Influence of Consumer's Perceived Risk on Consumer's Online Purchase Intention in Pakistan

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ABSTRACT

The purpose of this study is to examine the relationship between six dimensions of consumers' perceived risk and their online purchase intentions. The study incorporates Theory of Planned Behavior (TPB) and Technology Acceptance Model (TAM) to identify the influence of perceived risk. Specifically, it investigates the impact of financial risk, product risk, security risk, time risk, social risk, and psychological risk on consumers' willingness to purchase online. Using an online survey method for data collection, 397 respondents participated in an online questionnaire, and the data were analyzed using IBM SPSS Statistics and SEM (Structural Equation Modeling). The findings reveal that five dimensions of perceived risk—financial, product, security, time, and psychological risks—negatively influence online purchase intentions, with psychological risk being the most significant deterrent. Interestingly, social risk was found to have no significant impact. The study offers valuable insights for e-commerce retailers, highlighting the importance of addressing security concerns and minimizing other perceived risks to foster consumer trust and enhance online transactions. By understanding the main contributors to perceived risk, online retailers can develop strategies to improve the online shopping experience and encourage consumer engagement. This research contributes to the existing literature by addressing gaps in understanding consumers' perceived risks in the context of online purchase intentions and offers actionable recommendations for mitigating these risks.

Keywords: Online shopping, Security, E-commerce, Quantitative research, Online consumer behavior

INTRODUCTION

Online purchasing has grown significantly as the digital economy grows; by 2024, it can be expected that the sale for e-commerce would have exceeded $6 trillion worldwide (Statista, 2023).E-commerce has revolutionized consumer behavior worldwide in recent years, with Omni channel integration, sustainability, mobile and social commerce, and personalization trends influencing how people approach purchasing goods online. (Banda & Kassam, 2023) stated that the extension to electronic commerce was an important step for marketing, with smaller or larger businesses using online platforms through websites, blogs and participation in social networks such as Facebook, Twitter, LinkedIn. Therefore, these marketing strategies are in charge of tempting customers with what they "need" and leading them to believe that they will be unhappy and appear less than others if they are unable to purchase certain essentials. As a result of the significant differences between online shopping and visiting a brick and mortar store, consumers regard shopping through internet as a more convenient way to consume. For example, e-commerce makes products more accessible to consumers, regardless of distance. This also encourages customers to buy wide variety of items from online stores, such as soups and nuts, because they always have many spaces like physical shops. No surprise—U.S. e-commerce soared to nearly 2x in ~10 years by 2007–2017, a ~$150B jump at equal weight against all retail sales (Dolfen et al., 2023)

These advancements have had a particularly strong impact in developing nations, where online shopping is both an increasing trend and an essential component of economic development. Online shopping is now getting popular worldwide due to the rapid advancement of digital technology, even in developing nations like Pakistan (Akbar et al., 2022). According to Internet World Stats (2024), As of July 2024, 5.45 billion people worldwide or 67.1 percent of the world's population were internet users, in which social media was used by 5.17 billion people, or 63.7 percent of the world's population. In modern digital world, the internet is one of the important aspects which connects billions of people globally. The internet user percentage as per 2024 showed that Northern Europe came in first place globally. As of April 2024, 99 percent of people in Saudi Arabia, Norway, and the Netherlands were internet users. North Korea ranked last globally and was at the other extreme of the bandwidth, with almost nil internet usage coverage among the population in general. With approximately 2.93 billion users as of the most recent report, Asia had the highest proportion of online consumers globally. Having almost 750 million internet users, Europe stands in second position. The United States, China and India have more internet users than any other nation in the world. With markets like the US and China leading in both technological innovation and consumer adoption rates, online shopping has become an essential component of daily life in developed nations with established e-commerce infrastructure, digital literacy, and consumer trust (Li et al., 2023) & (Singh, 2021). Developing nations, on the other hand, have particular difficulties that prevent a comparable adoption rate. The digital divide and rural penetration, for instance, continue to be major obstacles even though internet prevalence in Pakistan has significantly expanded, reaching over 50% in urban areas. Compared to established countries, where both physical and digital infrastructures support a mature e-commerce ecosystem, developing economies adopt e-commerce more slowly due to these demographic and infrastructure considerations (Rahman et al., 2022) and (Barrech et al., 2023).

Another significant distinction that distinguishes developed and developing markets is consumer trust. Trust in online shopping platforms is generally high in nations like the US, where consumers have more experience with digital transactions and strong regulatory protections. This leads to higher intents to make purchases online (Shaw et al., 2022). However, (Ashiq & Hussain, 2024) suggested that internet purchasing is seen to be dangerous in impoverished countries like Pakistan, mainly because of lax data security legislation, uneven product quality, and unreliable logistics. According to (Ahmed et al., 2021) Pakistani customers frequently have concerns about making purchases online, with worries about financial fraud, data privacy, and product authenticity serving as major obstacles. These difficulties are due to the insufficiency of trustworthy assessment systems, which are often entrenched in developed markets, additionally shocks the Pakistani customers trust in e-commerce platforms. Socio-demographic aspects also have a determine role in shaping online purchase intentions. In Pakistan, the demographics factors like age, income level, and digital literacy profoundly persuade online shopping decisions, with younger, metropolitan, and more sophisticated consumers showing a bigger probability to engage in e-commerce. On the other hand, because of established digital networks and extensive digital literacy, developed countries frequently experience an increased number of digital buyers from different demographics (Singh, 2021). Furthermore, (Oyedele & Goenner, 2024) suggested that the trend towards mobile and social commerce continues to accelerate in US. Shopping on the move has evolved into a "mobile-first" approach, with mobile devices contributing to 44.6% of all e-commerce revenues in the United States by 2024. Consumers want frictionless experiences, including rapid payment alternatives and sleek app interfaces. Meanwhile, TikTok, Instagram, and Pinterest have promoted social commerce, making product discovery and purchase more interactive and rapid. This channel has grown in popularity as younger generations place greater confidence in influencers and peer evaluations than traditional advertising, which has a direct impact on their purchasing decisions. Additionally recent study predict (Veeragandham et al., 2020) that online shopping in emerging nations will increase by more than 20% yearly, as customers depend more on digital platforms for convenience and a wider range of products. The market for electronic commerce in Pakistan especially, has expanded significantly. It was projected

to be worth $4 billion in 2021 and is predicted to increase at an annual pace of more than 20% year through 2025. With a 98% mobile penetration rate and increasing internet accessibility, Pakistan has emerged as one of the South Asian region's fastest-growing digital sectors demonstrated by (Liao, 2023).

According to (Jordan et al., 2018) the rapid expansion of e-commerce has brought both convenience and complications to consumers, particularly in terms of perceived risks that can discourage online purchases. Perceived risk is related to the numerous factors that influence consumer behavior in digital settings which includes financial, product, security, time, social, and psychological risks. These risks are related with potential bad consequences that consumers may face, such as money loss or product dissatisfaction, which influence online purchasing decisions. Consumers are hesitant to shop online concerns related to security, specifically the danger of identity theft or data breaches. Another study (Ariff et al., 2014) reveal that consumers assess these risks heavily, which has a direct impact on their online purchase intentions. In a study (Chang & Luo, 2010) suggested that consumer behavior gets influenced differently by each perceived risk factor. Financial risk, for instance, such as worries about overcharging or fraudulent transactions, can greatly lower the possibility of consumers to shop online. In the same way, consumer attitudes are impacted by product risk, or uncertainty over the quality and performance of the product, which results in a decrease in purchase intentions. Although social and temporal risks are less significant, they can affect consumer choices by introducing stress or the impression of pressure from outside opinions (Siu & Ismai, 2022). Reducing perceived risks can help e-commerce platforms by increasing consumer trust and facilitating enjoyable shopping experiences. Increased security measures, straightforward return policies, and clear product information can all help to reduce consumer anxiety and boost purchasing intention. To create a more encouraging procuring environment, e-commerce platforms can also address particular risk categories that are appropriate to their target audience. This study intends to investigate how these perceived risks affect consumer's intent to purchase online, especially in the developing economy of Pakistan, where

Research Objectives

The objectives of the current study are given below:

1. To examine the negative impact of financial risk on consumer's online purchase intention.
2. To examine the negative impact of product risk on consumer's online purchase intention.
3. To examine the negative impact of security risk on consumer's online purchase intention.
4. To examine the negative impact of time risk on consumer's online purchase intention.
5. To examine the negative impact of social risk on consumer's online purchase intention.
6. To examine the negative impact of psychological risk on consumer's online purchase intention.

Research Questions

Following are the research questions of the study.

1. What negative impact does financial risk have on consumer's online purchase intention?
2. What negative impact does product risk have on consumer's online purchase intention?
3. What negative impact does security risk have on consumer's online purchase intention?
4. What negative impact does time risk have on consumer's online purchase intention?
5. What negative impact does social risk have on consumer's online purchase intention?
6. What negative impact does psychological risk have on consumer's online purchase

Limitation and Delimitation of Research

This study incorporates various limitations which may influence both the universality and profundity of the findings. First of all, it is restricted to customers in Pakistan, suggesting that the conclusions drawn could not be applicable in other areas with different technological, cultural and economic factors. The

study's findings is not applicable in Pakistan because the consumer risk perceptions is very different from those in nations with more advanced digital economies. The diversification of the study's sample size is another drawback. There must be some gap in other facts of Pakistani society, despite efforts to include respondents from a multiple range of demographic backgrounds. If we compare responses to urban customers who shops more frequently online, rural consumers may be understated because they have less internet access, moreover possibly lower levels of digital knowledge. Therefore, due to outcomes of this demographic disparity may not precisely indicate the perspectives of the whole population.

Furthermore, another drawback of the study is that it only emphasis on specific perceived risks variables namely, Financial Risk (FR), Product Risk (PR), Security Risk (SR), Time Risk (TR), Social Risk (SOR) and Psychological Risk (PSR) which excludes other potential risk factors which may also influence OPI. Moreover, moderating and mediating variables are also not included in the study model, as a consequence, the study findings may not fully depict how perceived risks influence consumer's online purchase intention in the Pakistani market.

The applicability of this research may be potentially decrease with the passage of time as digital world is evolving day by day. The long-term implementation of this research may be limited as consumer perceptions of risk are expected to vary as e-commerce technology, cyber security standards, and consumer protection legislation evolve. Furthermore, because the research approach is cross-sectional, it might not establish causal relationships but rather merely find associations between perceived risks and purchase intentions. To more precisely examine cause-and-effect dynamics, longitudinal study would be necessary. Moreover, because the study doesn't distinguish between the numerous e-commerce platforms that are available in Pakistan, it might miss platform-specific information. Consumer perceptions of risk may be greatly impacted by variations in these platforms' reputations, security features, and user experiences. The results might not be as applicable to certain online shopping sites or categories if platform-specific insights are not included.

Additionally, the study uses a quantitative research design, collecting quantifiable information on customers' attitudes and perceptions of the risks associated with online purchasing through surveys. Although statistical research of the associations between risk variables and purchase intents is made possible by this methodology, qualitative components of consumer decision-making processes are not examined. Finally, this study focuses solely on online shopping behaviors, disregarding additional purchasing situations such as in-person retail and mobile payment services. By focusing primarily on the e-commerce environment, this research hopes to provide specific insights into online purchase intention in Pakistan. By acknowledging aspects that are outside the boundaries of the study, these delimitations contribute in limiting the research focus and ensure a thorough investigation of consumer perceived risks and OPI within the specified

THEORETICAL REVIEW

Theory of Planned Behavior (TPB)

The Theory of Planned Behavior (TPB) is a theoretical framework which is used to anticipate how customers behave particularly in online purchase situations. According to (Ajzen, 1991), TPB states that an individual's behavior is driven by their desire to conduct it, which is impacted by three factors: attitude towards the behavior (ATT), subjective norms (SN), and perceived behavioral control (PBC). Perceived risk significantly influences these elements in the context of consumer's intensity of purchasing online. Customers online buying perception is highly impacted by some of the important perceived risks, including FR, PR, SR, TR, SOR and PSR. For instance, product risk related to the doubts regarding the performance and quality of a product, whereas financial risk indicates uncertainties about monetary loss as a result of fraud or unsuccessful transactions. Consumer online confidence is further affected by

security risk, which is frequently related to data breaches and payment security, and time risk, which is associated with possible delivery delays or websites inefficiencies. Negative attitudes on online shopping are also influenced by psychological risk, in which emotional stress or regret, and social risk, which involves the fear of social rejection (Featherman & Pavlou, 2003; Forsythe et al., 2006).

Perceived risks are not only influences by attitudes, but also by subjective norms and perceived behavioral control. Subjective norms such as social factors, like opinion of friend or family or internet reviews, can either increase or decrease the negative impact of perceived risks on consumer's purchasing intentions. Positive evaluations and recommendations could lower risk perceptions and promote their purchase intentions (Shen et al., 2022). Additionally, perceived behavioral control a measure of how easy or problematic a behavior is especially relevant in e-commerce businesses. Customer's sense of control and their intents to make purchases online are additionally hindered when they believe that online buying is dangerous. (Ariffin et al., 2018).

The inclusion of TPB framework highlights its diversified influence on consumers' intentions to make online purchases. Earlier numerous research have demonstrated that how attitudes, subjective standards, and perceived behavioral control are all impacted by perceived risk, which both directly and indirectly influences consumer decisions to shop through internet. According to (Kaur & Quareshi, 2015) lowering the effect of perceived risks of online transactions had a beneficial influence on customer's perception and increased their propensity to make purchases online. In Accordance with (Gefen et al., 2003), trust is crucial for reducing perceived risk, which in turn strengthens behavioral goals. Researchers and marketers may incorporate strategies like enhancing website security, providing clear return policies, and utilizing positive social impact. Moreover, researchers may better understand and address the barriers to online purchase intentions by incorporating TPB theory to identify potential perceived risks which will help online retailers greatly.

Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) is a well-known theory for analyzing consumer acceptance of technology and e-commerce platforms. The Technology Acceptance Model (TAM), was first proposed by (Davis et al., 1989) according to them, an individual's acceptance and intention to use a technology are influenced by two important factors: perceived usefulness (PU) and perceived ease of use (PEOU). Perceived risks which are FR, PR, SR, TR, SOR and PSR are very crucial factors that interacts with these essential concepts and influences how purchase intentions are designed in the online shopping context. The integration of perceived risks in TAM underlines the complex relationship between consumer's risk perceptions and their evaluations of online shopping platforms. The existence of these perceived risks frequently serves as a barrier which prevents customers from completely enjoying the advantages of online buying technology, even though PU and PEOU are still fundamental. By addressing these risks, the negative consequences can be diminished which will simultaneously increase consumer trust and encourage them to make purchases online. By including perceived risk in TAM, researchers can better recognize the barriers to technology adoption in e-commerce contexts and develop more effective methods to increase customers trust in technology and internet shopping.

The Technology Acceptance Model (TAM) is used in a variety of previous studies which indicates the model's applicability in e-commerce research. For example, (Pavlou, 2003) expanded TAM by including perceived risk and trust in the model to understand online consumer behavior. The outcome of the study emphasizes the necessity of addressing risk concerns to foster consumer trust, showed that perceived risk considerably moderates the correlations between PU, PEOU and online purchase intention. Perceived risk was a important component in another study by (Ha & Stoel, 2009) that used TAM Model to examine the consumer adoption of online shopping. Their study findings demonstrated that PU and PEOU are directly and negatively impacted by financial, product, and security risk, highlighting the need of lowering these

risks to boost customer confidence in online purchasing platforms. Similarly, (Chiu et al., 2014) integrated TAM with perceived risk in which they discovered that social and psychological risk affect both purchase intention and PU. Therefore, it suggested that user-friendly designs and clear information are necessary to mitigate these effects. These studies show the universality and applicability of TAM that can be used to investigate how various factors of perceived risk affect the behavior of online consumers.

EMPIRICAL REVIEW

Online Purchase Intention

Online purchasing intention was derived from purchase intention, in accordance with (Close & Kukar-Kinney, 2010). In accordance with (Meskaran et al., 2013) the customer's desire to make an online purchase is known as their online buy intention. Online purchase intention is the inclination of consumers to purchase a good or service through online retailers cited by (Li & Zhang, 2002; Salisbury et al., 2001).The intention of online buyers to purchase products or services through virtual shopping carts or the internet is another definition of online purchase intention provided by (Close & Kukar-Kinney, 2010). In addition, (Iqbal et al., 2012) defined that online purchase intents as the likelihood of customers to use internet services in order to compare product prices or make an actual purchase of goods.

The consumer's purchase intention is very crucial for predicting the consumer's behavior, which is clearly dependent on the influencing elements that make measuring challenging in various situations. According to (Schlosser et al., 2006) robust privacy and security statements also diminish the likelihood of making an online transaction. The researchers understands that customer's faith in the online retailer capacity to satisfy their needs and desires goes beyond relying on goodwill to influence their purchase decisions. It is very common norm to use OPI as an indicator to forecast actual purchasing behavior of customers. Previous research has shown that consumer's propensity to buy clothing will be negatively impacted by their perception of risk. Customers' intention to make a purchase would be discouraged to a greater extent if their sense of risk increased (Almousa, 2011; Li & Zhang, 2002; Liebermann & Stashevsky, 2002; Meskaran et al., 2013). To investigate the perceived risks associated with online apparel purchase, (Almousa, 2011) conducted a Web-based survey with 300 Saudi Arabian consumers. Customers' perceptions of the six categories of risks associated with online clothing purchasing and how these affect their intents to buy (performance, financial, psychological, security, time, and privacy concerns). Time risk and performance risk were found to have a significant negative impact on the intention to shop online, whereas privacy risk and security risk also had a negative impact.

Another study by (Masoud, 2013) examined how perceived risk including time, money, information security, delivery and product risks affects consumers' intentions to shop online in Jordan using a sample of 395 , where the majority of buyers are internet buyers. The study discovered that consumer's' intentions to purchase online were adversely impacted by these risks. It also came to the conclusion that online retailers should be conscious of the risks that their customers perceive and implement appropriate risk-avoidance measures. Higher levels of perceived risk are frequently shown to have a negative correlation with the intention to make an online purchase. For instance, a study by (Siu & Ismai, 2022) discovered that, through the mediation of trust, financial and security concerns considerably reduced customer desire to make online purchases.

Numerous elements influencing consumer decision-making are identified by empirical studies on OPI. Two of the most extensively researched concepts are perceived risk and trust. It has been discovered that trust, especially in the website or vendor, greatly improves OPI by minimizing concern about data security and product quality. Purchase intention is directly impacted by trust, which is strongly influenced by perceived product quality and website quality, as shown by (Luo et al., 2014). On the contrary, (Ahmed et al., 2021) pointed out that the consumer perceived risk had significant negative effect on OPI

and that university students are discouraged from shopping online due to security and financial concerns. Regarding that, if customers sense less risk when shopping online, they will have a better online shopping experience. If the perceived degree of risk is reduced, there will be a subsequent increase in the intention to buy online.

Financial Risk

One of the main factors which adversely affecting (OPI) is financial risk, which is the possibility of suffering from financial losses during online transactions. It addresses concerns about hidden prices, fraudulent transactions, and a lack of refund assurances. In e-commerce environments, where trust is essential to reducing its impacts, this perceived risk is especially noticeable. The Theory of Perceived Risk offers a framework for comprehending how consumer trust and financial risk combine to affect online purchasing decisions (Kim, 2007). Financial risk proved to be a powerful predictor of online buyers' purchase intentions, information-searching habits, and frequency of purchases. Financial risk can be described as the likelihood that an online buyer will lose money if the product does not live up to expectations or is not worth the money spent (Featherman & Pavlou, 2003). According to (Popli & Mishra, 2015), financial risk also contains the potential for customers to be charged additional maintenance fees in addition to the cost of repairs for a product they bought online.

According to (Masoud, 2013), financial loss due to credit card fraud, poor quality, or unsatisfactory products discourages online shopping and negatively impacts intentions. According to (Paul, 1996), people will be hesitant to use their credit cards or divulge personal information due to the internet's poor security. The main deterrent to online purchases was consumers' unease about using credit cards online (Maignan & Lukas, 1997).

According to (Shim et al., 2000), purchasing sensory objects like clothes online is more dangerous than buying books or computer software. Customers find it challenging to test and assess clothing products through online retailers (Rice & Brown, 2014). Financial risk is one of the perceived risk that negatively affect consumer's intents to make online purchases of clothing, claim (Almousa, 2011).

Additionally, it has been shown that FR is a reliable indicator of consumers' inclinations to buy clothing online (Bhatnagar et al., 2000). A related study on private labels sold by shops (Bhukya & Singh, 2015) found that the perceived believe that a customer's financial risk may negatively impact their intention to make a purchase. When consumers perceive higher financial risk, they are less likely to shop online, spend more money overall, and search more frequently in an attempt to make a purchase. (Forsythe & Shi, 2003). Reducing financial uncertainty must be a top priority for e-commerce platforms in order to boost online sales and consumer confidence.

H$_1$: There is a negative relationship between Financial Risk and Online Purchase Intention

Product Risk

Product risk which is defined as uncertainty regarding a bad product's quality, functionality or performance, is a key predictor of online purchase intent (OPI). Customers in e-commerce are dependent on online descriptions, photos, and reviews as they are unable to physically inspect things before making a purchase. This inability to verify the product thoroughly increases perceived risk and decreases inclination to buy. Product risk has an adverse impact on consumer trust, especially for high-involvement purchases when dissatisfaction has more severe repercussions (Pires et al., 2004). In the same way, (Zhang et al., 2011) showed that product risk considerably lowers OPI since buyers are afraid of purchasing defective or non-functional goods.

In accordance with (Popli & Mishra, 2015) one of the challenges a consumer faces while shopping online is the less opportunity to inspect the item physically before purchasing online. A customer will trust entirely on the information provided by the internet-based seller. Therefore, if the product does not live up to the standards and quality that the customer has come to anticipate, there is a chance that they will lose money. Product risk related to the potential for a product to perform below its initial expectation (Zhang et al., 2011). For example, while comparing the delivered and online products the color, form or appearance of the products may differ, making it impossible for the consumer to inspect and verify the true product features. Customers might therefore interpret this condition as a product danger (Dai et al., 2018).

Furthermore, empirical research shows that product risk varies depending on the setting and affects different product categories. For instance, (Kim, 2007) discovered that the risk of a product is especially significant for electronic goods, where quality and functioning are crucial and more difficult to check online. Consumers, on the other hand, typically perceive lesser product risk for low-involvement items like clothing, while problems like mismatched expectations or wrong size can still discourage purchases. Additionally, (Yani, 2021) emphasized that favorable prior experiences lower product risk, highlighting the significance of establishing customer trust by providing reliable support along with consistent high-quality goods. Product dangers might undermine online shoppers' confidence and intention to purchase. After placing an order, customers are more likely to believe that the product is not worth the money if it does not meet their expectations.

Another study (Teo, 2002) found that roughly 25% of buyers are concerned about the quality of products that may fall short of their expectations. Product risk is the main deterrent for many customers to avoid making online purchases. In addition, it is thought to have a significant impact on how consumers behave when they shop online (Dai et al., 2018; Zhang et al., 2011). If a product has a premium price and the website provides less information, consumers may regard it as risky. Customers could find it challenging to assess the goods (Forsythe & Shi, 2003). Finally, it can be concluded that, product risk is a significant barrier to online purchase intention.

H₂: There is a negative relationship between Product Risk and Online Purchase Intention.

Security Risk

Security risk, defined as the perceived chance of data breaches, identity theft, or unauthorized use of sensitive information during online purchases, is a significant negative factor influencing online purchase intention (OPI). Consumer concerns about security breaches frequently discourage purchases e-commerce context, where financial transactions and personal data are crucial. Research shows that security issues, a transaction and delivery capabilities, and competent support to help consumers understand the value of things. However, the intention to buy will be deterred if there is insufficient knowledge about the security measures in place. Due to the global presence of online retailers, customers now see online buying as more risky, particularly when they believe that internet security is insufficient (Karnik & Peterson, 2024). According to (Soltanpanah et al., 2012), security risk is the possibility of suffering a loss as a result of online fraud or hacking that compromises the security of an online user or transaction. According to (Azizi & Javidani, 2010), security is associated with the sharing of financial data, including account numbers, credit card numbers, and safe pin numbers.

According to (Mardjo & Leeraphong, 2013) customers are afraid to enter their credit card information, shipping information, or finish an online purchase. However, when customers purchase clothing online, it is essential to include additional personal information, like the delivery location, the size they need, and their particular preferences for prices and trends (Dai et al., 2018). In another study (Youn, 2005) found

that users' history of account authentication and the management of personal information data by online businesses are linked to information security and privacy issues.

According to empirical research, the impact of security risk varies based on demographic characteristics and the type of transaction. For instance, (Chang & Luo, 2010) showed that when consumers make high-value transactions as opposed to low-value purchases, they perceive increased security concerns. Furthermore, younger consumers—who are often more tech-savvy—perceive lesser security dangers than older consumers, who are less knowledgeable about internet security protocols, according to (Siu & Ismai, 2022).Security threats have a detrimental effect on consumers' intents to buy clothing online, according to (Hsu & Bayarsaikhan, 2012). Customers that are uneasy about the website may restrict providing personal information and will instead give inaccurate or insufficient information (Kayworth & Whitten, 2010). A study by (Teo & Liu, 2007) also discovered a strong correlation between OPI and SR.

(San Martín & Camarero, 2009) demonstrated that most consumers avoid online buying out of fear of having their credit card information stolen, not because it is inconvenient. They therefore draw the conclusion that the intention to shop online is significantly influenced by security risk.   According   to (Adnan, 2014) privacy policies are necessary to lower customer's perceptions of security risk and increase their propensity to make a transaction. It is well acknowledged that security concerns are one of the obstacles to purchasing things online (Teo, 2002) . While online shopping makes it easier for customers to buy and use, the lack of security measures will negatively impact their intention to buy (Meskaran et al., 2013).

H₃: There is a negative relationship between Security Risk and Online Purchase Intention

Time Risk

Time risk is a major element that negatively influences online purchase intention (OPI). It is described as the potential loss of time as a result of delays, complexity, or inefficiencies in the online purchasing process. When consumers are expecting delivery delays, facing navigation challenges in website, or prolonged efforts are required to resolve issues like product returns or refunds, they perceive time risk. According to (Zhang et al., 2011) time risk is one of the key element which influence online shoppers decisions. Moreover, as per another study time risk is the unpleasant experience of online shopping which is frequently carried on by having difficulties navigating and or placing order as well as delays in receiving the goods (Forsythe & Shi, 2003).

According to (Dai et al., 2018), the time consumer spent making a purchase, waiting for delivery, and reading product information is termed as time risk. Empirical research suggests that time risk is a vital factor in fast-moving consumer goods (FMCG) and high-demand marketplaces where quick delivery is the essential component. (Febrianto et al., 2023) for instance, discovered that during the time of COVID-19 pandemic, time risk became an important concern for Indonesian online consumers because of logistical issues which results in deliveries to be delayed, therefore it decreased customer confidence in e-commerce platforms. This also supports the findings of (Zhang et al., 2011), who suggested that by reducing time risk and improving OPI, theirs is huge requirement of dependable and quick delivery methods.

In another study (Ariffin et al., 2018) demonstrated that time risk can be arise when product fails to satisfy consumer expectations and requires a replacement which results in long process. According to (Ko et al., 2004) the time, accessibility, or effort all would be vain if a purchased good needs to be fixed or replaced. Many of the customers find that searching for specific product, perusing, buying, and waiting for the product to arrive takes a lot of time (Mardjo & Leeraphong, 2013). Additionally, (Forsythe & Shi,

2003) suggested that if the website fails to offer correct images of the actual product, customers may go for alternative images on another website which takes a lot time.

Additionally, customers many of the online customers may simply abandon a website without making a purchase because they are unable to search for the products they want or have trouble finding the appropriate product websites (Popli & Mishra, 2015). Moreover, if it takes a lot of time to search for product description and information and waiting for high-pixel photos to download ultimately customers may be less likely to shop online. The more time to identify a good website, results in time risk which will discourage customers from making an online purchase (Forsythe et al., 2006). In conclusion, time risk is a significant barrier to OPI, limiting the ease and efficiency of online buying.

H$_4$: There is a negative relationship between Time Risk and Online Purchase Intention.

Social Risk

Social risk is defined as the term in which customer faces perceived criticism of the online purchased item that makes friends and family dissatisfied (Dowling & Staelin, 1994). Online purchase intention (OPI) is highly influenced by social risk, which is the possibility of receiving poor feedback or social disapproval from others as a result of one's own choice of online purchases. Customers are concerned about receiving negative comments for selecting a poor item, overspending, or shopping online rather than in physical stores from their beloved. These concerns are more critical in collectivist societies in which behavior is greatly influenced by social approval and conformity. In accordance with (Yani, 2021) social risk has a major effect on consumer's confidence to purchase online in friend circles like universities where image consciousness is the common factor.

Furthermore, social risk discourages customer from buying online, particularly if there is a chance that their friends or family may disapprove the item, as these factors are important in deterring customers from making judgments about their purchases (Shang et al., 2017). In another study, social risk is defined as the extent to which a customer believes that their taste for a certain product or brand may results to be negatively assessed and judged (Semeijn et al., 2004).

According to research, social risk varies depending on the product type and demographic. For instance, (Chang & Luo, 2010) discovered that because luxury and fashion goods are strongly linked to social status and identity, they are more vulnerable to social risk perceptions. On the other hand, utilitarian purchases—like groceries or household goods—present less social risk because they are less likely to provoke social judgment. Furthermore, (Siu & Ismai, 2022) stated that younger customers, who are more exposed to social media, are especially sensitive to social risks because their online purchase decisions are frequently visible to and evaluated by their social networks.

According to earlier studies, social risk also refers to the possibility of a consumer's reputation being damaged in their social circles as a result of an inappropriate or unsuitable product and discontent with utilizing the internet as a purchasing channel (Ariff et al., 2014). Moreover, according to (Ahmed et al., 2021) social risk is the likelihood of a perceived decline in social image as a result of purchasing a particular brand online. Therefore, to lower social risk consumers typically attempt to obtain advice or permission from their social groups. It can be concluded that OPI is significantly shaped by social risk, particularly for things related to identity or status. E-commerce platforms must establish credibility and provide social evidence through reviews and endorsements to user feedback in order to mitigate social risk.

H$_5$: There is a negative relationship between Social Risk and Online Purchase Intention.

Psychological Risk

Psychological risk refers to a consumer's disappointment with a bad product or service, even when there are several options available (Ueltschy et al., 2004). It is risk in which customers feel when they fear about making a bad online purchase choice. The outcome of the risk includes customer concerns about regret, disappointment, or discontent with goods that have been purchased. (Zhang et al., 2011) found that psychological risk has a negative effect on consumer's OPI by increasing concerns about the dependability of e-commerce platforms, specifically for first-time customers or those making expensive purchases. A study suggested that consumers often sense psychological risk when shopping online due to the lack of physical touch with products, resulting in concern regarding quality or compatibility. According to (Stone & Grønhaug, 1993), psychological risk is defined as the potential loss of self-respect which is further turned into displeasure over not achieving a purchase goal.

According to empirical research, psychological risk is highly related to the consumers decision-making process of shopping goods. (Jordan et al., 2018) discovered that psychological risks is the fear of being low self-esteem or obtaining inappropriate products which significantly lower trust in online buying pattern. For purchases related to personal experience as apparel or cosmetics, customer's happiness is mostly dependent on personal tastes, therefore the psychological effect is reinforced into it. Similar to this, (Chang & Luo, 2010) highlighted that psychological risk is more appropriate in marketplaces like the second-hand or counterfeit goods business where brand reputation or product validity are questioned.

Consumers who acquire items that do not match their expectations may experience regret and frustration, leading to emotional pressure in the future. Uncertainty or tension may be the source of psychological risk, influencing their purchasing decision. Furthermore, customers' satisfaction or contentment with substandard items may have adverse effects (Shang et al., 2017). According to a different study by (Febrianto et al., 2023), consumers' psychological risk increased during the COVID-19 pandemic as they worried delays or dissatisfaction because of uncertain logistics and supply chain interruptions.

Consumers who acquire items that do not match their expectations may experience regret and frustration, leading to emotional pressure in the future. Stress or uncertainty could be the cause of psychological risk, which would influence their choice to buy. According to (Bhukya & Singh, 2015), psychological risk must be greatly reduced in order to boost a customer's purchase intention. In another study (Han & Kim, 2017) found a negative correlation between social or psychological risks and users' purchasing intentions on Taobao, a popular Chinese online marketplace. In summary, psychological risk continues to be a major obstacle to OPI, especially for highly expensive items.

H$_6$: There is a negative relationship between Psychological Risk and Online Purchase Intention.

Conceptual Framework
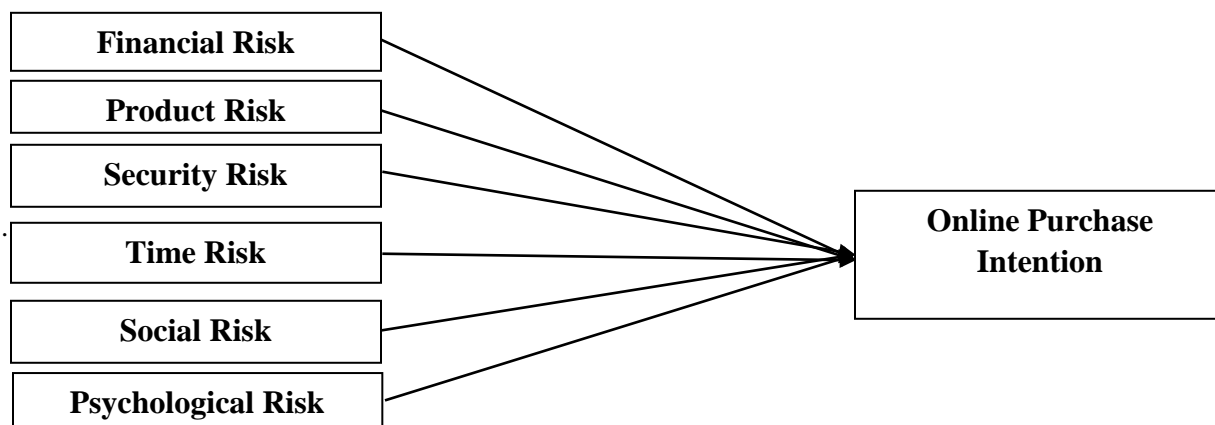
Research Approach

The study uses quantitative research approach to collect and analyze numerical data in a systematic manner, allowing for further measurement and hypothesis testing. This method is best for investigating quantifiable result in an organized and repeatable way since it guarantees objectivity and dependability which permits accurate findings that can be applied to broader populations. Therefore, by incorporating quantitative research approach it will be easy to examine the influence of perceived risks on consumer's OPI.

Research Design

This study uses a correlational research design to examine the association between perceived risks namely, FR, PR, SR, TR, SOR, PSR, with consumers OPI without modifying either variable. The study seeks to determine whether and to what degree these factors are related by examining their fundamental variability. This design is suitable since it enables the investigation of possible connections and patterns in actual environments, offering insightful information without the need for experimental control or intervention.

Target Audience/Population

This study has targeted Pakistani individuals who shops online and have perceived risks in their mind while purchasing online.

Ethical Consideration

All the quotes and work used in this research ensured by the researcher will be kept confidential and there is no intention to misuse anyone's said statements. All the sources we have used are cited and we respect the authenticity of their work. While conducting the research all the ethical concerns have been put into practice. The research assures that participants should not be exposed to any risk or injury as a result of their participation in this study. Without the consent of the research participant, the data and information gathered for this study will not be shared with any other research

DESCRIPTIVE ANALYSIS

A total of 397 respondents were collect to analyze the data. The demographic characteristics were summarized in Table 4.1 in which female made up the majority of the sample (56.2%), while male made up 43.8%. With 59.7% of participants being between the ages of 26 and 30, and 22.9% being between the ages of 18 and 25, almost all of respondents were young adults, which is reflective of a younger demographic that is generally more active with online shopping. Moreover, in terms of their level of education, the majority of the participants reported highly educated, having 61.7% of holding graduate degrees and 13.1% completing postgraduate studies, indicating a generally educated and literate community. According to their current employment status, a significant percentage (65.7%) were employed, whereas 21.2% and 9.3%, respectively, were students and job searchers, suggesting indicating the sample was principally economically engaged.

Table 1: Descriptive Analysis

Demographic Items	Mean	Std. Dev.	Frequency (%)
Gender	1.56	0.497	
Male			43.8%
Female			56.2%
Age Group	1.96	0.682	

18-25			22.9%
26-30			59.7%
31-35			15.4%
36 or above			2.0%
Education	2.01	0.716	
Under Graduate			20.9%
Graduate			61.7%
Post Graduate			13.1%
Other			4.3%
Position	1.96	0.675	
Student			21.2%
Employee			65.7%
Job Seeker			9.3%
Retired			3.8%
Level of Online Shopping Experience	2.23	0.716	
Beginner			16.6%
Intermediate			43.3%
Expert			40.1%
Frequency of Online Shopping Per Year	2.92	0.894	
Less than 3 times			6.8%%
3-5 times			23.7%
5-10 times			40.1%
More than 10 times			29.5%

N=397

Convergent Validity

The extent to which a measure interacts positively with several measures of the same construct is known as convergent validity. The result of Cronbach's Alpha, Composite Reliability, Average Variance Extracted (AVE) has been represented in Table 4.2 , which are representing that all the value of Cronbach's alpha and composite reliability are > 0.7, which meets the standard as per (Raza et al., 2020). Additionally, the other is composite reliability, which shows that all values match the benchmark of (Churchill Jr, 1979) in which the values are larger than > 0.7, and The final conclusion is that AVE reveals that all values are not less than > 0.5, indicating that our results meet the criteria of (Fornell & Larcker, 1981). We assessed the convergent validity of our research using AVE. Among all constructs, Product Risk and Psychological Risk show the highest AVE values (0.679 and 0.632, respectively), indicating strong explanatory power of their indicators. While constructs like Financial Risk, Time Risk, and Security Risk have slightly lower AVEs, they still meet the acceptable threshold, supporting their validity. Most factor loadings are above 0.70, further reinforcing the adequacy of individual items in representing their respective constructs. In summary, the measurement model is statistically sound, with all constructs exhibiting satisfactory levels of reliability and convergent validity, making it appropriate for use in further structural equation modeling.

Table 2: Measurement Model

Construct	Indicators	Loadings	Cronbach's Alpha	Composite Reliability	Average Variance Extracted
	FR1				
	FR2	0.745	0.718	0.799	0.57
Financial	FR3	0.781			
Risk	FR4	0.738			
	PR1				
	PR2				
	PR3	0.757	0.738	0.808	0.679
Product	PR4	0.886			
Risk					
	SR1	0.737	0.722	0.801	0.574
Security	SR2	0.785			
Risk	SR3	0.75			
	SR4				
	TR1				
Time	TR2	0.791	0.70	0.79	0.557
Risk	TR3	0.766			
	TR4	0.678			
	SOR1				
	SOR2	0.717	0.701	O.809	0.585
Social	SOR3	0.79			
Risk	SOR4	0.786			
	PSR1				
	PSR2				
Psychological	PSR3	0.846	0.724	0.774	0.632
Risk	PSR4	0.741			
	OPI1				
Online	OPI2				
Purchase	OPI3	0.82	0.713	0.789	0.652
Intention	OPI4	0.794			

Note: N=397 Respondents

Discriminant Validity

It refers to the degree that indicates a variable is demonstrably change from another variable. The validity can be evaluated through two methods which are Fornell and Larcker criterion and Heterotrait-Monotrait ratio of correlations (HTMT). The result for both analysis is represented in Table 3 and Table 4.

(Fornell & Larcker, 1981) state that each construct's square root of the AVE should be greater than the associations between it and other constructs. All diagonal values, as indicated in Table 3, correspond to

the square roots of AVEs and satisfy this requirement, indicating sufficient discriminant validity. This indicates that each construct shares more variance with its own indicators than with other constructs in the model. For example, the square root of AVE for Financial Risk (0.755) is greater than its correlations with other constructs, such as Product Risk (0.388) and Time Risk (0.361). Similarly, Online Purchase Intention (0.807) shows stronger association with its own indicators than with others, such as Psychological Risk (0.420) and Product Risk (0.400). These results confirm that all constructs exhibit adequate discriminant validity and are empirically distinct from each other, supporting the robustness of the measurement model.

Table 3: Fornell and Larcker criterion

	FR	OPI	PR	PSR	SOR	SR	TR
FR	0.755						
OPI	0.319	0.807					
PR	0.388	0.4	0.824				
PSR	0.284	0.42	0.289	0.795			
SOR	0.16	0.342	0.324	0.351	0.765		
SR	0.312	0.358	0.525	0.309	0.313	0.757	
TR	0.361	0.409	0.394	0.408	0.396	0.37	0.746

Note: FR= Financial Risk, PR= Product Risk, SR= Security Risk, TR= Time Risk, SOR= Social Risk,

PSR= Psychological Risk, OPI= Online Purchase Intention

Table 4 depicts the HTMT results, which provide additional support for discriminant validity. All the values presented in the table are below the required benchmark of 0.85, matching the standard proposed by (Henseler et al., 2015; Raza et al., 2020). The correlation values presented in the table range from 0.25 to 0.82, all of which fall below the critical benchmark of 0.85. For instance, the highest observed correlations are between Psychological Risk and Time Risk (0.82), Product Risk and Security Risk (0.797), and Online Purchase Intention and Product Risk (0.78). While these values are relatively high, they remain within the acceptable range, indicating no critical threat to construct distinctiveness. The results confirm that each construct is sufficiently distinct from the others, and there is no indication of multicollinearity or conceptual overlap. Thus, the measurement model demonstrates adequate discriminant validity.

Table 4: Heterotrait-Monotrait Ratio (HTMT)

	FR	OPI	PR	PSR	SOR	SR	TR
FR							
OPI	0.591						
PR	0.68	0.78					
PSR	0.553	0.625	0.631				
SOR	0.25	0.621	0.542	0.678			
SR	0.502	0.662	0.797	0.602	0.492		
TR	0.583	0.762	0.685	0.82	0.64	0.596	

Note: FR= Financial Risk, PR= Product Risk, SR= Security Risk, TR= Time Risk, SOR= Social Risk,

PSR= Psychological Risk, OPI= Online Purchase Intention

Reliability Testing

Reliability testing assesses the consistency of the assessment items for each variable. It validates that the items accurately represent the construct that they are meant to assess. In this study, Cronbach's Alpha and Composite Reliability (CR) were incorporated to measure the indicators in which the threshold value is > 0.70 which is shown in Table 5. All constructs show Cronbach's Alpha values ranging from 0.70 to 0.738, and CR values from 0.774 to 0.809. These values exceed the commonly accepted thresholds of 0.70 for CA and 0.70 for CR, indicating that each construct demonstrates acceptable to good internal consistency. This suggests that the measurement items reliably capture the underlying constructs, supporting the overall reliability of the measurement model.

Table 5: Reliability Testing

Construct	Cronbach's Alpha	Composite reliability
FR	0.718	0.799
OPI	0.738	0.789
PR	0.722	0.808
PSR	0.70	0.774
SOR	0.701	0.809
SR	0.724	0.801
TR	0.713	0.79

Note: FR= Financial Risk, PR= Product Risk, SR= Security Risk, TR= Time Risk, SOR= Social Risk,

PSR= Psychological Risk, OPI= Online Purchase Intention

Structural Model

Path Coefficients

Regression Analysis is used to inspect the path coefficients between the constructs in research framework. The structural model SEM in which regression analysis is used to test the suggested hypothesis. Furthermore, 0.05, or 5%, as the standard significance level for the p-values i.e. $p < 0.05$ is incorporated. Total of 06 hypothesis were developed to test (present in Table 6). The results of the hypothesis testing reveal several significant relationships between different types of perceived risk and online purchase intention. Specifically, Financial Risk (H1) has a small but significant effect on Online Purchase Intention ($\beta = 0.098$, $p = 0.049$), meaning it slightly influences consumers' buying decisions. Product Risk (H2) ($\beta = 0.159$, $p = 0.006$), Security Risk (H3) ($\beta = 0.114$, $p = 0.02$), and Time Risk (H4) ($\beta = 0.145$, $p = 0.01$) also show significant positive effects, indicating that these risk perceptions play a meaningful role in shaping purchase intentions. Interestingly, Psychological Risk (H6) has the strongest impact ($\beta = 0.220$, $p < 0.001$), suggesting that emotional or mental discomfort is a key factor influencing whether consumers decide to buy online. On the other hand, Social Risk (H5) did not have a significant effect ($p = 0.138$), depicting concerns about others' opinions or social consequences may not strongly influence online purchasing decisions in this context. Overall, five out of six hypotheses were supported, showing that most forms of perceived risk significantly affect consumers' intentions to shop online, with psychological factors having the most notable influence.

Table 6: Results of Path Analysis

Hypothesis	Path	Beta	T Value	P values	Result
H1	FR -> OPI	0.098	1.973	0.049	Supported
H2	PR -> OPI	0.159	2.738	0.006	Supported
H3	SR -> OPI	0.114	2.326	0.02	Supported
H4	TR -> OPI	0.145	2.589	0.01	Supported
H5	SOR -> OPI	0.087	1.483	0.138	Not Supported
H6	PSR -> OPI	0.22	4.076	0	Supported

Note: FR= Financial Risk, PR= Product Risk, SR= Security Risk, TR= Time Risk, SOR= Social Risk,

PSR= Psychological Risk, OPI= Online Purchase Intention

SRW= Standardize regression weight, ***P<0.05

DISCUSSION OF RESULT

This study purposes to discover the key aspects that are influencing consumers' perceived risk when making decision to purchase online. Furthermore, the study's objective is to investigate the association between consumers' perceived risks (FR, PR, SR, TR, SOR, PSR with consumers OPI. Consumers' perceived risk factors are expected to negatively impact their online purchasing inclinations (H1, H2, H3, H4, H5, H6). As per study findings, only five factors (H1, H2, H3, H4 & H6) have an extensive negative effect on consumer's intents to shop online whereas the social risk element (H5) is insignificant.

The first hypothesis H1 of the research (FR -> OPI) is supported which illustrate significant relation between FR and OPI (β=0.098, P<0.05). The result of H1 align with prior research (Ariffin et al., 2018) , which found that FR is a key factor in predicting online purchasing intentions. The study found a negative correlation between FR factors and OPI. As, consumers have a tendency to spend more money while browsing different websites that provide sales and discounts. High discounts can lead to unintended purchases, causing consumers to overpay. Financial risk profoundly impacts customers' intention to shop online.

The second hypothesis H2 (PR -> OPI) of the study is also supported which demonstrates significant and negative relation between PR and OPI (β=0.159, P<0.05). PR is described as a failure of product to perform as anticipated. According to earlier studies (Masoud, 2013; Zheng et al., 2012), PR has a negative correlation with the intent to shop through online platform. This conclusion is consistent with H2. Another study (Ariffin et al., 2018) also incorporated and supported the significant negative relationship between PR and OPI. According to them the limited availability of selective products on the internet makes it difficult for online consumers to find the same things as they can in physical stores. The quality of purchased goods also changed when shop through online website because it has a chance of product malfunction. Another drawback of e-commerce purchasing is that customers are unable to try on the product before purchase. As a result, these factors demonstrate that customer's OPI are easily influenced by PR.

The result of the third hypothesis H3 (SR -> OPI) depicts significant relationship with SR and OPI (β=0.114, P<0.05). The results of H3 also align with many studies that found a negative correlation between them. According to (Azizi & Javidani, 2010; Karnik, 2014) the global presence of internet suppliers increases purchasers' perceived security risk when internet safety is insufficient. Additionally, security is associated with the exposure of financial data, including account numbers, credit card numbers, and safe pin numbers which highly influence consumer's risk of security to shop online. One more study supported this hypothesis, according to (Ariffin et al., 2018) customers worry that their bank

account information, including the debit or credit card that they use to pay for online purchases, is not secure enough. Additionally, customers are concerned about the website's security and ease of hacking when they shop for clothing online. Customers are worried that using their search history, internet retailers may be able to get and publish their personal data in order to market and advertise similar goods. Hence, these factors demonstrate that consumer's propensity to purchase online is strongly influenced by perceived security risk.

The result of the fourth hypothesis H4 (TR -> OPI) is also supported, which shows significant and negative association between TR and OPI (β=0.145, P<0.05). The H4 is also supported by another studies (Zhang et al., 2011), in accordance with them, the TR has a significant impact on the purchasing decisions of online buyers. Customers discover that purchasing goods online can be time-consuming. This is a result of inadequate search engine optimization that fails to meet the needs of the targeted products. As a result, customers spend the majority of their time searching websites to fulfill their needs and wants. Furthermore (Ariffin et al., 2018) also evaluated that placing the order in a complicated way wastes more consumer's time. After placing their order, customers are impatient and want their things to arrive at their final location immediately. It can be summarized that customers' OPI is easily influenced by TR.

The outcome of the fifth hypothesis H5 (SOR -> OPI) represents non-significant relationship with SOR and OPI (β=0.087, P>0.05). This hypothesis was also not supported by another research as well. According to (Ariffin et al., 2018) there is no relationship between social risk and online buying intentions. Consumers shall not be unfavorably appraised or criticized as a result of their product (brand) selection. Since the decision to buy from an online retailer is entirely the consumer's, it demonstrates that family members' opinions or approval are not affected by online buying. Online buying does not affect the qualities of those around the consumer, as technology is becoming more accessible to people from all areas of life to buy online as per their taste. Therefore, it can be said that SR does not influence buyer's OPI.

The result of the sixth hypothesis H6 (PSR -> OPI) portrays highly significant relationship with PSR and OPI (β=0.22, P<0.05). Lastly, the result of H6 is relatable with earlier studies that found a negative relation between PSR and the desire to make an online purchase. Customers are concerned about the quality of online goods delivery. For instance, the goods is packaged inadequately, which ultimately results in a receiving package in poor condition. If a product fails to match promised expectations, customers may be disappointed and frustrated. Furthermore, consumers may become addicted to internet shopping due to the constant advertising of attractive discounts and deals. This leads to the conclusion that psychological risk effectively determines consumers' propensity to make purchases through the internet.

MANAGERIAL IMPLICATIONS

The current study has numerous managerial and practical implications. By better understanding the preferences and risk perceptions of Pakistani consumers, policymakers and local e-commerce enterprises can create policies and practices that reduce risk perceptions. The result reveals that in Pakistan Cash on Delivery (COD) is still the most practical and easy method for customers when purchasing online due to trust factor therefore, if online retailers and business focuses on promoting trust in digital payments with robust encryption technologies along with obvious security certifications may help users in gradually transitioning from COD to secure digital payments. Online businesses should enhance security and privacy measures to financial card information. Second, by identifying the risks and offering trade-in options for unsuitable products, internet sellers can decrease the financial risks that arise. Additionally, price should be competitive compared to other online retailers. To encourage online purchases, marketers can provide consumers with guarantees and warranties to lessen FR. To mitigate TR, online retailers should prioritize timely product delivery and offer a money-back guarantee for broken or incorrect items.

Moreover, by aligning their practices with customer expectations, this research will help small and medium-sized firms (SMEs), which occupy a substantial portion of Pakistan's digital economy. In the end, this will promote e-commerce reputation and long-term business growth.

LIMITATIONS AND FUTURE RECOMMENDATIONS

The current study has some of the limitations that will have some impact for future researchers. As, the study is based on specific perceived risks variables namely, FR, PR, SR, TR, SOR, PSR with OPI excludes other potential risk factors. Therefore, researcher may add other variables such as performance or delivery risk, which may also influence online purchase intentions. The study did not examine the moderating and mediating effects of perceived risk on OPI . Future research could examine how occupation, personality traits, and past experiences influence the connection between independent and dependent variables. Future research should consider the role of trust as a mediator. Furthermore, because the research approach is cross-sectional, it might not establish causal relationships but rather merely find associations between perceived risks and online purchase intentions. To more precisely examine cause-and-effect dynamics, longitudinal study would be suggested for future studies. Furthermore, the present research employs a quantitative research approach, collecting quantifiable data on customers' attitudes and perceptions of the risks associated with online shopping using surveys. Although this methodology allows for statistical investigation into the relationships between risk indicators and consumer's online purchase intents, it does not investigate qualitative aspects of consumer decision-making processes. Future scholar may use qualitative approach to better know the consumer's perspective. Lastly the finding of the study is restricted to customers in Pakistan, suggesting that the conclusions drawn could not be applicable in other areas with different technological, cultural, or economic factors. So future scholar may use this study with the same variables to identify the result in another region of the world.

SECTION A

Demographic information

The following information is strictly confidential and will only be used for research purpose. I will be grateful if you could kindly fill the required information.

1. **Gender**

   a. Male   ☐   b. Female   ☐

2. **Age group**

   a. 18-25   ☐   b. 26-30   ☐

   c. 31- 35   ☐   d. 36 or above ☐

3. **Education**

   a. Undergraduate   ☐   b. Graduate   ☐

   c. Postgraduate   ☐   d. Other   ☐

4. **Position**

   a. Student   ☐   b. Employee   ☐

   c. Job Seeker ☐   d. Retired   ☐

5. **Level of Online Shopping**

   a. Beginner ☐   b. Intermediate ☐   c. Expert ☐

6. **Frequency of Online Shopping per year**

   b. Less than 3 times ☐ b. 3-5 times ☐

   c. 5-10 times ☐ d. More than 10 times ☐

SECTION B

Please read the following statements and **TICK (☐)** the response that closely represents your opinion. The statements are anchored on the following 5 point Likert Scale:

1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree

1 = Strongly Disagree

2 = Disagree

3 = Neutral

4 = Agree

5 = Strongly Agree

Financial Risk	1	2	3	4	5
1. I tend to over spend					
2. I might get overcharged.					
3. Product may not be worth the money I spent					
4. Shopping online can involve a waste of money					

Product Risk	1	2	3	4	5
5. I am unable to find the desired product					
6. I might not receive the exact quality of a product that I purchased					
7. The size description may not be accurate					
8. It is difficult for me to compare the quality of a					

similar product					

Security Risk	**1**	**2**	**3**	**4**	**5**
9. I feel that my credit or debit card details are not secured					
10. The website can be insecure					
11. The online shopping company may disclose my personal information					
12. The online shopping company may disclose my personal information					

Time Risk	**1**	**2**	**3**	**4**	**5**
13. Buying a product online can involve a waste of time					
14. Difficult to find appropriate websites					
15. Finding the right product through online is difficult					
16. Impatient to wait for the product arrived					

Social Risk	**1**	**2**	**3**	**4**	**5**
17. The purchased product may result in disapproval by family					
18. Online shopping may affect the image of people around me					
19. Online products may not be recognized by relatives or friends					
20. Online shopping may make others reduce my evaluation					

Psychological Risk	**1**	**2**	**3**	**4**	**5**
21. I cannot trust the online company					
22. I fear that the product will not be delivered appropriately.					

23. I could be frustrated if I am dissatisfied with the quality of the product					
24. I may get addicted to online shopping					

Online Purchase Intention	1	2	3	4	5
25. I intend to purchase online whenever possible					
26. I intend to use online purchasing when the service becomes widely available					
27. I will probably buy products online					
28. If there are good and secure online purchasing channels, I will recommend them to others.					

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