design quality and, consequently, the likelihood of purchase (Aghekyan-Simonian et al., 2012). The study by Gautam and Sharma (2019) could only confirm that company information partially mediates the relationship between social risk and intention to shop online. Chang and Chen (2008) found that perceived risk (including social risk) related to an online retailer mediated the relationship between perceived website quality and purchase intention.

Therefore, the following hypothesis was formulated:

H2. Perceived social risk mediates the relationship between perceived website quality and consumers' intention to shop online.

Perceived Website Quality and Time Risk

Consumers shop online to save time and also because they expect to be able to access a wide variety of products (Rahman et al., 2018). In support of this, Chekembayeva et al., (2023) identified website time convenience as important in influencing consumer emotions towards online retail apps, which in turn influence their attitude and usage intention. Time risks include consumers spending too much time online because they need to learn how to buy from the online retailer's website, and the time consumers waste waiting for the website to respond (Bebes, 2016; Pathak & Pathak, 2017). Online retailers need to adopt strategies to attract and retain consumers and hence the website should be designed to save consumer's time while shopping and to increase their intention to complete the process of purchasing (Gong et al., 2013; Hoque et al., 2015).

The design of a website may reduce perceived risks (including time risk) in online shopping. For example, Kim et al., (2021) note that too much visual information, such as photos of the products, can have a negative influence on consumer behavior (as the number of photos increases so too does the time involved in viewing these photos). Time risks in online shopping are further increased by a slow response when opening images or shopping carts to check out on the website (Thakur & Srivastava, 2015). Other risks are related to technical aspects such as the website search facility, complexity and accessibility (Alrawad et al., 2023). The perceived time risk, which arises from the delay in shopping due to poor website design, may lead to dissatisfaction with the website's quality, thereby reducing online purchase intention (Liao & Keng, 2013).

Tandon et al. (2018) highlighted the importance of website quality on consumer satisfaction, while perceived risk (which included time risk) was found to have a negative effect on customer satisfaction. It follows that retailers can use website quality to reduce the consumers' time and financial costs. This implies that the mediation of perceived website quality on perceived risk factors related to online shopping could influence consumers' intention to shop online. Gautam and Sharma (2019) could not confirm the mediating effect of company information on the relationship between perceived time risk and the intention to shop online. On the other hand, Chang and Chen (2008) found that perceived risk (including time risk) towards an online retailer mediated the relationship between website quality and purchase intention. Hence, the following hypothesis was formulated to determine the mediation role of website quality on risk factors in online shopping:

H3. Perceived time risk mediates the relationship between perceived website quality and consumers' intention to shop online.

Perceived Website Quality and Product Risk

The website characteristics can be a cause of consumer irritation in an online shopping environment (Hasan, 2016). Insufficient information on security issues, value of the goods, product attributes, delivery information or support services influence purchase intention (Arifiin et al., 2018), since consumers expect to learn about these aspects on the company website (Toufaily et al., 2013). Chen and Chen (2019) confirm that website quality effects consumer-perceived risk (which includes product risk) on online shopping and hence can influence consumer intention to shop as well as customer satisfaction. Online retailers can deliver an augmented experience through their website to increase consumers' certainty about the product attributes and its look (in other words, this will make the consumer more confident that the product is what they want), thus increasing purchase intention (Uhm et al., 2022). Product risk is considered to have the greatest impact on online shopping behavior and therefore the website should enhance the consumers' understanding of product features, which in turn can reduce their perceptions of risk associated with buying a product (Bonnin, 2020; Makhitha & Ngobeni, 2021). Product risk has a significant impact on website quality, as consumers expect to use a well-designed website when purchasing online (Richard & Habibi, 2016). It was reported by Gautam and Sharma (2019) that company information mediates the relationship between product risk and online shopping intention. Chang and Chen (2008) found that perceived risk (including product risk) towards an online retailer mediated the relationship between website quality and purchase intention. It can therefore be hypothesized that:

H4. Perceived product risk mediates the relationship between perceived website quality and consumers' intention to shop online.

Perceived Website Quality and Financial Risk

Several researchers have found conflicting results regarding the impact of perceived risk on perceived website quality. In contrast with e-service quality (which had a substantial negative impact on perceived risk), Hsieh and Tsao (2014) discovered that website quality did not have any impact on perceived risk (which included financial risk as a component). Chen and Chen (2019) revealed that both the website quality and the quality of service provided within the online shopping website have a significant negative influence on perceived risk (included financial risk). Kim et al. (2008) found that information quality on e-commerce platforms has an insignificant positive relationship on perceived risk (including financial risk), which implies that consumers will perceive less risk while shopping online if they have a higher impression of the quality of the merchant's website (Kim & Lennon, 2013). Furthermore, Mou et al. (2020) observed that the website quality significantly influences perceived risk and mediates the relationship between perceived risk and second-order constructs, which include delivery risk, financial risk, privacy risk and trust. Keting and Kriz (2009) found that financial risk influences consumer perceptions of service quality, a component of website quality, and that a well-designed website can reduce perceived financial risk in online shopping. Gautam and Sharma (2019) also confirmed that company information has a mediation effect on the relationship between financial risk and online shopping intention. Chang and Chen (2008) found that perceived risk (including financial risk) towards an online retailer mediated the relationship between website quality and purchase intention. Therefore, the following hypothesis was formulated:.

H5. Perceived financial risk mediates the relationship between perceived website quality and consumers' intention to shop online.

The Influence of Perceived Website Quality on Intention to Shop Online

Perceived website quality has been identified as an important factor that influences purchase intention (Dapas et al., 2019). Intention refers to a step or series of steps that must be taken to accomplish the desired outcome (Awais & Henrich, 2012). Intention is directly related to purchase intention when it is regarded as the consumer's desire to acquire a good or service and the likelihood that this will be achieved (Bebber et al., 2017; Dapas et al., 2019). Perceived website quality influences consumers' intention to shop online (Richard & Habibi, 2016; Hung-Joubert & Erdis, 2019). Website quality facilitates online transactions (Lee & Kozar, 2012; Hung-Joubert & Erdis, 2019), and any website that is difficult to use or follow, as well as one where consumers cannot easily find the desired product, reduces the consumers' intention to shop online (Swiegers, 2018; Hung-Joubert & Erdis, 2019). Previous studies have found inconsistent results concerning the influence of a website's quality over purchase intention. Ariffin et al. (2018) found that website quality influences online shopping intention. Kouser et al. (2018) found website quality as a higher-order construct, including website design, privacy and customer satisfaction, has an insignificant positive effect on consumers' purchase intention and also when mediated via attitudes toward online shopping. While many studies observed that website quality significantly and positively influences intention to shop online (Alianto et al., 2021; Dapas et al., 2019; Jundrio & Keni, 2020; Qalati et al., 2021), others such as Hasanov and Khalid (2015) revealed that website quality had an indirect positive influence on online purchase intention via the mediation of customer satisfaction. Based on the above, the following hypothesis was formulated:

H6. Perceived website quality has a positive influence on consumers' intention to shop online.

Demographic Factors and Risk in Online Shopping

Demographic variables such as age, gender and level of income facilitate online shopping behavior and influence the intention to shop online (Lavuri et al., 2022; Moodley et al., 2021; Rahman et al., 2018). Online shopping intention is strongly influenced by the consumers' age, income and education as well as marital status (Gong et al., 2013). The age of consumers has a significant effect on online purchase behavior (Moodley et al., 2021; Nawi et al., 2019). Frooghi et al. (2017) reported that young consumers' online shopping is affected by the website features and its attractiveness, and this was supported by Kim and Peterson (2017) who confirm that younger consumers prefer websites that are attractive. Gender was found to have a moderate influence on the relationship between anxiety and the intention to make an online purchase; et al.it was found that for female consumers, anxiety is more likely to lead to an intention to make an online purchase than for male consumers (Dewi et al., 2020). Bhat et al. (2021) investigated the impact of demographic characteristics on online purchase intention and found that men had higher intentions to shop online than women. In contrast, Sharma and Parmar (2018) found that women were more likely than men to make an online purchase. Hence, existing studies have produced inconsistent findings regarding the influence of demographic factors on online shopping (Siegrist & Arvai, 2020).

Silva et al. (2019) affirm that there is a positive relationship between the intention to shop online and the actual frequency of purchases. In addition, Moodley et al. (2021) and Yu and Chen (2018) observed that purchase frequency was positively correlated with the intention to make an online purchase, suggesting that a high purchase frequency increases the intention to make an online purchase. Previous e-commerce experience influences consumer satisfaction, especially amongst those with experience exceeding five years (Mofokeng, 2021). A previous online shopping experience will have a strong positive influence on shoppers' purchase intentions, and also will have a negative influence on the perceived risks associated with online shopping, including product and financial risks, and can decrease the perceived privacy risk

linked with shopping for non-digital products online (Dai et al., 2014). Perceptions of risk regarding online shopping differ between experienced and inexperienced consumers (Moodley et al., 2021; Swiegers, 2018). Therefore, a secondary research objective of the study is to determine whether the Sowetan consumer demographic factors result in a significant difference in terms of perceived website quality and intention to shop online.

METHODOLOGY

The quantitative research approach was used for this study as this method has been widely applied in existing studies investigating online shopping (Alrawad et al., 2023; Toska et al., 2023). This research method was also deemed suitable to achieve the objectives of the study.

Research Context

The online shopping market in SA has been growing and has expanded to include offline retailers that also offer online shopping services. The COVID-19 pandemic resulted in many consumers in SA adopting online shopping with the average 'online spend' increasing by 30% (Businessinsider, 2020). This included consumers who were previously ignored by online retailers, especially those in the emerging township markets. Townships are home to more than half of Africa's urban population (Mahajan, 2014). There is no common definition of a township; however, a township is commonly understood to be area that is underdeveloped and mainly located in urban, residential areas. Townships, situated on the outskirts of a town or city, have historically served to maintain racially segregated living arrangements (Jürgens et al., 2013). Although online shopping has been on the rise, the market is largely untapped and many consumers can still be converted to online shopping (Businessinsider, 2020; Ecommerce, 2024). To accommodate consumers who have not previously shopped online, online retailers have expanded the number of accepted online payment systems to include cash on delivery, buy-now-pay-later schemes, debit card payment, e-wallet services and electronic fund transfers (EFTs) for online payments (Stiltner, 2021; Statista, 2024). This is largely to address the concerns of consumers who are concerned about the risk of shopping and paying online. Consumers fear that the products bought will not be delivered on time or that the wrong product will be delivered. Township consumers have access to smartphones; however, internet penetration in townships is lower than for the rest of urban SA (NIQ, 2017). Due to the spending power of this market, it is important for retailers to investigate the online shopping behavior of the emerging group of township consumers. The purpose of this study is to determine the mediation effect of perceived risk on the relationship between website quality and intention to shop online.

Description of the Sample

Online shoppers who purchase clothing online and who live in the Soweto Township were targeted for the study. Soweto is the largest township in SA and houses many consumers belonging to the emerging middle-class segment. Soweto has the largest population of 2.2 million of all the South African townships and this population has a consumption value of R34 billion (Leo, 2019). The annual per capita consumption in Soweto is R15 000 per person. The township market is very diverse – varying in terms of social and class divisions (Kingsley, 2019). An increasing number of retailers and brands have moved into township malls in SA to satisfy the expectations of township mall shoppers regarding access to the latest world-class designs, brands and retail mixes (Lopion, 2018). However, some of these consumers are searching for and purchasing these products and brands online (Ecommerce, 2024; Hulley, 2024). This is why they are targeted for this study.

Data Collection Procedure

Data was collected online by a research company using a random sampling approach. The link to the questionnaire was shared online with a panel of more than 3 000 potential respondents. The survey was sent to the panel via e-mails and WhatsApp. Of the 3 000 consumers in Soweto Township approached via the online company database, 290 completed the questionnaire. The quality of responses was reviewed, and more than 80 respondents were disqualified because of issues such as not meeting the survey criteria and failing the quality control test. This resulted in 210 valid responses collected online. Since the researchers had planned to collect data from 300 respondents for statistical purposes, an additional 90 responses were collected by fieldworkers in Soweto near the academic institutions, hospitals and retail shops, which are busy areas in Soweto (convenience sampling was used). Respondents were randomly identified, but a female bias quickly became apparent because females were more interested in the survey topic and easily met the survey criteria. The sample size matched those of other studies investigating online shopping (Hong et al. 2020; Muda et al., 2016).

Existing literature was used to identify risk factors in online shopping using various sources as follows: security risk (Ariffin et al., 2018; Hsieh & Tsao, 2014; Thakur & Srivastava, 2015), social risk (Pi & Sangruang, 2011; Thakur & Srivastava, 2015), time risk (Bhatti et al., 2018; Pi & Sangruang, 2011), product risk (Aghekyan-Simonian et al., 2012; Ariffin et al., 2018; Hsieh & Tsao, 2014; Javadi et al., 2012; Tandon et al., 2018; Tariq et al., 2016), finance risk (Ariffin et al., 2018; Hsu & Luan, 2017; Masoud, 2013), website quality (Nhlapulo, 2020) and purchase intention (Khare & Rakesh, 2011; Nhlapulo, 2020).

In the questionnaire compiled there were 27 items measuring perceived risk in online shopping: of these, seven measured financial risk, six measured product risk, four measured social risk, four measured perceived security risk and six measured time risk. The perceived website quality and purchase intention were measured using nine and three items respectively. The questions that investigated perceived risk factors and perceived website quality were measured via a five-point Likert scale, with one indicating "strongly disagree" and five "strongly agree." Note that the constructs used to denote risk factors and website quality referred to in the results below do not include the word 'perceived' in the names. This is for simplicity.

The researchers adhered to the ethics protocol of the Department of Marketing and Retail Management, at Unisa, prior to conducting the study.

Data Analysis

IBM's SPSS version 27 and Amos were used for the data analysis. The descriptive analyses (e.g., mean and standard deviation), exploratory factor analysis (EFA), and structural equation modelling (SEM) were completed to achieve the objectives of the study.

RESULTS

Respondent Descriptive Statistics

The demographic and purchase incidence variables of the 300 respondents are described in terms of frequency and percentages in Table 1. A significant majority were female (74.4%) and married (72%); six out of ten were under the age of 30 years (60%) and had completed a post-school qualification (diploma or certificate or degree) (61%); and a significant majority purchase clothing once a month or two to three times in six months (74.7%).

Table 1

Respondent Demographic and Purchase Factors

Demographic and purchase variables	Variable items	n	%
Gender	Male	77	25.7
	Female	223	74.3
Age	18–24 years	126	42.0
	25–29 years	84	28.0
	30–40 years	65	21.7
	41–50 years	25	8.3
Marital status	Married	84	28.0
	Unmarried	216	72.0
Level of education	Did not complete high school	1	0.3
	Completed Grade 12/matric	110	36.7
	Post-school qualification – diploma or certificate	68	22.7
	Post-school qualification – degree	115	38.3
	Completed short courses	6	2.0
Clothing purchase incidence	Once per month	99	33.0
	Two to three times in six months	125	41.7
	Once every six months	54	18.0
	Once per year	22	7.3

Assessment of the Measurement Model, Reliability and Validity

Collinearity diagnostics were conducted prior to the confirmatory factor analysis (CFA), reliability, validity and structural equation model (SEM) analysis, to establish if the proposed model had any issues in terms of multi-collinearity. The constructs tolerance varied from 0.315 to 0.565 (< 0.1) and the variation inflation factors (VIF) varied from 1.771 to 3.174 (> 5), which shows that there are no multi-collinearity concerns (refer to Table 2). Prior to conducting the CFA, the Kaiser-Meyer-Olkin's (KMO) was also used to test the suitability of the data and sampling adequacy, which was 0.939 and so appropriate for the CFA (Çetinkaya & Karabulut, 2016). Bartlett's measure was used to review the correlation matrix factorability, which was $p < 0.001$, and so the construct items were aptly correlated (Field, 2009; Pallant, 2010).

Table 2

Online Advertising Construct Reliability and Convergent Validity Measures

Constructs	Tolerance	VIF
Perceived security risk	0.565	1.771
Perceived social risk	0.315	3.174
Perceived time risk	0.324	3.084
Perceived product risk	0.381	2.624
Perceived financial risk	0.425	2.355
Perceived website quality	0.497	2.012

The CFA was conducted via SPSS (version 25) to examine the construct items, which showed seven factors with eigenvalues of greater than one, and explained variances of 16.904%, 4.943%, 3.225%, 2.137%, 1.780%, 1.559% and 1.133% respectively. The cumulative variance was 81.237%, which shows high correlation levels. The reliability of the model was assessed via Cronbach's Alpha (α) and composite reliability (CR), which should be above the threshold of 0.7 (Hair et al., 2011). The Cronbach's α ranged between 0.900 and 0.966, and CR ranged between 0.904 and 0.964, thereby reflecting very good internal reliability between the construct items (refer to Table 3).

Table 3

Measurement Model Estimates

Constructs	M	SD	Loadings	AVE	CR	C α
Perceived security risk						
The website has inadequate security features.	2.54	1.122	0.686	0.704	0.904	0.900
I do not feel safe to use my credit or debit card when shopping online.	2.71	1.188	0.852			
I feel that I cannot trust this website.	2.66	1.117	0.919			
I do not feel safe in my transactions with this website.	2.68	1.156	0.947			
Perceived social risk						
Online shopping may affect the image of people around me.	2.77	1.265	0.863	0.806	0.943	0.945
The purchased product may result in disapproval from my family.	2.80	1.189	0.919			
Online products may not be recognized by relatives and friends.	2.93	1.180	0.827			
Online shopping may make others reduce my evaluation.	2.81	1.217	0.895			
Perceived time risk						
Finding the right product through online shopping is difficult.	3.23	1.291	0.768	0.728	0.941	0.937

Constructs	M	SD	Loadings	AVE	CR	C α
If I shop online, I have to wait until the product arrives.	3.51	1.141	0.846			
It is difficult to find appropriate websites.	3.31	1.202	0.870			
I feel that it will be difficult settling disputes when I shop online.	3.35	1.194	0.880			
It is not easy to cancel orders when shopping online.	3.32	1.201	0.907			
Pictures of merchandise on the website take too long to come up.	3.18	1.207	0.764			
Perceived product risk						
I cannot examine the actual product.	3.56	1.235	0.810			
Finding the right size may be a problem with clothes.	3.69	1.180	0.878			
I cannot try on clothing online.	3.74	1.176	0.863	0.752	0.948	0.950
I am unable to touch and feel the item.	3.76	1.151	0.953			
I must pay for shipping and handling costs.	3.72	1.175	0.897			
I must wait for merchandise to be delivered.	3.73	1.136	0.881			
Perceived financial risk						
I may not get the product.	3.47	1.211	0.801			
I cannot trust the online company.	3.43	1.135	0.918			
I may purchase something by accident.	3.40	1.177	0.808			
My personal information may not be kept.	3.51	1.126	0.897	0.756	0.956	0.959
I may not get what I want.	3.53	1.169	0.904			
My credit card number may not be secure.	3.54	1.205	0.952			
I might be overcharged.	3.55	1.219	0.898			
Perceived website quality						
When I need online support, the contact telephone numbers and e-mail addresses of customer service representatives (CSR) are easily found on the websites.	3.24	1.091	0.770			
When products or services fail, online companies resolve it without me having to spend a considerable amount of time, money and/or energy.	3.27	1.206	0.750			
When I use the websites, there is very little time between my actions and online companies' responses.	3.32	1.124	0.937	0.751	0.964	0.966
It is easy to find my way around the shopping sites.	3.43	1.141	0.868			
The design of shopping websites has a good look and feel.	3.45	1.128	0.944			
The information I need is easily accessible online.	3.47	1.149	0.919			

Constructs	M	SD	Loadings	AVE	CR	C α
Online companies inform me of the date and time when I am going to receive my order.	3.58	1.149	0.886			
Information is available for me to make the purchase decision when doing online shopping.	3.61	1.111	0.948			
I can compare information about the product online.	3.55	1.163	0.863			
Intention to shop online						
I would visit this online retailer again.	3.40	1.188	0.897			
In the future, I would very probably shop at this online retailer.	3.38	1.146	0.900	0.798	0.922	0.919
I would patronize this online store of this retailer.	3.22	1.201	0.947			

The convergent and discriminant validity of the model were assessed by the outer loadings, average variable extracted (AVE) and √AVE versus construct inter-correlations. The outer loadings and AVE should be above the threshold of 0.5 (Bagozzi & Yi, 2012). The outer loadings ranged between 0.686 and 0.953 and AVE ranged between 0.704 and 0.806, thereby reflecting appropriate convergent validity (refer to Table 3). The √AVE should be greater than the construct inter-correlations to meet the minimum discriminant validity threshold according to Fornell and Larcker (1981). Table 4 shows that the √AVE was greater than the construct item inter-correlations, which suggests discriminant validity.

Table 4

√AVE and Construct Inter-Correlations

Perceived security risk	0.839						
Perceived website quality	-0.424	0.867					
Perceived financial risk	-0.413	0.376	0.870				
Perceived product risk	-0.465	0.431	0.671	0.867			
Perceived time risk	-0.442	0.533	0.629	0.605	0.853		
Perceived social risk	-0.532	0.438	0.393	0.292	0.609	0.898	
Intention to shop online	-0.259	0.583	0.170	0.271	0.318	0.196	0.894

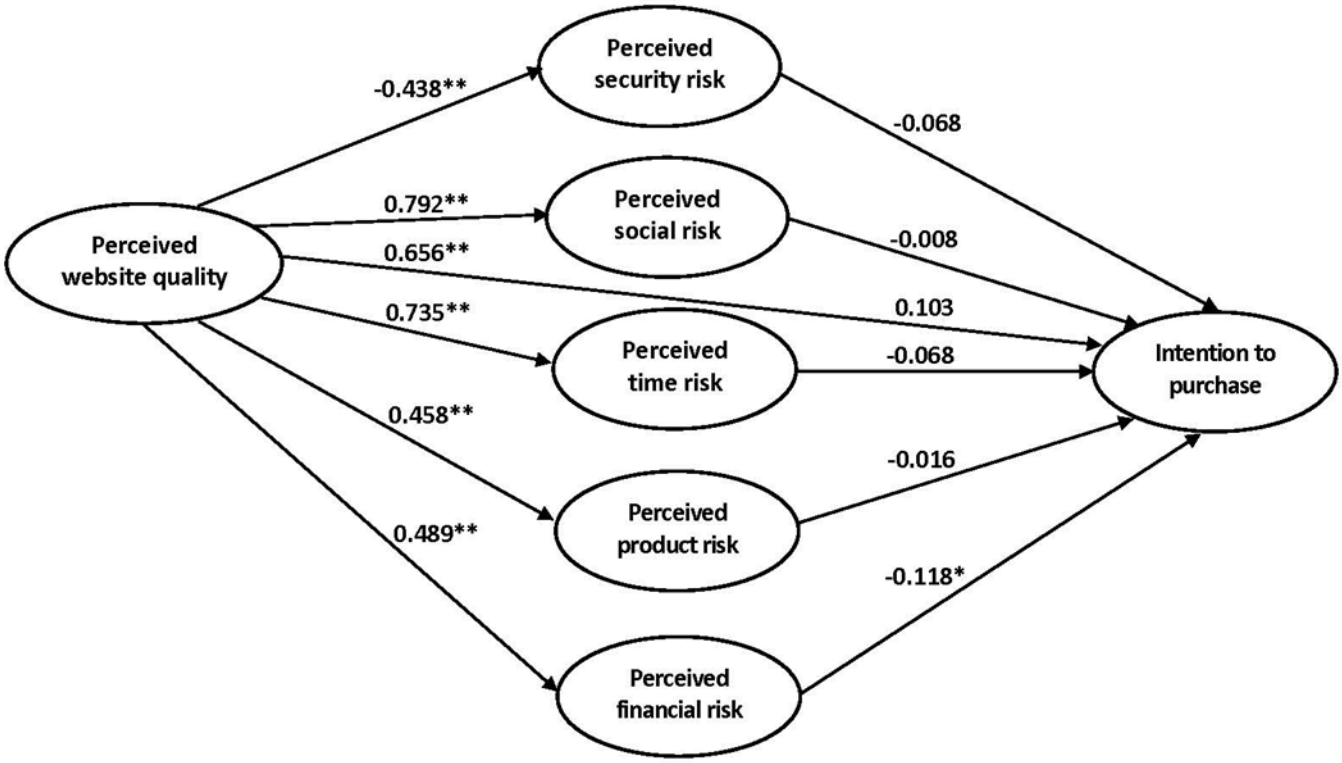
Note. The diagonal contains the √AVE values (bolded) and the off-diagonal values contain the variable correlations.

Assessment of the Structural Model and Hypotheses

The model fit was assessed by various goodness-of-fit indices, *viz*. normed fit index (NFI), goodness-of-fit index (GFI), comparative fit index (CFI), Tucker-Lewis index (TLI), root mean square error of approximation (RMSEA) and standardized root mean square residual (SRMR); and probability; χ^2; and degrees of freedom (df) measures (Hair et al., 2010). The SEM analysis of the goodness-of-fit indices and measures revealed a satisfactory model fit for this study: χ^2/df = 1.210; NFI = 0.950; GFI = 0.952; CFI = 0.991; TLI = 0.988; RMSEA = 0.026; and SRMR = 0.042. Furthermore, a common method factor

(CMF) bias measure was adopted to examine the unconstrained-constrained common method factor models. The χ^2 test was significant at $p < 0.001$ thereby indicating significant shared variance between the unconstrained-constrained CMF. Accordingly, it was necessary to choose the unconstrained CMF model, which was utilized for additional statistical analysis. SEM also was used to examine the hypothesized relationships. Perceived website quality accounted for the following variances among the perceived risk factors: security risk (23.6%), social risk (48.5%), time risk (32.9%), product risk (16.2%) and financial risk (15.2%). Perceived website quality, security risk, social risk, time risk, product risk and financial risk explained 35.2% of the intent to shop online variance. The standardized beta (β) coefficients, variance and significance levels are displayed in Figure 1.

Figure 1
Structural Model



Note. *$p < 0.05$; **$p < 0.001$

Estimated Causal Relationships in the Structural Model

User-defined estimates were created in AMOS 23 (Arbuckle, 2012) to assess the perceived website quality's mediation (indirect effects) in terms of the relationship between perceived risks and intention to shop online.

H1. Perceived security risk mediates the relationship between perceived website quality and consumers' intention to shop online.

H1. Perceived website quality → perceived security risk → intention to shop online.

Perceived security risk was not found to mediate a relationship between perceived website quality and intention to shop online (β = 0.040, $p = 0.298$), nor was there a significant perceived security risk → intention to shop online association (β = -0.068, $p = 0.203$). However, the perceived website quality → security risk path relationship was negative and statistically significant (β = -0.438, $p < 0.001$); therefore, H1 was partially supported.

H2. Perceived social risk mediates the relationship between perceived website quality and consumers' intention to shop online.

H2. Perceived website quality → perceived social risk → intention to shop online.

Perceived social risk was not found to mediate a relationship between perceived website quality and intention to shop online (β = 0.004, $p = 0.948$), nor was there a significant perceived social risk → intention to shop online association (β = -0.008, $p = 0.904$). However, the perceived website quality → perceived social risk path relationship was positive and statistically significant (β = 0.792, $p < 0.001$); therefore, H2 was partially supported.

H3. Perceived website quality → perceived time risk → intention to shop online.

Perceived time risk was not found to mediate a relationship between perceived website quality and intention to shop online (β = -0.043, $p = 0.234$), nor was there a significant perceived time risk → intention to shop online association (β = -0.068, $p = 0.069$). However, the perceived website quality → perceived time risk path relationship was positive and statistically significant (β = 0.735, $p < 0.001$); therefore, H3 was partially supported.

H4. Perceived product risk mediates the relationship between perceived website quality and consumers' intention to shop online.

H4. Perceived website quality → perceived product risk → intention to shop online.

Product risk was not found to mediate a relationship between perceived website quality and intention to shop online (β = 0.007, $p = 0.863$), nor was there a significant perceived product risk → intention to shop online association (β = -0.016, $p = 0.759$). However, the perceived website quality → perceived product risk path relationship was positive and statistically significant (β = 0.458, $p < 0.001$); therefore, H4 was partially supported.

H5. Perceived financial risk mediates the relationship between perceived website quality and consumers' intention to shop online.

H5. Perceived website quality → perceived financial risk → intention to shop online.

Financial risk was not found to mediate a relationship between perceived website quality and intention to shop online (β = 0.050, $p = 0.138$). However, the perceived website quality → financial risk path relationship was positive (β = 0.489, $p < 0.001$), whereas the perceived financial risk → intention to shop online association was negative (β = -0.118, $p < 0.05$) and both were statistically significant; so, H5 was partially supported.

H6. Perceived website quality has a positive influence on consumers' intention to shop online.

H6. Perceived website quality → intention to shop online.

The perceived website quality → intention to shop online relationship path was positive (β = 0.656, $p < 0.001$); therefore, H6 was supported.

Table 5 provides an overview of the hypothesis results.

Table 5

Hypotheses

Hypotheses	Support
H1. Perceived website quality → perceived security risk → intention to shop online	Partial
H2. Perceived website quality → perceived social risk → intention to shop online	Partial
H3. Perceived website quality → perceived time risk → intention to shop online	Partial
H4. Perceived website quality → perceived product risk → intention to shop online	Partial
H5. Perceived website quality → perceived financial risk → intention to shop online	Partial
H6. Perceived website quality → intention to shop online	Yes

Generalized Linear Models

A generalized linear model, based on Wald χ^2 and Bonferroni post hoc measures, was used to establish whether demographic and purchase factors significantly differed in terms of website quality and intention to shop online. Perceived website quality (M = 3.44, SD = 1.010) and intention to shop online (M = 3.33, SD = 1.093) were both found to be significant at $p < 0.001$. Refer to Table 6 for the GLM analysis of the perceived website quality and intention to shop online constructs.

Table 6

Perceived Website Quality and Intention to Shop Online GLM Analysis

Demographic and purchase variables	Perceived website quality			Intention to shop online		
	Wald χ^2	df	p	Wald χ^2	df	p
Gender	2.109	1	0.146	1.240	1	0.265
Age	20.794	3	0.000**	7.477	3	0.050*
Marital status	2.613	1	0.106	2.974	1	0.085
Level of education	1.025	4	0.906	4.965	4	0.291
Clothing purchase incidence	3.908	3	0.272	14.365	3	0.002*

Note. * $p < 0.05$, ** $p < 0.001$

Perceived website quality – age ($p < 0.001$): Respondents who were aged 25 to 29 years (M = 3.57, SE = 0.2263) showed more positive perceived website quality attitudinal responses in comparison to those aged 41 to 50 years (M = 2.64, SE = 0.292).

Intention to shop online – age ($p < 0.05$): Respondents who were aged 25 to 29 years (M = 3.20, SE = 0.242) showed more positive intention to shop online attitudinal responses than those aged 41 to 50 years (M = 2.66, SE = 0.314).

Intention to shop online – clothing purchase incidence ($p < 0.05$): Respondents who purchased clothing once per month (M = 3.19, SE = 0.245) and two to three times in six months (M = 2.98,

SE = 0.248) displayed more favorable intention to shop online attitudinal responses compared to those who purchased clothing once every six months (M = 2.52, SE = 0.260).

DISCUSSION

The findings of this study clearly indicate that the relationship between perceived website quality and intention to shop online is not mediated by any of the five perceived risks (security, social, time, product and financial). The results of H1 show that perceived security risk does not mediate the relationship between perceived website quality and intention to shop online. However, the influence of perceived website quality on perceived security risk was negative and statistically significant, which shows that improved perception of website quality does assist in reducing the perceived security risk. Security is a website functionality factor (Seffah et al., 2008; Calisir & Mutlu et al., 2010). Duffett and Miller (2022) reported that online advertising design quality reduces privacy concerns and distrust among millennials. Using websites to mitigate perceived security risks could mean that there will be limited misuse of customer information by e-retailers (Tandon et al., 2018), and that there will be enhanced protection of the personal data required during registration against fraudulent actions (Kayworth & Whitten, 2010). Assurances that consumer personal information is protected and sharing the information with consumers on what the retailer does to protect their information can increase online shopping (Thakur & Shrivastava, 2015). This implies that perceived website quality mediates the relationship between perceived security risk and the intention to shop online, not that perceived security risk mediates the relationship between perceived website quality and online shopping intention. Qalati et al. (2021) found that perceived risk in general, including security risk, acts as a mediator in the relationship between trust in an online shopping website and the intention to shop online, a finding that differs from this study. Bai et al. (2008) argued that online shoppers pay little attention to website quality when online, implying that perceived security risk does not influence the relationship between perceived website quality and online shopping intention.

Perceived social risk was also found not to mediate the relationship between perceived website quality and online shopping intention, which contradicts a report by Thakur and Srivastava (2015), who pointed out that online shoppers are influenced by the responses of their societal network. In online shopping contexts, Aghekyan-Simonian et al. (2012) and Mou et al. (2020) reported that perceived website quality influences perceived product and perceived social risk, not vice versa. Perceived website quality was found to have a relationship with the intention to shop online through perceived social risk as a mediator (Indiani et al., 2015). Pentz et al. (2020a) confirmed that information from social groups has a significant influence on website product design. Perceived website quality was also found to influence perceived social risk, which in turn affects consumer online shopping intention. Khalil et al. (2019) found that perceived risks, including social risks, have an adverse effect on the relationship between perceived website quality and purchase intentions.

The results demonstrate that perceived time risk did not mediate the relationship between perceived website quality and online shopping intention. Qalati et al. (2021) found that perceived risk, including time risk, mediates the relationship between trust in an online shopping website and intention to shop online, but the constructs involved differ from this study. Forsythe et al. and (2006) argues that website quality mediation did not help increase the intention to shop online, but rather suggested that perceived risk might mediate the relationship. Rahman et al. (2018) confirmed that consumers shop online to save time; therefore, managing website quality effectively could increase consumer intention to shop online. This study's findings are supported by Benslimane and Yang (2007), who concluded that advanced functionalities have a negative effect on website efficiency, which increases time risk.

The results of the study reported in this paper found that the relationship between perceived website quality and online shopping intention is not mediated by perceived product risk. Hsu and Luan (2017) observed that consumers who perceive high risk when purchasing high-priced products can benefit from online reviews. In support of this assertion, Chatterjee (2001) argued for improving website quality and hence the consumers' perception of website quality as a way to effectively reduce product purchase risk and uncertainty, which in turn influences purchase intention. Yang et al. and (2016) further indicates the importance of online reviews to reduce the uncertainty consumers might have during the online product purchase process. Perceived website quality influences online shopping intention when mediated by perceived risk, including product risk (D'Alessandro et al., ; Kim & Lennon, 2013; Kim et al., 2013). Pires et al. (2006) posit that product risk could mediate website quality and online shopping intention for risk-taking shoppers who search for and accept information from unknown sources, leading to increased online shopping intention. Saleem et al. (2022) also indicated that perceived product risk mediates the relationship between website quality and online shopping intention.

The findings that perceived website quality has a significant positive path relationship with perceived financial risk and perceived financial risk had a negative association with online shopping intention have certain implications. Khalil et al. (2019) suggested that perceived risk has a negative moderating effect on website quality and online shopping intention. Hsieh and Tsao (2014) confirmed that perceived risk, including finance risk and website quality, have a negative interaction with each other in influencing purchase intentions, as is the case in this study. Keating et al. (2009) posit that the relationship between perceived financial risk and perceived website quality was negative and influenced online shopping intention. Yuniarti et al. (2022) reported that perceived risk, which includes financial risk, does not mediate the consumer's perception of online shopping or their intention to shop online, supporting the results of this study.

Perceived website quality plays an important role in influencing consumers whether to shop online or not as confirmed by existing studies (Biswas et al., 2019). However, the level of trust that consumers have in the system will determine the influence that perceived website quality has on perceived financial risk. For example, existing studies suggested the mediation of trust on the relationship between perceived risk (which includes financial risk) and online shopping intention; this implies that consumers need to trust the online retailer before processing the transaction. Hence, it is confirmed that a belief by consumers that a website is of high quality is not sufficient to rule out the wish by some consumers for reduced financial risk (Octavia & Tamerlane, 2017; Wang et al., 2015). In other words, consumers want a secure online transaction that website quality alone cannot ensure, it requires additional financial security and privacy (Rudansky-Kloppers, 2016). However, perceived website quality could reduce perceived financial risk and simultaneously stimulate online purchase intention (Kim & Lennon, 2013; Kim et al., 2013). D'Alessandro et al. (2012) supported the idea that perceived financial risk mediates the influence of perceived website quality on online shopping intention.

The findings of this study clearly indicate that perceived website quality has a positive influence on intention to shop online. This result was expected as there are many studies that have reported this relationship (Ariffin et al., 2018; Dapas et al., 2019; Hung-Joubert & Erdis, 2019). It is important to also note that some other studies presented contradicting results (Hasanov & Khalid, 2015). Tandon et al. (2018) argued that website functionality is positively associated with customer satisfaction confirming the effect of perceived website quality on online shopping behavior. Kumar and Lata (2021) reported the positive influence of websites on the purchase experience and intention to shop online. However, Wang et al. (2015) suggest perceived website quality strongly predicts online shopping, thus supporting this study's findings. Kumar et al. (2020) revealed that purchase intention influenced by perceived website

quality will in turn influence electronic word of mouth (eWOM), i.e., recommendations or reviews, on the online website (Octavia & Tamerlane, 2017, Duffett, 2022). This implies that consumers' trust in online shopping could be useful in reducing the perceived risks because perceived website quality is a determinant factor in predicting customer responses (Fatahi & Bideleh, 2019). Other studies reported the impact perceived website quality has on online shopping intention due to customer satisfaction (Bai et al., 2008). Ho et al. (2012) found that website quality influences internet searching behavior implying that it can be used to reduce perceived risks and increase online shopping intentions. However, this study's findings revealed a positive effect of website quality on intention to shop online.

The findings of this study show that younger millennial respondents showed more positive attitudinal responses regarding perceived website quality and intention to shop online in comparison with older Generation X respondents. These results confirm extant research in that age moderates perceived risks in online shopping (Makhitha & Ngobeni, 2021; Moodley et al., 2021; Nawi et al., 2019). The results are not surprising since young consumers are generally more active online and hence consider it less risky than older consumers do. Toska et al. (2023) concluded that older consumers consider online shopping to present a relatively high risk, which influences their online shopping intention.

The gender, level of education and marital status of consumers were not found to have an influence on perceived website quality and intention to shop online. Purchase frequency was also found to have no influence on perceived website quality. The current study also concurs with finds reported by other researchers that purchase frequency does influence purchase intention (for example, Moodley et al., 2021; Silva et al., 2019; Yu & Chen, 2018). Pentz et al. (2020b) suggested that online retailers should encourage inexperienced online shoppers to shop regularly.

IMPLICATIONS AND CONCLUSION

Theoretical Implications

This paper makes several theoretical contributions to existing research. The study determined the effect of perceived website quality on perceived risk factors as well as the impact of perceived website quality on consumer intention to shop online. Few studies exist that investigated these relationships. It is important to note that the study focused on SA, an emerging market, and contributed theoretically to an existing body of knowledge on online shopping in emerging markets, especially those in Africa.

The study was motivated by the findings of prior studies that argued the effect of perceived risk factors on online shopping (Makhitha & Ngobeni, 2021), stating that consumers either refrain from or reduce their online shopping activities due to perceived risks. It was necessary to determine whether perceived risk mediates this effect, since existing studies have reported on the important role of perceived website quality in online shopping (Alianto et al., 2021; Chang & Chen, 2008; Khrouf & Frikha, 2021; Kouser et al., 2018). Because this study reported varying levels of impact (positive, negative and no impact) that perceived website quality has on the different perceived risk factors and online shopping intention, improving perceived website quality cannot be proposed as a simple way to reduce the effect of certain perceived risks on intention to shop online. This suggests that additional factors have influential roles and these need to be identified and studied in future research. For example, Khrouf and Frikha (2021) studied the mediation of trust on the relationship between perceived risk and online shopping intention and reported that trust indeed influences the impact that perceived risk has on online shopping intention. Wang et al. (2022) concluded that distances (such as, cultural, geographical and institutional distances) caused by online and hence cross-border transactions are a moderate perceived risk. Mofokeng (2021) posited that online shopping experience exceeding five years moderates the relationship between

perceived product delivery risk and customer satisfaction. Tran and Nguyen (2022) found that attitude mediates the impact that cognitive trust and perceived risk have on online shopping intention. These findings indicates that a number of other online shopping factors influences consumer online shopping intention.

The inclusion of demographics and their effect on perceived website quality and online shopping intention is also of interest. Although many studies have determined the impact of demographics on decisions to shop online, very few have investigated the effect of demographics on perceived website quality. The findings of this study presented mixed results, and hence both support and contradict the results of existing studies on the demographic effect on online shopping intention; this could be because of the context in which the previous studies were conducted (in different developed and developing economies). It also suggests differences in consumer behavior across online retailers (whether local or global) and that such differences might occur regardless of the level of country development.

Practical Implications

The study's findings identified the partial mediation effect of perceived risks on the relationship between perceived website quality and intention to shop online. However, the *positive* relationships between perceived website quality and perceived social, time, product and financial risk indicate that increasing website quality does not reduce consumers' perceptions of risks. This means that online retailers must look for other factors as a way to reduce the perceptions of risk related to these factors. It may also imply that in addition to addressing website quality, online retailers should identify and strive to address other factors related to online shopping. Existing studies that determined the impact of perceived risk on online shopping intention have reported the mediation effect of trust on consumer intention to shop online.

However, since perceived website quality has a *negative* association with perceived security risk, it implies that improved website quality can indeed assist in reducing perceived security risk. Therefore, online retailers should leverage their website quality as a marketing tool to share information on efforts to reduce security risk. They could ensure the availability of useful information on their website. Consumers should be made to feel safe while transacting online, and this can be done by retailers creating website content and functionality that make consumers trust their engagement in online shopping. Privacy statements were reported to reduce perceived risks (Bhattacharya et al., 2023). Nia and Shokouhyar (2020) say that the diversity, simplicity, craftsmanship and colorfulness of websites can be used to influence consumers' perceptions of online shopping. Arora and Sahney (2018) suggest that online retailers should use online reviews to attract first-time visitors to their stores. This approach is in line with Thakur and Srivastava (2015), who argue that consumers are influenced by the responses from their societal networks, and this can be used to influence them towards online shopping by reducing social risk.

The payment methods used should also assure consumers that their private information is safe, for example using payment methods other than credit and debit cards, such as PayPal. Organizations can also place information on the website explaining that the security system is safe. Local companies in SA use cash payment and debit or credit card payment on delivery, which could be used as a mechanism to reduce security risks. EFTs are another option preferred by some consumers in SA and can be used for online purchases. International online retailers could also adopt local means of payment appropriate for their organizations. The most popular payment method in South Africa is credit card followed by bank transfer and e-wallet (Stiltner, 2021; Statista, 2024). Al-Tall and Rawash (2020) suggested that self-

efficacy, ease of use, performance expectation and perceived gain can be used to increase intention to adopt online payment.

It is important for online retailers to offer guarantees and warranties for goods purchased online to reduce the risks of online shopping. Online retailers should also avoid product delivery delays and in case occasional delays are unavoidable, inform consumers about a new delivery date and, where possible, offer compensation to consumers (Ariffin et al., 2018). Srivastava and Thaichon (2023) and Duffett and Maraule (2024) suggest that online retailers should invest in upgrading technologies, use new communication techniques and keep up to date with consumer requirements. It would be beneficial for online retailers to constantly improve aspects of website quality to mitigate risks during online shopping; these include improving the functioning of the website, ensuring that images of their product offerings closely reflect the actual product, as well as implementing improved technologies related to the protection of consumers' information (including both financial and delivery information).

Online retailers should improve the quality of their online services as a strategy to mitigate risks (Jain et al., 2021). Venkatesh et al. (2022) proposed that it should be made easy for consumers to access information regarding price, availability and delivery dates to mitigate security risk and merchandise return. Online retailers should develop websites that are easy to navigate and to interact with (Frooghi et al., 2017).

Consumers' ages were found to have an effect on perception of website quality and intention to shop online. Online retailers should formulate strategies and implement them to attract both young and older consumers. Those frequently purchasing online could be requested to rate the online retailer so as to influence those who buy less often and who may still fear purchasing online or those who might have doubts about the security of a particular online retailer.

Conclusion

A conceptual model was developed to test the mediation impact of perceived website quality on intention to shop online as well as the effect of demographics on perceived website quality and intention to shop online. A quantitative analysis of data collected from online shoppers reflected a partial support for the model. Importantly, perceived website quality was found to have unexpected and unhelpful relationships with five of the risk types. Perceived financial risk had the expected negative path relationship with intention to shop online. Perceived website quality did not mediate the relationship between any of the five perceived risk factors with intention to shop online. This partially agrees with Bhatti et al. (2018) who also disclosed that the mediation between risk factors and intention to shop online produced both significant and insignificant results. Furthermore, the influence of demographics on perceived website quality and intention to shop online supported age and frequency of purchase as factors having an influence on online shopping.

Limitations and Future Research

This study targeted consumers in Soweto but could have targeted consumers across other townships in SA to gain a more holistic understanding of online consumers in SA townships. The sampling approach used was a convenience sampling method, which did not provide opportunities for all Soweto consumers to be involved in the study since only those conveniently available were targeted. Instead, the study obtained data from consumers affiliated with the online company databases. Hence, it is not a comprehensive study of the full spectrum of township consumers in Soweto and other SA townships and therefore the results cannot be used as a reflection of the online shopping behavior of all township consumers in the country. Since the risk factors were found not to be mediated by perceived website

quality to determine their influence on intention to shop online, future research should be conducted to determine whether there are other factors that can mediate the impact of perceived risk factors on online shopping intention. Mou and Cohen (2013) suggest examining additional mechanisms and factors to confirm consumers' perceived risk and trust perceptions in terms of e-service acceptance; this suggestion could be used to look for support for the divergent results identified in this study. Future research could also compare the older and younger consumer perceptions of risk factors moderated by trust in online shopping.

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