

IMPACT OF GAMIFICATION AND PERCEIVED RISK ON ONLINE CONSUMER'S BUYING INTENTION IN MULTAN

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DOI: <https://doi.org/10.5281/zenodo.18276711>

Received	Accepted	Published
22 November 2025	03 January 2026	17 January 2026

ABSTRACT

Perceived risk concepts are applied to various consumer behaviors, but it has shifted towards emphasizing high risk to explain consumer concerns about engaging in various online buying activities. The role of perceived risk as an indirect influenced on the consumer's online buying intention reveals that attitude is affecting their willingness to buy. Gamification attracts customers and it is naturally linked with consumer behavior. Perceived risk and gamification along with other factors are affecting the consumer behavior towards buying decisions. Therefore, this study planned to investigate the factors affecting online buying intentions of Pakistan online shopping customers. This study used Technology Acceptance Model (TAM) and Theory of Planned Behavior (TPB) for investigating the buying behavior of online customers. Data was collected from Multan within the age group of 18-34 using snowball sampling technique for a sample of 256 online buyers. Structural Equation Modelling (SEM) was used to analyze the data. The results indicate that attitudes, subjective norms, perceived usefulness, and perceived ease of use all have an impact on consumers' intentions to purchase online. Risk perception has a detrimental effect on consumers' intentions to purchase. Gamification has a beneficial effect on consumers' intentions to purchase. Therefore, the sellers must increase client trust in order to enhance such an intention. Vendors must have a clear and understandable policy on warranty, compensation, and switch customer complaints in order to achieve this.

Keywords: perceived risk, intention, Consumer Behavior, Gamification, E-Commerce

INTRODUCTION

Customers have access to a whole universe of experiences and opportunities because of online shopping. The marketplace is incredible due to online shopping, where various goods and services are provided at different prices. Many consumers are willing and able to purchase online while others are afraid of several forms of risks. The internet is a massive network that was developed by joining several networks. All users connected to that to use it as forum. As of January 2022, there were 82.90 million internet users in Pakistan. The Internet penetration rate in Pakistan was 36.5 percent of the total

population at the beginning of 2022 (Kemp, 2022). The Internet gives firms a chance to sell their products effectively and efficiently. The words "online environment" and "online marketing" are also used in this context. Despite having different viewpoints, both are related to the same idea. The opportunity to purchase from home or the office, convenience, and comfort have all contributed to the growth in popularity of online shopping over the years. According to Dawood (2019) The ecommerce industry has been operating for over 18 years in Pakistan. E-commerce and digital businesses are expanding significantly in Pakistan. Over time,

this has helped the area become more accessible to new market opportunities. The world has developed into a global marketplace where individuals from other continents may easily purchase goods and get them within a few of months. Online shopping is most convenient and time-saving method of shopping. Customers may buy an item with a click provided they have a specific list of items they wish to buy. Customers may utilize the time they save for other tasks and activities. Fuel prices fluctuate every day, but their reasons for buying do not vary despite of how high the price is. One benefit of online shopping is that purchases may be done from home or the office, eliminating the need for transportation and reducing the need for consumers to worry about fuel expenditures. Online shopping is inappropriate for customers who want to touch things, see, and try the product since this is not possible. Many buyers may find it frustrating because online retailers only provide product descriptions and photos. Online shopping need patience while you wait for the item to be delivered to your doorstep, which might take up to 2-3 days depending on where you purchased it. However, buying a product from a typical retail shop allows customers to use it right away, which may be pleasant. Accessibility of shopping and ease also stimulate customers to make online purchases. Customers can purchase from the convenience of their homes. They can also select from a variety of delivery alternatives and take advantage of a more customized buying experience.

Consumer behavior is the study of individuals, groups, or organizations and the processes they use to select, secure, and dispose of products, services, experiences, or ideas to satisfy needs and the impacts that these processes have on the consumer and society (Vijayalakshmi and Mahalakshmi, 2013). The consumer behavior of each individual differs relying on decisions about what to buy from others that are influenced by buying habits and selection that are influenced by psychological and social elements that affect the decision-making process. Online consumer behavior is the process by which consumers make decisions about purchasing products in e-commerce. Expectations such as product availability, delivery visibility, affordable delivery and, more

recently, an easy shopping journey all influence how consumers decide to shop online (and whether they remain loyal customers when they shop) (Wenzl, 2021). There are different buying behaviors which are categorized. Extended decision making, restricted decision making, buying patterns, and variety seeking buying habits (Maga, n.d.).

It is better to realize the consumer behavior for companies because marketing strategy and planning should be according to market research of target consumers (Camilleri, 2017). The virtual atmosphere has several distinctive attributes which offer great prospects to evolve better marketing solutions (Gatautis and Vitkauskaite, 2009). Consumer behavior is influenced by the link between the traits of personal information systems and the features of the task environment, as the opening statement illustrates. The methods used by consumers to make decisions are positive in nature and created by the consumers themselves (Bettman *et al.*, 1998). As well as the circumstances of the specific external environment (such as the method in which information is presented or the time frame available) in which the decisions are completed (Bettman and Kakkar, 1977; Bettman *et al.*, 1993; Coupey, 1994).

The environment and the consumer's personality are uncontrollable factors that always take priority in any online transaction, but some factors are in our control, such as the medium of exchange, the medium of product information, features of the products or services, and merchant or inventory characteristics. There are more aspects that can influence this buying decision, such as the ability to create trust, an appealing website, and complete and accurate information about the products and services. Numerous elements, including social, psychological, environmental, and marketing aspects, as well as individual, family, and cultural factors, affect consumer behavior.

In the context of consumer behavior, the concept of perceived risk is applied but it has turned to the use of high risk in explaining consumer doubts about the online use of various shopping activities (Mitchell, 1999). Perceived risk has an indirect effect on the consumer's online buying intention, which affects consumer willingness to buy (Heijden *et al.*, 2001). The perceived risk is determined by

the reliability of the stores, which includes the goods to be bought. This indirect effect of the perceived purchase risk is considered, with an emphasis on how the perceived risk might be affected if the store location is selected, among other things of the shopping situation.

Perceived risk was not used in online buying behavior, but this concept may provide a useful framework in which you can identify and define barriers to online shopping (Forsythe and Shi, 2003). Perceived risk appears as one of the key factors that restrict customers from buying online. Consumer risk perceptions was one of several variables examined in a research on attitudes about online shopping and the internet, and it was determined that this perception was a key determinant of customers' willingness to buy online (Teo, 2002). According to the research, the kind of goods being bought, affects how experts and nonexperts perceive risk. Numerous studies have looked into perceived risk, and they have all found a bad correlation between it and consumers' intentions to make online purchases.

Perceived risk affected buyers' decision to adopt e-commerce (Crespo *et al.*, 2009). Several aspects of perceived risk were classified as financial, social, time, psychological, and privacy risks. In order to determine how each variable related to the others, they used a technology acceptance model. Both online and in-store customers who had never bought before were involved in the research.

The study's findings support the theory that customer perceived risks associated with the website have a negative impact on consumers' intentions to make purchases online while positively influencing their general attitude toward the system. The technology acceptance model was widely used in a prior study to explore the connection between perceived risks, usefulness, ease of use, purchase intentions, and actual online buying behavior (Gefen and Straub, 2000). The popular e-commerce model is called TAM.

The connection between customers' purchasing intention and perceived risk, over several e-retailer websites using the Technology Acceptance Model (TAM) (Xu *et al.*, 2021). The study findings indicate that both direct and indirect consumer intentions to make online

purchases are significantly influenced by perceptions of perceived usefulness, perceived ease of use, trust, and perceived risk. Additionally, it was shown that customers' perception of risk while purchasing online was greatly decreased by trust. Customer acceptance of e-commerce and the role of trust and perceived risk using the Technology Acceptance Model (TAM) (Pavlou, 2003).

Different types of risks are social risk, financial risk, physical risk, time risk and psychological risk.

Financial Risk: Kumar and Dange (2014) executed a research with the aim of analyzing the many aspects of perceived risk that affect consumers' online purchasing decisions. According to the study's findings, consumers' attitudes regarding online shopping were most significantly influenced by their perceptions of the risks associated with time, money, social interaction, and security while buying online. On the other side, the two risk concerns for online buying that have harmed non-buyers are financial risk and security risk. Their research also identified two additional hurdles for shop customers: psychological danger and physical risk.

TAM was utilized in a different recent research, to investigate the various aspects that affect consumers' desire to make an online purchase (Babar *et al.*, 2014).

Social Risk: Social risk refers to what friends, family, and other loved ones think when a consumer makes an online purchase. Since Sheth (1981) demonstrated that social risk might cause customers to question whether to embrace their online shopping as an innovative medium, the significance of social risk has started to be recognized.

If consumers start thinking about the value of online shopping and realize that most of their friends and family think it's stylish and acceptable, they run the danger of being persuaded to make purchases.

Time Risk: In addition time risk is defined as the amount of time and effort lost during the return or exchange of the goods, as well as any technical issues like a slow internet server (Hassan *et al.*, 2006). Due to the difficulties in navigating the website, placing the purchase, and waiting for the goods to arrive, the time risk

was interpreted as a time loss (Forsythe and Shi, 2003).

More causes of time risk have been identified by Littler and Melanthiou (2006), including bad website design.

Psychological Risk: In the case that an individual makes a bad product, e-store, or service decision, psychological risk simulates that person's self-disappointment (Ueltschy *et al.*, 2004). Comparatively speaking, males tend to shop less than women do. However, this gender trend is somewhat different while purchasing online since more men purchase because it is more convenient for them (Zhou *et al.*, 2007).

Privacy Risk: Privacy risk is the risk that personal information may be lost or used inappropriately, or that it will be obtained unlawfully and without authorization. The biggest issue that internet marketing portals are experiencing is the dissemination of clients' personal information online without their consent. Tsai and Yeh (2010) look at the impact of privacy policy exposure and privacy protection concerns on online purchasing choices.

Online users can be classified by internet consumers (those who shop online) and internet browsers (those who browse the Internet to find a product / service but have not purchased online). As a potential shopping center of tomorrow, the Internet offers consumers a number of advantages over conventional sales channels. The Internet stores vast amounts of information, acts as a transactional venue, and provides a better understanding of information than a catalog (Lukas and A., 1997). Perceive risk theory used to describe consumer behavior. Numerous studies have examined at how risk affects traditional purchase decisions (Taylor, 1974).

Perceived risks such as "nature and amount of risk sees the buyer in some thought purchase decision". We describe the perceived risk of online shopping as a fixed expectation of losing an online consumer when considering purchasing something online (Cox and Rich, 1964). The e-commerce is popular in the world in several forms like business to direct, business to business, business to consumer and consumer to consumer.

Analysts predict that gamification, which is defined as the use of game mechanics, dynamics, and structures to drive desired behavior, will

become a multibillion-dollar industry. It has made its way into industries including marketing, politics, health, and fitness (MacMillan, 2011). Gamification is often used as a clever strategy to build a company or product. For instance, by visiting real businesses and "checking in" on the mobile app, users may earn badges, deals, and other rewards. Games that encourage healthy lifestyle choices are also starting to appear.

But gamification's potential extends beyond promoting a healthy lifestyle and using it as a marketing tool (Lee and Hammer, 2011). Volunteers spend a lot of time improving their problem-solving abilities within the framework of the game (Gee, 2008). Through prolonged play, they learn the value of increasing usage and develop character traits like perseverance, resilience, and innovation. Purchase intention means consumer planned behavior that he or she willing to buy this product (Ajzen, 1991). Consumer purchase intention is the major problem in e-commerce development (Dehua *et al.*, 2008). Purchase intention is analyzed together with other attitudinal measures used to predict actual purchase behavior (Axelrod and N, 1968).

A new method of buying with new customer needs is online shopping. Every client has different tastes and product needs, thus it's crucial for all online sellers to recognize these consumers (Hasslinger *et al.*, 2007). Online visibility, online store credibility, information comparability, payment security, privacy, website interface, convenient time, educational level, and network information are just a few of the variables that influence how consumers buy and engage online (Wang *et al.*, 2008).

Objectives

The objectives of the study are

1. To explore the online buying intention in the study area.
2. To investigate the factors affecting consumer's online buying intention specially perceived risk and gamification.
3. To devise recommendations for business vendors to reduce risk and use of gamification for better sales.

Methodology

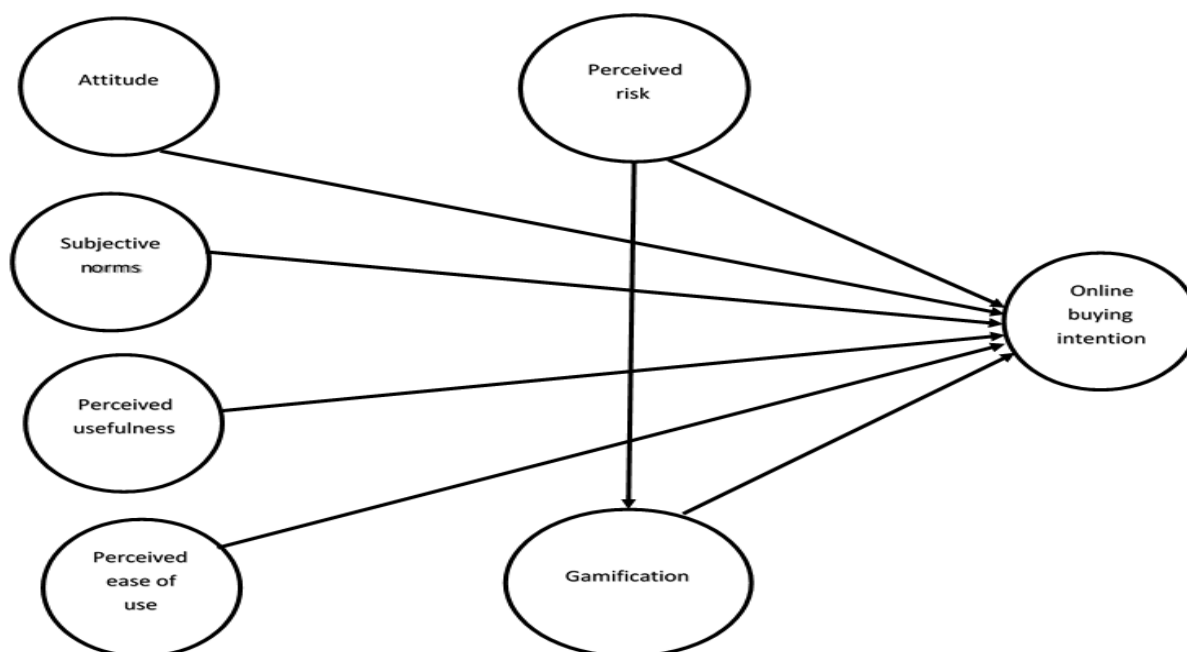
Data is collected from customers who have shopped online through various shopping platforms of Multan. The survey is conducted by a snowball technique using a well-structured and pre-tested tool. Snowball sampling is a way of making the sample small at first and gradually increasing in size (Sugiono, 2009). Each variable is measured by a Likert scale.

For sample size Cochran formula is used (Cochran, 1991; Israel, 1992).

$$n_0 = \frac{z^2 pq}{e^2}$$

Where n_0 is the sample size, z^2 is the line segment of the normal curve that cuts off the

region α at the end ($1 - \alpha$ equals the desired confidence level, e.g. 95%), e is the desired precision level, p is the estimated proportion of the attribute that is present in the population, and q is $1-p$. The value for Z is found in statistical tables that include the area under the normal curve. The total online shoppers are 19% in Pakistan (EcommerceDB, 2020). The study will target 18-34 age group because 79% of online buyers belong to this age group (Khan, 2019). A 95% confidence level gives us a Z value of 1.96 as shown in the regular tables. As per above mentioned formula, data collected from 256 respondents.



There are six broad categories that affect the online buying behavior of consumers.

Attitude (A): Attitude has been frequently used to explain human behavior.

Subjective Norm (SN): Subjective norms refer to the person's perception that most people who are important to him think he should or should not perform the behavior in question.

Perceived Usefulness (PU): The extent to which an individual believes using a certain technology will improve their productivity is known as perceived usefulness.

Perceived Ease of Use (PEOU): The degree to which a person thinks using a certain technology

would be effortless is known as perceived ease of use (PEOU).

Perceived Risk: In the theory of consumer behavior, perceived risk contributes to the understanding of why customers often do not move from the desire stage to the action stage, that is, they do not really decide to purchase something. There are different types of risk. Social risk (S), Financial risk (F), Time risk (T), Privacy risk (PRI) and Psychological risk (PSY).

Gamification (G): Gamification aims to increase usability and satisfaction, offer more

interesting experiences, and have a beneficial effect on business.

So, the hypothesis for this article will be:

H1: buyers' attitude has a positive impact on their buying intention

An individual's perception of social pressures to behave in a particular way or prevent of doing so is referred to as subjective norms (Ajzen, 1991). Intention and subjective norms have a significant link, according to previous research (Yoh *et al.*, 2003; Hansen *et al.*, 2004). Subjective norms in the context of online buying refer to how customers view using online shopping based on the views of a reference group (such as friends or colleagues). Reference group remarks have a positive effect on consumers' online shopping behavior, as revealed by (Lin, 2007). So the hypothesis for this paper is

H2: subjective norms of buyers have a positive impact on their buying intention

Intentions are believed to capture the motivational variables that affect behavior. They are signs of how much people are willing to attempt and how much effort they will put forward to perform the behavior (Ajzen, 1991). Online purchase intention is the strength of a customer's intention to engage in a specific online shopping behavior (Delafronz *et al.*, 2010). "Perceived usefulness" and "perceived ease of use" have a direct impact on intention (Davis *et al.*, 1989). According to the concepts of perceived usefulness and perceived ease of use, perceived usefulness is "the degree to which a person believes that adopting a certain system would increase their work performance." According to Shih (2004), perceived usefulness in the context of online shopping relates to the extent that the customer expects the purchase will be more effective and perceived ease of use to how much the customer thinks the purchase will be effortless (Lin, 2007). There is proof that the intent to shop online has a big impact on how useful and simple something is considered to be (Gefen *et al.*, 2003). So the hypotheses for this article will be:

H3: perceived usefulness has a positive impact on their buying intention

The results show that the variable perceived ease of use influences online shopping behavior. It means that the higher the consumer's perceived

ease of use, the higher the consumer's online shopping behavior.

H4: perceived ease of use has a positive impact on their buying intention

The way that consumers see risk in relation to the network and risk for particular applications are connected. It also represents the consumer's uncertainty on whether they would lose money or profit from a given purchase (Murray, 1991). Service quality is used to evaluate and contrast perceived and expected services, as customers create service expectations based on prior experiences, recommendations, and marketing (Shiau and Chau, 2016). Additionally, a quantitative study based on the technology acceptance model (TAM) discovered a significant relationship between consumer views and perceived usefulness, perceived ease of use, and perceived risk (Lim, 2014). Customers' perceived risk of online purchase is a kind of loss, which is a personal expectation (Forsythe and Shi, 2003). As can be seen from the definition of perceived risk given above, risk dimensions can only be determined via a set of indicators. Consumer risk perception is an interior experience that cannot be immediately seen. Customers must thus choose whether to purchase and use these things (Hilverda *et al.*, 2018).

H5: perceived risk has negative impact on buyer's buying intention

Gamification may gather user information that allows marketers to observe users' preferences. Users who become dissatisfied with a critical game feature will quit playing it, which prevents the growth of positive product attitudes and gameplay abilities (Kumar *et al.*, 2013; Xi and Hamari, 2020). Gamification may help customers enjoy their online shopping better (Huotari and Hamari, 2017). The incentive to play games is strongly connected to the elements that encourage consumer online buying, and these factors may be divided into two main groups: intrinsic and extrinsic motivation. Online shopping involves both internal and external motivation to a large extent. People enjoy themselves more when they participate in activities that fascinate them or that may demonstrate their value as individuals (Ryan *et al.*, 2006). External influences may boost internal motivation and make individuals happier when they can satisfy their psychological

demands from the external world (Antin and Churchill, 2011; Mitchell *et al.*, 2020). In other words, an online shopping platform is more efficient in igniting customers' intrinsic drive to participate in the consumption experience and further meet their psychological demands the more flexibility customers sense while creating orders on the platform (Rogers, 2017). This reasoning leads us to the conclusion that when gamification is used in the context of purchasing, pleasure may be triggered more readily if the demand for autonomy is met. On

the basis of the debate above, we developed the following hypothesis:

H6: gamification has a positive impact on their buying intention

Results

It has been discussed and demonstrated how the questionnaire's findings and the distribution of the data gathered among the respondents. The questionnaire was developed to gather the raw data, which would then be exposed for analysis. The questionnaire was divided into different parts.

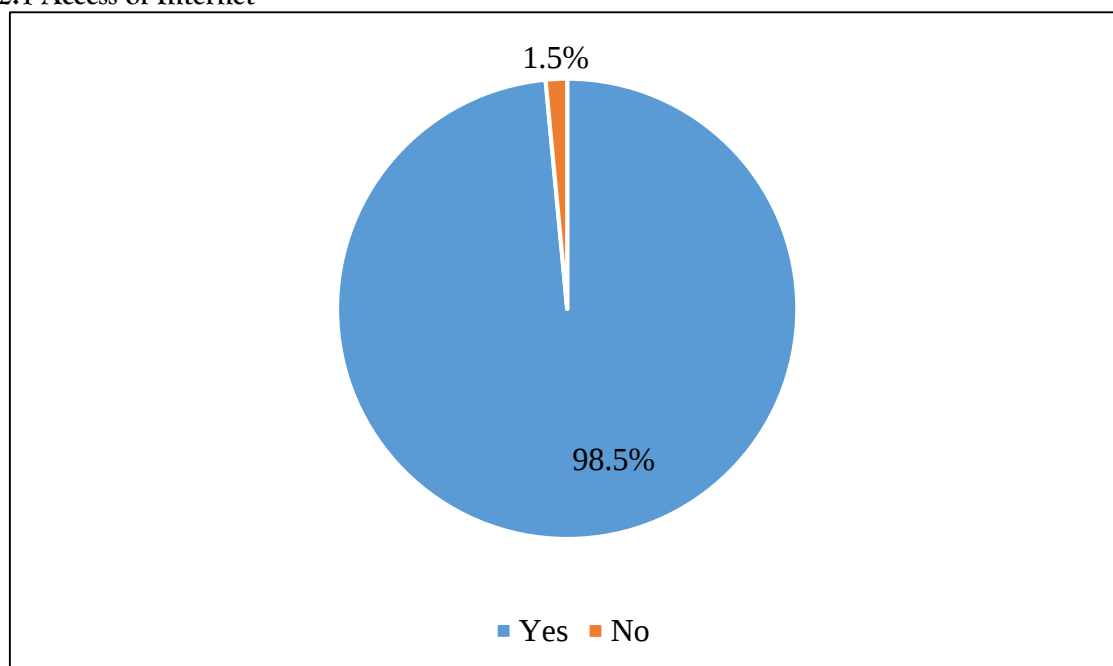
Table 2.1 Socio-Economic Status of Respondents

Variable	No. of Respondents
Age	
17-25 Years	170 (65%)
26-35 Years	73 (28%)
36-50 Years and above	17 (7%)
Education	
Under and above 10 Years	25 (10%)
Intermediate (12 Years)	35 (13%)
Bachler's (14 Years)	95 (37%)
Bachler's (16 Years)	93 (36%)
More than 16 Years	12 (4%)
Occupation	
Business	58 (22%)
Job	46 (18%)
Student	151 (58%)
Housewife	5 (2%)
Income Group	
Less than 25,000	123 (47%)
25,000 – 50,000	90 (35%)
50,000 – 75,000	23 (9%)
75,000 – 100,000	14 (5%)
More than 100,000	10 (4%)
Marital Status	
Married	57 (22%)
Un-Married	203 (78%)

Source: (Authors' Calculation)

2.4 Descriptive Statistics

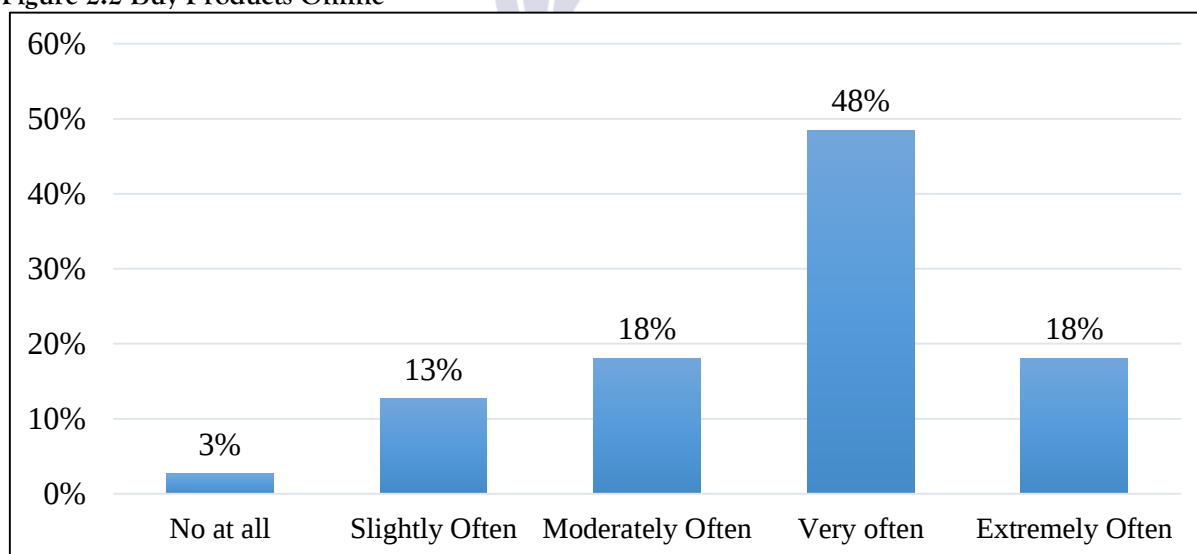
Figure 2.1 Access of Internet



Source: (Authors' Calculation)

In this upper chart indicates that most of people have access of internet. They use internet for different purposes. 98.5% of people have access of internet while 1.5% of people have not access of internet.

Figure 2.2 Buy Products Online

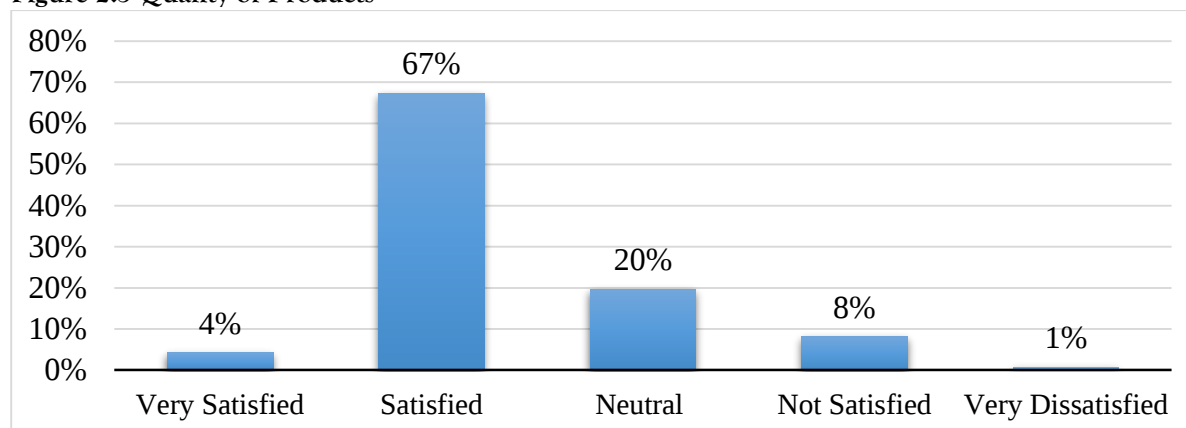


Source: (Authors' Calculations)

In this upper chart shows that most of the people buy products online. It is an easy way to buy products online because it's a time consuming. And you get product on door step.

48% people very often buy products. 18% of people moderately often buy products online. Only 3% people don't buy products online.

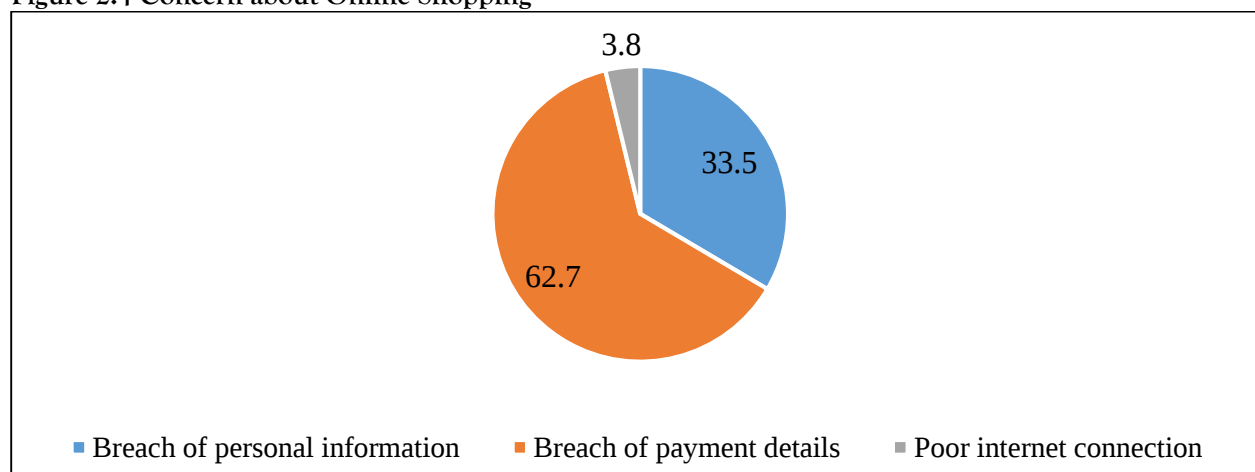
Figure 2.3 Quality of Products



Source: (Authors' Calculation)

In this upper chart demonstrates the satisfaction level of online buyers. People who buy different online products they are just 67% satisfied from the quality of products.

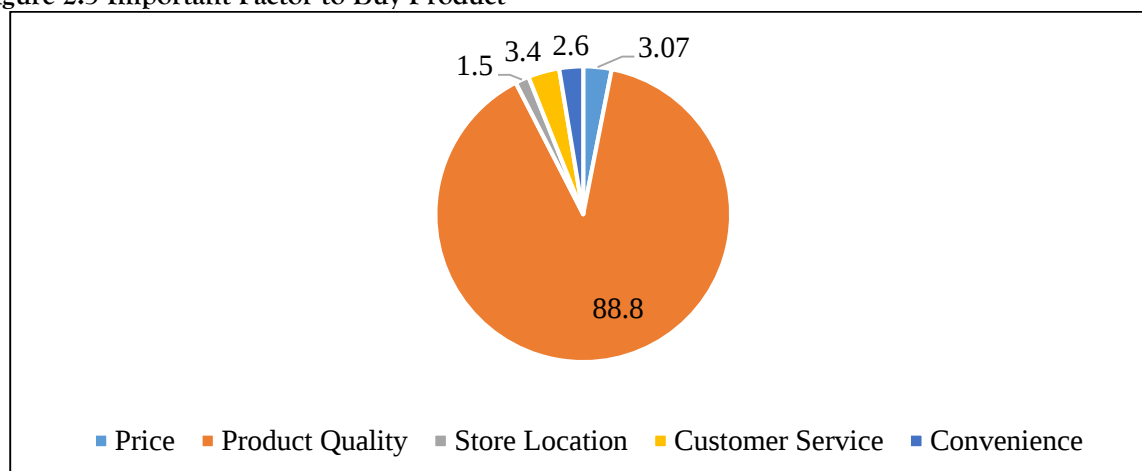
Figure 2.4 Concern about Online Shopping



Source: (Authors' Calculation)

People concern about their payment details during online shopping. Some people had personal information issue that they will not share their personal details to anybody.

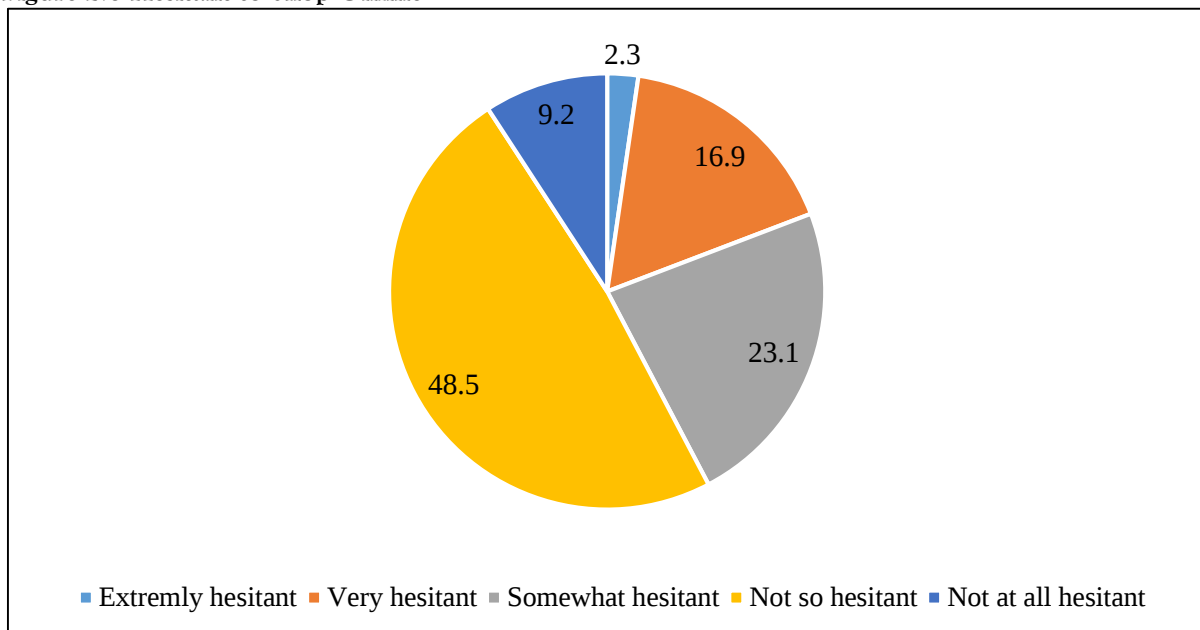
Figure 2.5 Important Factor to Buy Product



Source: (Authors' calculation)

There are different factors that see during online shopping but people see only quality of the product. Quality of the product is important factor to buy products.

Figure 2.6 Hesitant to Shop Online



Source: (Authors' Calculation)

Most people feel hesitation during online shopping but after this analysis people do not feel hesitation during online shopping.

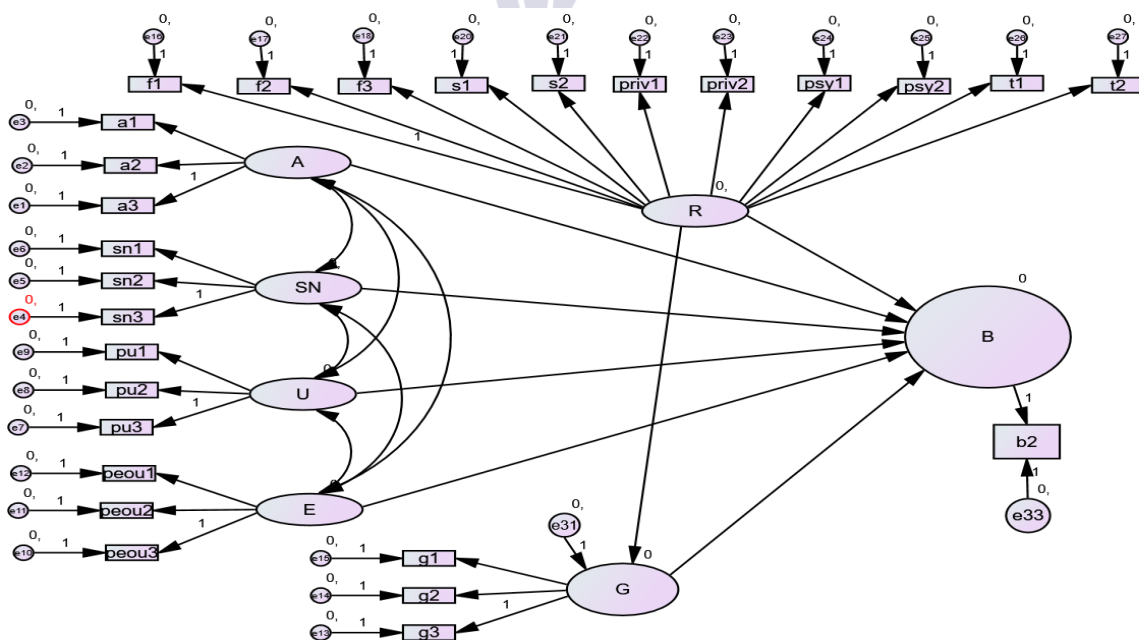
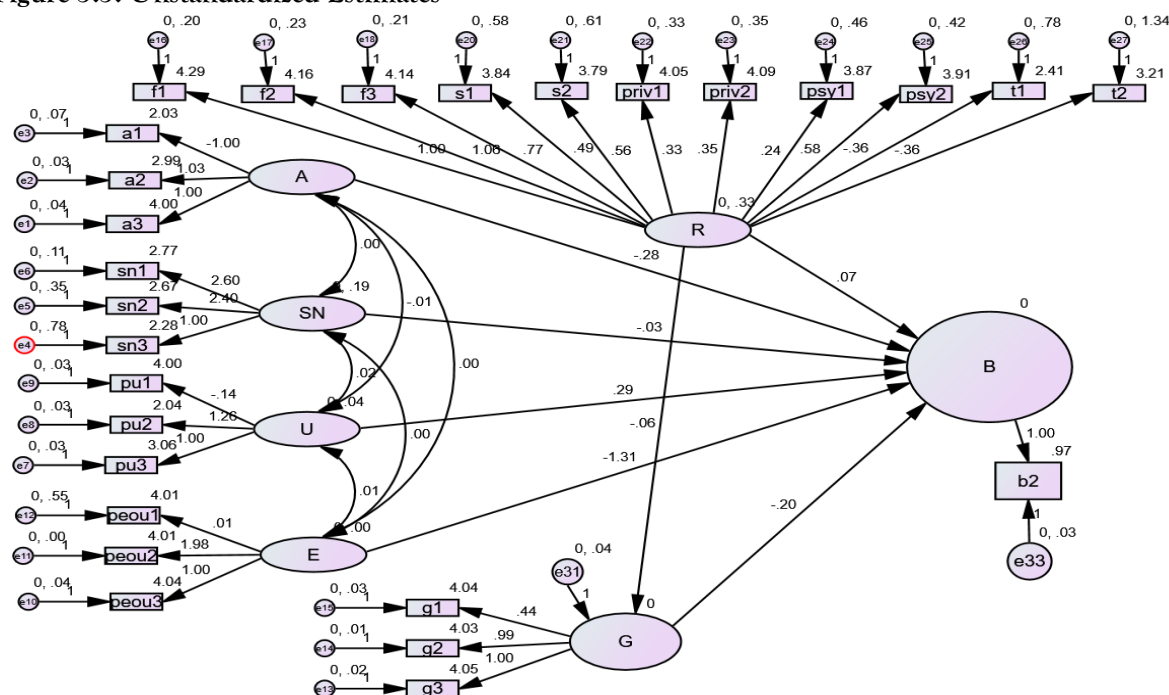


Figure 3.2: Structural Equation Modeling

Source: (Authors' Calculation)

3.4 Results of Structural Equation Modeling (SEM)

Figure 3.3: Unstandardized Estimates

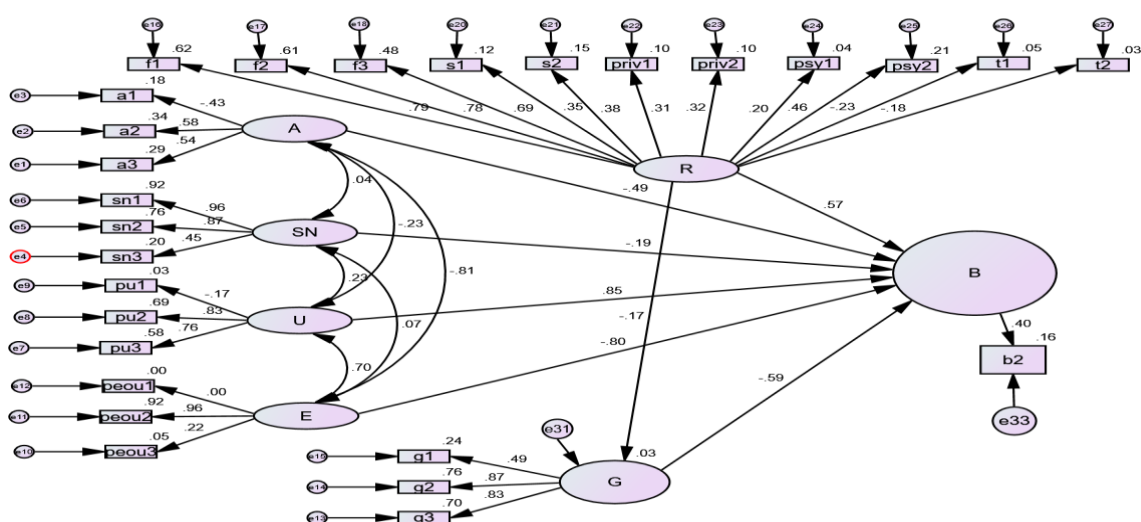


Source: (Authors' Calculation)

The most important parameters derived from multiple regression are unstandardized coefficients, although researchers rarely discuss them. The standardized parameters are simply obtained from the unstandardized coefficients

and are not directly examined in most regression significance tests; instead, they are tests of unstandardized parameters (Grace and Bollen, 2005).

Figure 3.4 Standardized Estimates



Source: (Authors' Calculation)

3.5 Model fit summary

CMIN stands for Chi-square value is analyzed to evaluate if observed variables and expected values are statistically significant. In other

words, the CMIN indicates the suitability of the sample data and the proposed method for the study.

Table 3.1 CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	93	1332.704	312	0	4.271
Saturated model	405	0	0		
Independence model	54	2836.266	351	0	8.081

Where:

- NPAR: Number of parameters for each model (default, saturated and independence).
- CMIN: Chi-square value, if significant, the model can be considered insufficient.
- DF: The number of independent values that may diverge without affecting any model

limitations is referred to as the degree of freedom.

- P: the probability of having a discrepancy greater than CMIN value if the corresponding model is accurate.
- CMIN/DF: Discrepancy divided by degree of freedom.

Table 3.2 Baseline Comparison

Model	NFI	RFI	IFI	TLI	CFI
	Delta1	rho1	Delta2	rho2	
Default model	0.53	0.471	0.596	0.538	0.589
Saturated model	1		1		1
Independence model	0	0	0	0	0

Source: (Authors' Calculation)

Baseline comparisons refer to the default, saturated, and independence models that are automatically fitted for every study. Where:

- NFI: Normed Fit Index also denoted as Delta 1 (Bollen, 1989), It comprises of values scaling from the independence model, which fits values moderately, to the saturated model, which fits values perfectly. A value of 1 indicates a perfect fit, whereas models with values under 0.9 may often be significantly improved (Bentler and Bonett, 1980).
- RFI: Relative Fit Index, which is derived from NFI, has values near to 1 denoting a

perfect fit and values beyond 1 indicating a very good fit.

- IFI: A result close to 1 on the incremental fit index indicates a perfect fit, whereas 1 indicates a very good fit.
- TLI: The range of the Tucker-Lewis coefficient, also known as the Bentler-Bonett non-normed fit index (NNFI), is 0 to 1, with a value closer to 1 indicating a perfect fit and a value closer to 0 a poor fit.
- CFI: Values for the comparative match index are truncated between 0 and 1, so values close to 1 indicating a very good fit and 1 indicating the perfect fit (Hu and Bentler, 1998).

Table 3.3 Result of Multiple Regression of Factors

			M.I.	Par Change
G	<---	E	8.955	0.993
G	<---	U	29.617	0.403
G	<---	SN	11.829	0.11
T1	<---	SN	49.927	0.92
T1	<---	G	9.575	0.916
T1	<---	B	6.685	-2.263
T1	<---	SN1	7.677	0.051

T1	<---	SN2	6.12	0.047
T1	<---	SN3	6.24	0.056
PSY2	<---	U	4.11	-0.456
PSY2	<---	SN	9.763	-0.303
PSY1	<---	G	4.014	0.455
PRIV2	<---	SN	8.265	0.251
PRIV1	<---	SN	13.087	0.305
S2	<---	S1	6.374	0.032
S1	<---	SN	7.445	0.307
S1	<---	S2	6.853	0.032
F2	<---	U	7.119	-0.508
F1	<---	E	4.449	1.681
F1	<---	U	6.29	0.445
G1	<---	E	5.25	0.573
G2	<---	U	4.641	0.113
G3	<---	SN	12.96	0.087
PEOU1	<---	R	6.081	0.217
PEOU2	<---	G	7.049	0.05
PEOU3	<---	SN	4.201	0.057
PEOU3	<---	G	5.57	0.149
PEOU3	<---	B	4.258	-0.385
PU1	<---	E	7.599	-0.686
PU1	<---	A	18.876	0.412
PU1	<---	G	7.743	0.151
PU1	<---	B	6.1	-0.397
PU2	<---	R	4.833	-0.057
PU2	<---	G	8.649	-0.215
PU3	<---	SN	4.61	0.062
PU3	<---	G	37.381	0.401
PU3	<---	B	10.083	-0.611
SN3	<---	E	10.218	4.329
SN3	<---	U	8.841	0.897
SN3	<---	A	6.037	-1.268
SN3	<---	R	9.307	-0.322
SN3	<---	G	7.14	0.791
SN3	<---	B	5.663	-2.084
A1	<---	E	5.342	0.93
A1	<---	U	18.957	0.39
A2	<---	U	6.987	0.167
A3	<---	R	4.099	-0.048
A3	<---	G	22.555	0.314
A3	<---	B	16.221	-0.787

The MI is an estimate of the amount by which the model chi-square would be enhanced if only one parameter restriction were removed. There

are several MIs as well as restrictions in the model. Typically, the MI represents the increase in model fit that would occur if a previously

omitted parameter were introduced and given free period of time to estimate its value. Two statistics, MI and SEPC, can be used to guide the selection of parameters to add to the model in order to improve fit. In order to expand the body of knowledge, this research looked at how well MI and SEPC performed individually and together to generate the appropriate confirmatory factor model.

Discussion:

The Theory of Planned Behavior and the Technology Acceptance Model are the basis for this study. To determine the elements influencing buyers' desire to make a purchase in emerging markets, the factor perceived risk is added. It significantly and directly affects consumers' intentions to purchase online. These findings also shown that trust is a characteristic that significantly influences customers' desire to make an online purchase. Therefore, businesses must increase client trust in order to better achieve their purpose. Retailers must create policies regarding warranties, compensation, and resolving customer complaints that are simple to understand in order to do this. Consumer attitudes about online shopping have a beneficial impact on their intention to shop. Customers are more likely to plan to buy at a website or company if they have a positive opinion about it (Lin, 2007; Bigné-Alcaiz *et al.*, 2008).

The table presents various variables and the number of respondents for each. A discussion is provided regarding internet access, where it is noted that 98% of people have access to the internet. It is also highlighted that 48% of individuals make purchases online. Regarding the satisfaction level of online shoppers, 67% of respondents expressed satisfaction with the quality of the products they purchased. Concerns about online shopping were discussed, with 62.7% of people expressing worries about their payment details, while a smaller portion was concerned about their personal information. When considering the most important factor in purchasing products online, 88.8% of people prioritized the quality of the product, indicating it as the main factor in their decision to buy. Although most individuals initially feel hesitation when shopping online, the analysis shows that after reviewing the data, this hesitation is less prominent.

In table 2.1 different variables and their number of respondents defined. In figure 2.1 discussed how many people have access to internet. 98% people have access to internet. In figure 2.2 discussed 48% people buy products online. In figure 2.3 discussed the satisfaction level of online buyers. 67% people satisfy with quality of products. In figure 2.4 discussed concerns about online shopping. 62.7% people concern about their payment details and few of them concern about their personal details. In figure 2.5 discussed important factor of product to buy online. 88.8% people saw quality of product. Quality of product was a main factor. In figure 2.6 discussed most of people feel hesitation during online shopping but after this analysis people didn't feel hesitation.

According to the results of the study mentioned, customer perceptions of risk and product side effects will influence consumer purchase decisions across platforms. As a result, the authors think that platform sellers should rigorously check their products, adheres strictly to national policies and regulations, effectively use word-of-mouth advertising while maintaining the quality of their products, promote a positive corporate image, and give customers more comforting data. Customers might reduce the number of cross-platform transactions they do (Fernandez and Miyazaki, 2001). Consumers' faith in other platforms and purchasing habits will both be impacted by perceived product impacts and customer perceived risks. Gamification's impacts on engagement are still, in many aspects, restricted. In the study of gamification, there is a disconnect between practice and theory. By concentrating on the e-commerce industry, a field where there is currently a lack of scientific research, this study expands the scope of gamification research (Loria and Marconi, 2021).

Theoretical framework is also discussed. Empirical framework is also discussed. The result of all hypotheses are discussed. The attitude of buyers has positive impact on online buying intention. Subjective norms of buyers have positive impact on online buying intention. Perceived ease of use has positive impact on online buying intention. Perceived usefulness has positive impact on online buying intention. Perceived risk has negative impact on

online buying intention. Gamification has positive impact on online buying intention. In figure 3.1 conceptual framework discussed. In figure 3.2 SEM model discussed. In this model the relationship between their variables is also explained. The results of structural equation modeling are also discussed which are standardized estimates and unstandardized estimates. As part of SEM, a generalized Multi equation in framework is used, allowing the analyst to describe a variety of multivariate interdependency hypotheses (Bollen, 1989). Most of researcher are now familiar with path analysis, which is most used in studies that merely take into account relationships between observable variables. Modern SEM permits the specification of a broad range of model types as well as the incorporation of unmeasured (latent) effects. Importantly, SEM enables model fit assessments that support comprehensive testing of the model as a hypothesis. While SEM is often based on maximum likelihood estimation, several different least square approaches can be used to solve different model types. SEM framework has the potential to remove many obstacles to interpretation.

Conclusion and recommendations:

The study is based on how gamification and perceived risk affect buyers' intention to buy in the Multan region. Therefore, scholars interested in this particular topic of research will find the results of this study to be helpful. The research discovered an important connection between PU, PEOU, attitude, and gamification. Furthermore, it was shown that the elements had a strong connection. Therefore, it might be beneficial to include this trust component in future research. Given that PU showed a significant relationship with purchase intention, the present data further indicate that TAM is an effective model for analyzing user intention. As the survey indicated, trust affecting consumers' intentions to make online purchases. The seller should design and offer a well-defined return/refund policy to buyers to decrease the perceived risk of buyers and it would result in better gamification strategy as well. Online sellers might use a variety of strategies to build in consumers' minds thoughts of positivity and trust, which would then draw people to the online business. The approach put forward in

this research might also be applied to identify cultural differences in the elements affecting online purchasing intention. Furthermore, there are significant and beneficial consequences for website designers from the link between website content and trust. When creating website content for a company page, designers should pay particular attention to this factor since it is one of the major variables affecting online purchasing intentions. In other words, consumers' buy intentions would improve if online sellers were able to create their shop layout with well-organized material. This study also emphasizes the significance of technology adoption, which is a neglected aspect of online customer behavior.

Very few marketing researchers have shown the role of technology adoption and its impact on trust, despite the fact that many of them mention the elements influencing online purchase intention. As a result, the website should be simple for users to navigate and helpful for meeting their requirements and desires. According to the findings, a useful and easy-to-use website increases trust in the retailer's website and, in turn, this will lead to an increase in the intention to purchase online. Overall, the study's findings are great news for online retailers. It provides practical implications for online retailers on how to create trust in the minds of customers towards an online store and positively influence online purchase intention. As a result, web-based retailers can adopt a variety of trust-building strategies with the aid of technology to influence customers' real purchasing decisions. The perceive usefulness that consumers e-commerce sites and items to be is a determinant of their satisfaction and intention to provide positive reviews, according to previous research (Kaya *et al.*, 2019). This paper emphasized that managers may boost customer loyalty by gamifying their business platforms in order to support this line of reasoning. For instance, the case that the interactive elements of social media enable highest demand to rapidly and directly share advertising messages (Belanche *et al.*, 2020). In a similar manner, gamified apps may be created to enable users to share and convey marketing messages connected to a company's goods/services or brand. Both consumers and companies benefit from customer loyalty. It

serves as an efficient means of advertising and marketing since it lessens the uncertainty and effort involved in discovering the former and boosts sales volume. Practical terms, game-mediated objects may encourage cognitive engagement via presence, involvement, excitement, memories, and achievement (Abbasi *et al.*, 2019). These kinds of pleasures often result in repetitive activities (such as shopping behavior) or storytelling (i.e., eWOM sharing behavior). In order to develop conscious persistence and consumer lock-in effects, managers must therefore assess their gamification and customer loyalty programs and modify and adopt effective consumer lock-in approaches. This research brought to light how highly engaged and involved customers' purchase decisions, buy intentions, and even repeat purchases are viewed as patterns as a consequence of gamified platforms.

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