

ORIGINAL CONTRIBUTION

Selling Online Grocery Possibilities in a Pakistani Setup: A Consumers' Perspective

Sana-ur-Rehman¹*, Sohail Aslam², Arooj Fatima³, Talal Tahir⁴, Hasin Tariq⁵, Afifa Tariq⁶

^{1,4,5,6}Department of Business Administration, NFC-Institute of Engineering and Technology, Multan, Pakistan

^{2,3}Department of Project & Operations Management, The Islamia University of Bahawalpur, Bahawalpur, Pakistan

Abstract— Rapid change in technology and internet penetration have helped to grow the e-shopping trend in Pakistan, but still, the majority of the population prefers purchasing from physical stores. This research is an effort to determine the factors and its influences on the consumers' online groceries purchase intentions in a Pakistani setup. Web-based survey of data collection from 307 respondents coupled with correlation & regression analysis techniques reveals that convenience, price, information quality and perceived risk factors have varying impact on consumer's online purchase intentions. Findings may help the online grocery marketers to consider the mentioned factors seriously in order to attract consumers flow towards online purchase in a rapidly changing technological landscape.

Index Terms— E-commerce, Online purchase, Grocery markets, E-shoppers, Retailing, Pakistan

Received: 7 February 2024 ; **Accepted:** 4 April 2024; **Published:** 28 May 2024



Introduction

The Internet's most tremendous commercial success lies in its widespread use for online trading and related communication. Nevertheless, globally, the internet has gained a remarkable marketplace for online shopping. Online shopping has modified the way goods and services are acquired, by letting consumers to shift purchase from traditional physical stores to virtual marketplace.

Since the procedures for acquiring information, carrying out transactions, and handling logistics have fundamentally changed, this shift necessitates the deeper understanding towards modifications in consumer behavior. The trend of online grocery shopping is a relatively new concept in Pakistan but gaining momentum (Qureshi, Fatima, & Sarwar, 2014). Numbers of online stores in Pakistan are offering products at competitive market prices such as Daraz, Goto, Metro, GrocerApp, Krave Mart, Imtiaz Store, Carrefour, Naheed Supermarket etc. These all provide competitive pricing and a wide range of products, such as snacks, fresh fruits and vegetables, meat, chicken, fish, frozen dinners, and numerous other items to customers. Such stores have user-friendly websites and apps for placing orders and provide free shipping if consumers' purchases exceed a certain amount.

In Pakistan online grocery shopping, being a convenient and relaxed experience, allows consumers to save time and effort by easily comparing prices and products' features. It also helps in finding the best deal without any trouble. Several research studies (Kim & Park, 2013; Ligaraba, Nyagadza, Dörfling, & Zulu, 2023) have been conducted to examine the factors impacting the consumers' intentions to purchase groceries online. Some consumers may be doubtful towards online grocery shopping mode due to payment risks (i.e., credit

*Email: dr.sana.urrehman@gmail.com

card fraud) and concerns about the quality of items (Kian, Loong, & Fong, 2018). In addition to this some consumers consider price and ease of purchase as being two important attributes linked with groceries online purchase (Tarmazi, Ismail, Azmin, & Bakar, 2021). The main focus of this study is to identify such factors that influence consumers' intentions for online grocery shopping in the context of a developing country, such as Pakistan.

Literature Review

In today's modern age, the internet has allowed almost every business to operate boundary free without any limitations. Buyers may place orders anytime, anywhere, and for anything needed without any hassle (Li & Gery, 2000; Waldo, 2000). Virtual marketplaces almost cater to all kinds of shoppers with varying needs and wants of tangible or intangible products. Apparel, consumer electronics, books, beauty & personal care, and décor are goods capturing increased market share for online shopping, but an emerging products category i.e. groceries is gaining popularity among most urban shoppers.

Grocery includes edibles such as flour, sugar, tinned foods, and other commodities that are purchased frequently from a supermarket, departmental store and Kriana store, etc (Montejo & Adriano, 2018; Rout, Sahoo, Bhuyan, Tripathy, & Smrutirekha, 2022). Traditionally, groceries are bought from a set-up where the consumer may inspect the product before purchase (Klein, Ettenson, & Morris, 1998). To overcome customers' natural instinct of checking or examining groceries physically, e-grocers are trying to develop very attractive websites for a natural feel and look. Moreover, companies try to have an omni-channel strategy by placing physical and online options concurrently (Awais, Yasin, & Raza, 2022; Ligaraba et al., 2023).

Global and regional outlook

Out of \$23.3 trillion GDP in 2021, \$6.5 trillion is contributed by the retail sector in the United States of America. Out of which \$958 billion is attributed to e-commerce (Statista, 2022). The sales of US retail corporations with assets of \$50 million and above totaled \$1025.8 billion only in second quarter of 2023, while profit totaled 52.5 billion i.e. \$18.9 billion higher than \$ 33.6 billion recorded in 1st quarter of 2023 (Bureau, 2023). Five leading e-grocery companies (Walmart, Amazon Fresh, Whole Foods Market, Kroger, and Instacart) of the United States represented two-thirds of the grocery market in 2022. Globally rapid mushrooming of e-grocery companies is attributable to fast penetration of internet usage. In 2022, 91% of the EU population (16-74 years) used the internet of which 75% purchased goods or services online. The e-shoppers grew 75% in 2022 with respect to 55% growth in 2012 (Eurostat, 2023).

One of the reasons for such phenomenal ecommerce growth is the COVID 19 pandemic. People shifted towards e-commerce for groceries due to safety issues and lockdowns.

Pakistan, being the fifth populated country of the world (Bank, 2023) with 241.49 million of population, and 62.8% of literacy rate has a great potential for e-grocers to buy online (GOP, 2023). Wholesale and retail sector, being the largest of Pakistani economy, remained Rs13tn in FY22 with 20.7% of the country's GDP (SBP, 2023).

Most of the retail industry in Pakistan works on traditional patterns but few have started selling online including grocery and food items. Consumers are more willing to accept online shopping as being participative in a new trend.

Some of the leading Pakistani retailers, as shown in Table 2, have started selling online.

Pakistan being 46th largest market for e-commerce has generated \$5.2 billion of revenue in 2023 (ITA, 2024). But the country's online grocery industry is in its infancy stage and has great potential to grow and flourish in the near future. E-commerce growth is facing particular challenges too, such as logistics difficulties, payment barriers, and limited internet penetration. However, it has been observed that some of the retailers investing in e-commerce business models eventually benefit in the near future.

Table I
Prominent players in online market

Company	Country of Origin	Started Online
Tesco	UK	1997
Amazon	USA	1995
Carrefour	France	2000
Instacart	USA	2012
Ocado	UK	2000
Walmart	USA	2000
Alibaba	China	2010

Information taken from respective websites

Table II
Retailer’s chain in Pakistan market

Company	Country of Origin	Starting Year	Started Online Service
Daraz Mart	Pakistan	2012	2012
Al-Fatah	Indo-Pak	1941	Not confirmed
Metro#	Germany	2007	Not confirmed
Carrefour	France	2009	2009
Keryana.pk	Pakistan	2018	2019
GrocerApp+	Pakistan	2016	2016
Chase up	Pakistan	1984	Not confirmed
Pandamart (Foodpada)	Germany	2012*	2020
Naheed Supermarket	Pakistan	1970	2018@
Imtiaz	Pakistan	1955	Not available

Formerly known as Makro Habib Pakistan started in 2005, * Foodpanda, +only online, Source company’s linkIn page

Technology Acceptance Model (TAM)

In today’s modern age of 21st century consumers are much more exposed towards technology than in the previous century. This greater exposure has led toward adaptation of technology at a greater pace. Technology Acceptance Model (TAM) has helped to understand the consumer decision making process up to greater extent (Bauerová & Klepek, 2018; Camilleri & Falzon, 2021). Technology Acceptance Model (TAM) suggests that consumers’ beliefs and attitude about accepting new technology depend upon perceived ease-of-use and usefulness (Davis, 1985; Ha & Stoel, 2009). Perceived usefulness determines the level or extent to which a technology is helpful in enhancing user performance or satisfaction. In comparison perceived ease-of-use determines how the user will be better off and free from purchase-related hassles/efforts by using the technology. Prior studies discussing the social psychology theories have used TAM as a base for understanding the framework in the context of consumer’s buying behaviors (Ha & Stoel, 2009; Legris, Ingham, & Colletette, 2003). Contrary to this Shang, Chen, and Shen (2005) shows that perceived usefulness is not antecedent of on-line shopping while fashion or a cognitive absorption experience on the web are more critical factors.

Theory of reasoned action

The Theory of Reasoned Action (TRA) developed by Ajzen and Fishbein (1980) relates to a person’s intentions and subsequent actions in a specific situation. This theory helps to understand consumers’ forecast behavior by considering control and information variables as factors influencing consumers’ behavioral intentions (Parkinson, Russell-Bennett, & Previte, 2018). The TRA elaborates the determinant of consumer intentions and actual behavior when engaging in a specific task (Ajzen, 1985, 1991). Under the light of TRA the current study highlights the significance of convenience, price, information quality and perceived risk factors as important predictors of consumers’ purchase intentions.

Hypothesis development

Consumers’ acceptance for online purchase might be motivated by intrinsic or extrinsic factors. Intrinsic factors include such motivational elements which get the internal locus of causality, such as needs for interest-excitement, social interaction, entertainment, self-determination, accomplishment, and flow (Shang et al., 2005). Some users initially shop on-line just to experience the process due to social influence (Shang et al., 2005) or just to have a feel of a certain level of accomplishment. The term flow refers to the state of cognitive engagement or Playfulness a buyer is in during the interaction with online interfacing gadget (Webster & Ho, 1997).

Primary determinants of TAM are extrinsic motivational factors, such as, perceived ease of use and perceived usefulness. Perceived ease of use may include convenience, broader selection of items, price comparison, lower search cost, trust, more information, (Jam, Khan, Zaidi, & Muzaffar, 2011; Shang et al., 2005). Considering the importance of intrinsic and extrinsic factors, focus of the current research is limited to convenience, price, information quality, and perceived risks as extrinsic factors.

Convenience

Convenience is a critical factor that affects consumers’ choices. Experts have found that online shopping is preferred by many due to its convenience in saving time, efforts and, or fatigue. It also plays a role in decreasing the cost of researching and completing a purchase process quickly. Online shopping provides such a perfect platform and environment where purchase is hassle free.

In 2018, Wei and his team revealed that individuals who see online shopping as a peaceful and easy experience are more likely to acquire products through the Internet (Wei, Wang, Zhu, Xue, & Chen, 2018). Online shopping is enhanced by various factors that contribute to its convenience, leading to a positive impact on people's purchase intentions. Chen and Dubinsky (2003) discovered that customers who perceive online shopping as more convenient report higher satisfaction levels in their online shopping experiences, which in turn increases the likelihood of making purchases. Therefore, convenience might have a higher weight among other determinants driving people to make online purchases.

Convenience has played an essential role in consumers' online purchase intentions as many factors take part in buyers' purchase decision. Some of them are an easy-to-use interface, speedy delivery service, more than one payment method, and relevant and accurate product information. As a result, it is suggested that convenience should be prioritized as main tool for selling online therefore it is proposed that:

H1: Convenience has a positive impact on consumers' online purchase intentions.

Price

Price is considered one of the notable factors influencing consumer behaviors. What motivates consumers most during the buying decision making process might be price. High prices may result in switching towards substitute options. Online market serves best in a situation where a purchase decision requires additional support in the form of internet surfing. Numerous Search engines & Artificial Intelligence have made it feasible for customers to surf a variety of brands and pricing options and make quick comparisons.

In online shopping, consumers are much concerned about price variations. A slight fluctuation in price may change consumers' purchase decision. Price competition plays a significant role in changing consumers' decisions, as consumers can go through different websites to compare prices with just one click. Retailers have to be careful while forming pricing strategies to keep balance between profit generation and keeping up the competition.

Past studies have highlighted the importance of pricing techniques and their impact on consumers' purchasing decisions. A study conducted by Chai and Yat (2019) provides evidence that price has an unfavorable impact on consumers' purchase intentions. They state that the higher the price, the lower the possibility of consumer purchase. According to Liu and Li (2019) increased pricing can make consumers less likely to buy online, particularly if doubtful about the quality of the product. These studies show that prices, especially soaring, may adversely affect consumers' purchase intentions. Based on the above discussion following is proposed:

H2: Higher Price has a negative impact on consumers' online purchase intentions.

Information quality

The quality of information, in the context of online purchase, revolves around a detailed explanation regarding the product itself, its features, benefits, images, suggestions, general reviews, and feedback from previous customers. The quality of information has a positive impact on consumers' online purchase intentions as it influences consumer perceptions of products and sellers alike. When consumers investigate a website for items, they depend on the provided data to make well-informed purchasing choices. Therefore, authenticity and richness of the information on behalf of an enterprise becomes an important aspect to look at (Huang & Benyoucef, 2013).

Detailed information for better understanding of the products and its features reduces risk of losing customers and increases confidence in a purchase decision. Wei et al. (2018) found that giving pertinent product information has always positively affected consumers' online purchase intentions. Their study also found that quality information about products improves consumer perceptions of product value and diminishes the precarious attitude attributed to online shopping. Albattat, Yajid, and Khatibi (2019) found that providing quality information increases consumer satisfaction towards online shopping experience leading to repeat purchase intentions. Therefore, based on the above discussion, the following hypothesis is formulated:

H3: Information quality has a positive impact on consumers' online purchase intentions.

Perceived risk

Perceived risk is the foremost hurdle towards the buyers' online purchase intentions. Perceived risk has a negative impact on the buyers' online intention for buying groceries (Chaiyakot, Visuthismajarn, Singtrakul, Pakongsup, & Chomphusri, 2022; Hussain, Ahmed, Jafar, Rabnawaz, & Jianzhou, 2017). Hussain's study elaborates that people link risk with product freshness, quality, delivery issues, payment methods, and trust on seller (including confidentiality). Perceived risk factor becomes more evident when products sold online are perishable such as fruits or vegetables. People are worried about the quality, freshness & delivery time of the product while buying them online (Han & Kim, 2017).

Therefore, online sellers should take a number of precautions to cater consumer concerns and eliminate risks by improving quality standards, providing detailed product information, and incorporating trustworthy delivery services. So summarizing the above information following is hypothesized:

H4: Perceived risk has a negative impact on consumers' online purchase intentions.

Ligaraba et al. (2023) divides factors influencing consumers' online shopping intentions in to two categories; system factors (Perceived ease of use and Perceived usefulness) and marketing factors (Social influence, Accessibility, Information quality, risk, and peer reviews). Price missing out of these factors could be considered under marketing head, as an influencing factor. Therefore, a conceptual framework is proposed as shown below.

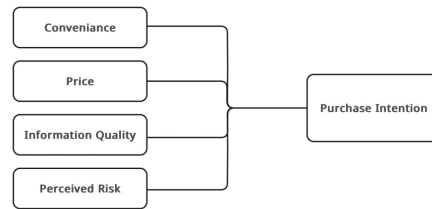


Fig. 1 Conceptual model

Methodology

The quantitative data have been collected, primarily with the help of questionnaire, from university students by using online platform of Microsoft Forms. The data was collected anonymously and voluntarily from young individuals, as the twenty-first century young population (Generation Z) is more exposed to online mediums. Generation-Z (1995-2002), being young and time-starved, is willing to pay a premium to a product or service compared to preceding generations (Ligaraba et al., 2023; Rue, 2018). Individuals from Multan (most populated city of the South Punjab) and Lahore (capital of the Punjab province) cities of Pakistan were the target of this study. A pilot study with fifteen BBA students was conducted to test the questionnaire's accuracy and reliability. For a full scale research survey, a link was circulated among different students' WhatsApp groups by engaging BBA students of NFC-IET Multan. Looking at the capacity of Microsoft Forms, 316 responses were received, out of which 9 questionnaires were discarded because of unrelated cities. Total of 307 valid questionnaires' data was used for onward analysis. Questionnaire consists of three sections to know different aspects of respondents' information. The first section includes basic information about the individuals such as gender, age, education, city of residence city, and monthly household earning ranges. The second section comprises respondents' previous purchase experiences, and the third section contains questions related to the variables to be answered through the Likert scale ranging from '1' strongly disagree to '5' strongly agree. Questions related to each variable are taken from the relevant literature. Online purchase intention and its antecedent's related questions are taken from the work of Wei et al. (2018) and Bebbler, Milan, De Toni, Eberle, and Slongo (2017).

Analysis and Results

Descriptive statistics is utilized to sort out data and delineate measured variables (Gall, Borg, & Gall, 1996). The data is primarily collected from university students predominantly aged from 21 to 25 years (52% male & 48% female). Most respondents are from Multan (71%) and Lahore (29%) city of Pakistan. Pearson correlation analysis is used to access the strength between predictors and dependent variable (Sekaran & Bougie, 2016) as shown in Table 3.

Table III
Correlation analysis

	Mean	SD	P. I	Convenience	Higher Price	Info. Quality	P. Risk
P.I	3.5527	.65154	0.636				
Convenience	3.5136	.80581	.511** (.000)	0.691			
Higher Price	3.1629	.75280	-.385** (.000)	.419** (.000)	0.582		
Info. Quality	3.4658	.70415	.411** (.000)	.400** (.000)	.533** (.000)	0.633	
P. Risk	2.9685	.86744	-.305 (.067)	.337** (.000)	.298** (.000)	.224** (.000)	0.620

*** Correlations significant at 0.001 level; ** at 0.01 level, *at 0.05 levels respectively, N=307 Cronbach's Alpha values in bold are mentioned diagonally

Reliability, as a degree of accuracy of measures, tells the internal data consistency reflecting measure's error freeness (Hair, Anderson, Babin, & Black, 2010; Zikmund, 2000). The reliability values of all constructs are measured on the bases of cronbach's alpha. Cronbach's Alpha values between 0.41 and 0.7 show a qualification for moderate level of reliability (Sekaran & Bougie, 2016). Constructs' values of cronbach's alpha shown diagonally in Table 3 demonstrate an appropriate level of reliability. Regression analysis is a powerful technique for measuring dependency between variables. It investigates the nature, strength, and importance of relationships between indicator and outcome parameters. Regression and correlation analysis are used for hypothesis testing (Table 3, 4). Purchase Intentions (criterion) with correlation coefficient (r) of 0.511 strongly depends upon Convenience (predictor) with $b=0.413$, $p < 0.001$ level of significance. Hence H1 proved. Purchase Intension negatively correlate (0.385) and strongly depends ($b= -0.248$ at $p < 0.001$) upon higher price, therefore proving H2. This Indicates that in an online purchase setup increased price will have negative impact on customer's purchase intentions. Furthermore, Purchase Intensions significantly correlates (0.411) with Information quality and also strongly depends upon ($b= 0.381$ at $p < 0.001$) Information quality as shown in Table 4, hence proving H3. Finally, Purchase Intensions significantly correlates (-0.305) with Perceived Risk. The regression analysis indicates it's strong dependency upon ($b= 0.079$ at $p < 0.05$) Perceived Risk, hence proving H4, as shown in model 4 of Table 4. Coefficient of determination (R^2) measuring the proportion of variance from mean value of dependent variable explained by the predictor. In the case of perceived risk value of $R^2 = 0.43$ indicates a reasonable explanatory power of predictor in regression. The overall predictive power R^2 in a multiple regression, shown in Model 5 of Table 4, indicates simultaneous effect of all predictors on criterion.

Table IV
Regression models

	Model 1	Model 2	Model 3	Model 4	Model 5
Constant	2.101	2.774	2.234	3.319	1.982
Convenience	0.413*** (.040)				0.371 (.183)
Higher Price		-0.246*** (.048)			-0.049 (.054)
Info. Quality			0.381 (.048)		0.169 (.054)
Perceived Risk				-0.079 (.043)	-0.056 (.039)
R^2	0.361	0.081	0.169	0.43	0.285

***significant $p < 0.001$ level, ** $p < 0.01$ level, * $p < 0.05$ level $N=307$ Values in parenthesis are Stand. Error, P.I is a Dependent Variable

The Table 5 mentioned below summarizes the results of the hypothesis testing through various analytical methods.

Table V
Hypothesis tests status

Hypothesis	Hypothesized Relationship	Results
H1: Reason	Convenience has a positive impact on consumers' online purchase intentions. (Table 4: Result shows that the convenience has a positive impact on online purchase intention with regression coefficient $b= 0.413$)	Accepted
H2: Reason	Higher price has a negative impact on consumers' online purchase intentions. (Table 4: Result shows that the higher price had a negative impact on online purchase intention as indicated by of regression co-efficient, i.e. = -0.246)	Accepted
H3: Reason	Information quality has a positive impact on consumers' online purchase intention. (Table 4: Regression model 3 shows that the info quality has a positive impact on online purchase intention as mentioned by regression co-efficient equal to 0.381 with standard error of 0.048. So hypothesis is accepted.)	Accepted
H4: Reason	Perceived risk has a negative impact on consumers' online purchase intentions. (Table 4 result shows that the perceived risk has a negative impact on online purchase intention as we have got a regression coefficient value of -0.079, therefore hypothesis is accepted.)	Accepted

Conclusion, Recommendations & Limitations

Conclusion

This research is conducted to determine and understand the determinants of consumers' online grocery purchase intentions. This study finds that consumers want to purchase online under certain conditions where certain factors play a very important role namely convenience, price, information quality, and perceived risk. Where the price and perceived risk have a negative relationship with purchase intentions towards grocery purchase, which concludes that if the price and perceived risk decrease, there will be a positive response from consumers in terms of higher purchase. Price and perceived risk are such fundamental factors that may lead to instant effect at a company's sales. Convenience and information quality have a positive relationship with purchase intention. When consumers get a greater level of convenience and information from online grocery sellers they may go for repeat purchase. Grocery merchandisers may need to enhance the true information dissemination process in a more convenient way. Website information quality may play a very important role in this context. This research gets insights from the Technological Acceptance Model in terms of drawing a nexus between the online grocery shopping intentions and technological support provided from e-commerce.

Recommendations

At present e-commerce in Pakistan is still at the early stage of adoption and it's not surprising that people are wary of making purchases online. Based on the findings of this research it is suggested that existing established and emerging e-commerce grocery businesses should include/incorporate relevant and credible product details. Companies should use an advanced and secure networking mechanism to reduce clients' personal information disclosure threats. Sellers need to deliver the products as shown or promised to deliver on e-commerce platforms and should not set the prices of products much higher than the physical store prices.

Limitations

Although our focus was in two Pakistani cities (Multan and Lahore), a separate research is required to extend same research in other cities of the country. This may help to reduce sample biasness because current study may not be measuring the attitudes and preferences of consumers in different parts of Pakistani buyers. As the result are of the small sample size, limited segment of society and geographic coverage, the study's findings may not apply to the entire population of online grocery consumers. Because consumers may have offered socially desirable responses rather than their actual behavior and attitudes toward online grocery shopping, an experimental research design might be employed to collect data, which may help to reduce the limitations in terms of representativeness and in-depth information.

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