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VALUE OF TRUST AND E-COMMERCE TRANSACTIONAL FRAUDS IN BANGLADESH

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List of Figures

List of Tables

Table of Contents

1. INTRODUCTION

Online shopping is considered a frequent word in the business environment. The developing countries are not unknown of 'online shopping', neither developed countries were. Online stores and online shopping stores have similar patterns and are used for the same purpose. There are different terms, but these terms denote one pattern, 'Go online to sell or buy anything'. The existence of the virtual world on the internet has made things easier for consumers. Bangladesh has seen rapid growth in online shopping. The prominent websites in Bangladesh were Cell Bazaar, and Bikroy.com etc. These websites fulfilled the basic needs of the consumers from household, stationary to automotive vehicles. However, with the advancement of online shopping, consumer shopping behavior has been rapidly changed. Personally, visiting the store and buying a thing is an activity, but people trapped in time can shop online and wait for the product to deliver in three to ten days of time (Obeidat, Alshurideh, Al Dweeri, & Masa'deh, 2019). Online shopping has made it easier to choose between the thoughts. Selection of the products has become easy, and a family decision to buy a product with comparison is possible. Online shopping is a market of competition, where a variety of products are available.

There is a huge difference between the online shopping market and traditional shopping market. It is easier for a person to go online, sitting at home, comparing products, and making a family decision to buy a particular item. In the traditional market, it wasn't possible for a family to choose a product. The online market is open all the time, while the traditional market observes timing and holidays (Georgiadou et al., 2021). In the traditional market, transaction needs cash in hand, while in online shopping cash on delivery and credit card payment facility is available. Also, the online market offers discounts on specific bank credit cards. It's a hassle-free shopping world. In the traditional market, one has to travel for hours to purchase a product. It costs travel charges, delivery charges and other expenses. Online shopping, delivery and other services have minimal charges.

However, all these benefits of online shopping have some vulnerabilities and threats. There are plenty of benefits of online shopping. These benefits are subjective and objective at the same time. But there are some back draws of online shopping. The fraudulent activities are common in online shopping. There is no certification for the online store, proving its genuinely and discipline. The product may be fake, reviews on the products can be fake and the delivery of

the product may be delayed. In all these scenarios, the product in the online shopping store may not be the same delivered to the consumer.

Online transaction frauds are common. It includes the credit card information disclosure fraud, card not present fraud, stealing of sensitive information. The e-commerce technology in every sense has two faces, to benefit the consumer by resolving a conflict or problem, and to create a problem. The creation of problem works like a double-edged sword. Internet itself isn't secure, which is the fundamental component of e-commerce. This dilemma has generated a war between resolving a conflict and creating it. The problem solving isn't better than problem creating in the internet world (Chowdhury et al., 2022). These two goes side by side. On one side, ethical hacking is improving and testing the security of the website, applications and internet related e-commerce. On the other hand, unethical hacking is generating problems, exposing secret information of the consumers. Internet shopping works with one-click purchasing intentions. Amazon introduced a one-click method of purchasing a product. According to Pai and Chary (2016), one clicks option has ample meanings. In one click, a consumer can buy a product, with one click he can endorse a product, like or dislike, send to cart, order and buy. All these options are available all over the internet shopping websites. Each online shopping platform works in the same way, use same third-party security. The attack on the internet is not on a product or service, rather on the main domain of the internet provider. Once, third-party security is vulnerable, it makes a way to all over the internet, hence every website becomes vulnerable to attack.

The online marketer must be facilitated with knowledge about the internet usage and he must be fully equipped with all the sources that are necessary to point out the fraudulent activity in a website. In the third world countries where people don't earn much, they need money to fully fill their basic needs. When an online shopping store opens are discount, they hurriedly rush towards discounted products. That they have no money at all but they want to buy something from the online shopping store (Hasan & Islam, 2013). This greed is common in Bangladesh, Pakistan, and in India because of poverty, people have no power to buy products from the online store at full price. That is why they are always waiting for the discounted products that have happened in EValy. Online shopping stores, where they offered discounted products and people in advance made payment so that they can get discounts as well as the product, but neither the product nor the discount was given to the consumers. Similar is the case with other online shopping stores. Moreover, I have strongly observed another dimension of fraud which is not related to The Merchant but it is directly related to the consumers. It is the consumer's

greed that leads him to track into Fraudulent activity. Chasing a merchant as trustworthy is not possible at all in South Asian countries.

The reason is obvious because people selling their products online cannot be located, their physical presence is unknown and they have no certification from the government that informs a consumer either. It is a genuine seller or a fake seller. A similar case has been observed in China's Alibaba. A biggest online shopping store where people from Pakistan, from India. And from Bangladesh can order products unaware of the fact that either the seller is genuine or a fake. If the seller is fake, the payment has been made in advance and that payment has gone in a fraud. Lent activity. So, no government can benefit its employees and its people and no government can save a person from this type of fraud. This type of fraud is very common in online shopping stores.

1.1. Study Background

In Bangladesh, the rapid change is observed in small and medium sized businesses during the pandemic. SMEs established their trading through online platforms to save money. The findings show that;

- In Bangladesh, more than 2,500 websites and 150,000 social media pages are operating under E-commerce. It shows the 80% sale in Dhaka, Gazipur and Chattogram is online. The record sale is observed in 2019 with $1,684 million, which further increased in 2020 to $2,177 million (Banna et al., 2022).
- As per the statement of the President of E-commerce association in Bangladesh, the marketing size is above $1 billion with more than 50,000 orders per day. The annual growth rate is 75%.
- The small and medium sized enterprises in Bangladesh have grown to 25,000 and individual markets have reached 35,000. It has been predicted that in 2023, the business market will grow to $3 billion.

E-commerce has become popular as a growing economy nowadays. The concept of E-commerce isn't very old, as it started in 1995 with requirements of digital goods and dealing with their transactions. The term 'Digital Goods' deals with something that can be transferred or delivered over a digital network (Laudon & Traver, 2013). E-Commerce has transformed itself in a way to communicate among the consumers and enterprises, also among the rapidly growing digital world. E-Commerce now deals with information and communication

technology as a means of communication among the rapidly growing economic markets. However, the process of transaction has become easy with the time, but it hasn't become painless and secure. Even the secure way of transaction over the internet is not secure enough to save on self from fraud.

The e-commerce adoption provides advantages to the companies both short-term and long-term. The short-term advantages are the quick order taking, quick delivery options, resolving of conflict with one-click and making decision. The e-commerce adoption in the companies improves the level of efficiency (Sobihah, Mohamad, Ali, & Ismail, 2015). Also, it helps the company to rebrand the image from a trend setter, and to compete with other companies. The competition has become easier among companies. Similar products on online shopping stores with discounted rates provide edge to the company. In addition, new customers are the biggest asset of the companies. In traditional marketing, customers were fixed to one shop or another. In online shopping, customers find a discount and where the rates of the product are less. These benefits are for the companies. Online companies working in the China can sell their products in Pakistan, India, and Bangladesh. There are no barriers for any online shopping company to dispatch a product to anywhere. These benefits not only for the new customers, but also for the existing clients. Existing client's reviews improve the services. Also, the main benefit for the online shopping websites is the third-party security and conflict resolving. In addition, the technological advancement has provided the company with a variety of experiences. These experiences not only enrich the company, but also enable the company to track the consumer satisfaction. In case of unsatisfied consumers, the company can change its policies, reduce the price, offer discounts etc. (Cho & Shim, 2013). The prominent benefits for the online shopping companies are;

- transaction costs are minimal;
- mode or payment for the client are many;
- cash on delivery facility for the clients;
- rapid consumer feedback;
- to satisfy the consumer, ample of opportunities are available;
- monitoring of sales, consumer satisfaction and staff observation;
- the Internet has made businesses easier for the clients.;
- company can customize products, website design and mode of payment;
- company can track daily record of sales with big data;
- big data of client search help to shape future business;

- value making through organizational struggle.

However, the present condition of E-commerce is not satisfactory due to fraudulent activities in buying and selling of the products. The emergence of 3G and 4G technology in Bangladesh revolutionized the E-commerce process with more internet speed than the past. However, 5G is still limited to fewer places and the gadgets to hold 5G technology are too expensive for the common consumer, but still E-commerce is progressing with the present mode of internet (Hossin, Sarker, Xiaohua, & Frimpong, 2018). The availability of the internet has reached all over the country. According to the Bangladesh association of software and information services (BASIS), more than 3000 online platforms have been registered in the last few years (Bojang, Medvedev, Spasov, & Matvevnina, 2017; Maisha, 2019). The smooth process of buying and selling through the internet has facilitated the business trade. Customers can book their ticket online without reaching and waiting for the airplane, bus or taxi. The Uber service has revolutionized the mode of value exchange with painless travel and proper mechanisms. However, there are still lapses in the transfer of value through software. The emerging sales market on Facebook, a social media platform has progressed the transaction to 800 million in Bangladesh (Kumar, Jafarinaimi, & Bin Morshed, 2018). As per the data available by BASIS, the monthly growth is increasing to 30%. Millions of internet and Facebook users buy and sell their products everyday which involves the logistics as well.

On the other hand, revolution in information and communication technology has progressed the process of searching information over the internet with specific shopping behavior. Every person on the internet searches for something to buy, which enables him to interact with the world. The Internet offers products and services to buy. A person can buy anything over the internet, by watching product images, description and details. Also, the reviews of the products are mentioned below each product catalog. These reviews help the consumer to make quick decisions. The more positive reviews are, the less chances of a product's rejection (Wu, Ngai, Wu, & Wu, 2020). In that case, the consumer forgot that the retailers and suppliers take no authority to add false information on the product. It is a marketing tactic to fetch customers through false information. Although, the information presented about the product seems true because of its positive reviews. However, there is no proper mechanism over the internet to differentiate between fake reviews about the products. Reviews are always helpful in the buying of a product. There are businesses that have zero value without online reviews. The business platforms like Yelp.com and Tripadvisor.com and

other similar websites offering ways to book a hotel or place for temporary stay have no worth with negative online reviews (Taecharungroj & Mathayomchan, 2019).

Reviews have different types which include (1) written reviews (2) pictorial reviews, and (3) video reviews. The internet offers a variety of chances for the consumers, but it has diverse risks. The Internet is full of fraudulent information, based on the human psyche. Human beings are eager to spread rumors. Politically incorrect news has enormous value over the internet. Similar is the case with fake news that has no true value attached to it. But there are people in search of fake news. Their brain tends to be suspicious and they all the time try to become more and more involved with the false information, which gives them comfort. This type of information pops out of a schizophrenic brain, but in the case of online selling of products, the schizophrenic brain is so valuable that it exactly spots the need. A similar case with online fake reviews is observed in many studies (He, Hollenbeck, & Proserpio, 2022).

Fake reviews are produced to fetch the attention of the 'information seeker' to a business. It is done either intentionally or unintentionally, but in both cases a fixed mindset is; there is no need to call the customer twice. In the past, it has been a matter of business to invite customers once, so that he can invite himself twice to the same spot. To make it possible, positive reviews and accurate information is necessary. Fake reviews have become so common that according to the Times, almost every third review on the Tripadvisor webpage is forged (Wu et al., 2020).

According to De Mooij and Hofstede (2010) collectivist societies have strong common cultural beliefs and rituals. People living in these societies have strong bonds and their understanding of 'trust' about the online business is negative. They consider online businesses less trustworthy as compared to the individualistic cultures. In Individualistic societies, the focus of people is more towards the outside and their bonding is based on mutual trust with others, rather than with their own community.

Purchasing a product online with or without trusting an internet merchant is underexploited. However, the recent market surveys show the hesitance of consumers regarding their trust on online shopping websites. The main reason perhaps the dealing of online websites with the consumers. Consumers demand satisfaction regarding purchase and payments. As local market shopping, consumers are bound to follow the same pattern and same level of satisfaction. In Bangladesh's local market, purchase is easy and merchants are well known with years of trust. In online shopping market, purchase is easy but trusting a merchant

isn't easy (Rossolov, Rossolova, & Holguín-Veras, 2021). It takes years to establish a reliability and trust between consumer and internet merchant. However, what internet consumers perceive is a well-known fact, that their level of trust or the propensity of trust on the internet merchant is low. It has been observed in several studies that internet merchant's fraud has become a common dilemma around the south Asian online markets. Products that are available on online stores, also available in the local market. In local market quality of a product can be judged with apparent eye. When consumers intend to buy product, the local market offers variety with variant prices. In that case, the choice to buy a product is based on the 'consumer judgment'. In case of online shopping, the buying of a product depends on the 'merchant's judgment'. Merchant is the sole handler of the products. In that case, if a merchant dispatch a product, which isn't similar to the product available on the store, is called merchant's fraudulent activity. The fraudulent activity has different patterns in online shopping, changes from product quality compromise to transactional frauds. Product quality compromise has significant impact on the buying intention of the consumer, which is significantly negative as per focused studies. Another issue is the privacy policy of the online shopping website (Camilleri, 2021). Merchant didn't disclose the privacy policy over the internet, if they do then there are chances of not following the privacy policy by the merchants. Privacy policy has strong relationship with consumer's buying intention as per previous studies. A skeptic consumer wants to know the details of the 'internet merchant' first, then to choose a product from the online store. The skeptic attitude becomes a norm when ample of consumers fall under the fraud of one internet merchant or another. Another issue is the government involvement in dealing the fraudulent activities of the internet merchants. The e-commerce protection laws are at initial stage in Bangladesh, India and Pakistan. An online enterprise based in Pakistan, has branches in India and Pakistan. In that case, each enterprise follows the rules and regulations of the government of their country, which has no relevance to the rules and laws of other country (Hasan & Islam, 2013). There is no universal standard or universally acclaimed laws to protect the online consumer and merchant.

In case of perceived risking e-commerce, there is a performance risk, time and finance risk. These risk types are common and understood, but the misunderstood risk type is the 'psychological risk', which is the pain a consumer feels when product quality is compromised, or the transactional fraud, card not present fraud happens. In any case, where a consumer bears a loss in online shopping, the risk is psychological. These patterns form a collective image of 'internet merchant's trust in online shopping (Shafiee & Bazargan, 2018).

The system of E-Commerce is based on the Game Theory concept. The research on game theory began in 1950 (Owen, 2013). This concept is unique which identifies the common decision-making techniques of common people. These techniques are based on the common-sense mechanism of people, inspired by the decisions of people. This decision seems unique but they have relevance among different other groups. Each person has a decision copied from someone he didn't know, or the common sense has picked up the decision remotely. However, the game theory is limited to studying the dynamic game only. This theory was revolutionized in 1970 by (Gibbons, 1992) named it 'Traditional game theory in China'. This was the evolutionary game theory which was based on biological evolution. Some researchers have started examining the case of E-Commerce frauds based on evolutionary game theory (Liu & Ding, 2007). There are loopholes in the credit system. The loopholes in the E-Commerce system are common because of its regular usage, daily updating of products and information etc. These loopholes are so vulnerable that at any time, the advantage being taken and traders can become untruly evaluated. The two prominent types of website traders are (1) ordinary individuals, and (2) mutative individuals. Ordinary individuals are those traders that choose the trust behavior, while mutative individuals choose the cheating behavior of credits (Pruitt, 2016).

The emerging market of E-Commerce has several new dilemmas, in which the companies have neglected the importance of security related issues in E-Commerce applications. In this regard, companies have little control over their IT staff. Web hackers find the common faults easily in the system or applications built for E-Commerce purpose and they steal the information of credit cards for their personal use. Although 100 percent assurance is impossible, the company's security system can be ensured to a maximum-security level to keep hackers away from the credit card record. One major issue is; the planning of E-Commerce business setup and website rarely focus on the security of transaction and credit card systems (Macdonald, Frank, Mei, & Monk, 2015). As a result, the programmers use the common game theory technique to build a new E-Commerce application, which is based on the old model or common error mechanism. This process has flaws and these are the common flaws observed in other applications. These applications are vulnerable to the hackers, and by using the same technique, they can steal the sensitive data anytime. The security measures by the unspecialized programmers and developers increase the risk of fraud to a maximum level. As the E-Commerce business is growing, few people understand the risk attached to it. Several surveys have exposed the risk management flaws in E-Commerce setup (Niranjanamurthy & Chahar,

2013). The British Association of Insurance and Risk Managers has observed several cases which portray that; employees and the management of E-commerce business fail to understand the risk associated with their system and with their IT management staff. They are open to web attack at any time. In this regard, their struggle to make the sensitive data of consumers more secure has become a myth (Thoyts, 2010).

To minimize the risk, companies can use several techniques. If an E-Commerce business has a linked credit system, banking system or Mobile credit system, their major issue is; to expect security from the donor companies. They don't understand the value of security of their system. In this regard, fully functioning firewalls, detection of intrusion and technological measures are important. The fully working security policies are also very important. To establish a rule for the employees, to use the limited number of websites while working from the home server can limit the risk. The employees must be aware of the use of the websites that are safe to access from their workplace. The limited use of the internet can also limit the risk of security vulnerability (Pedro, Proserpio, & Oliver, 2015).

Lack of security measures keep sensitive customers away from using their credit card details. They don't trust E-Commerce websites or smartphone applications. A study conducted by the British Consumers Association, 23% of the internet users believed to trust the E-Commerce website by providing them credit card details, or using online transaction methods. The other 51% of the users didn't trust the internet-based commerce to share their personal and credit card details online. This risk has become so common that sharing of email addresses over a website or smartphone application can fetch hundreds of spam emails daily (Alqodsi, 2021). These types of security lapses are common and devastating for the companies' image.

In Pakistan and Bangladesh, the E-Commerce stores deliver the products through the courier services. Several banks deliver the newly built ATM cards of consumers through the courier services. The courier services are not secure and fraud is going on. They share the details written on the ATM card with hackers. The hackers, after a few days, call the recipient to log on the ATM card as soon as possible, because their card may be blocked due to non-usage. The ATM card holder never asks the caller to verify his concern, rather he believes that only the Bank knows that they have got a new ATM card. That's how hackers steal the information credit card and use it for their personal purpose (Nowshin, 2021). The banking system should devise a proper plan by initiating a token system, in which the name, location and details of the ATM card are kept secret. Only the ATM card holder is informed through

email or secure mobile phone service to receive their card with four letter tokens. This token is unique and it has no name printed on it. That's how the courier services can be blocked from accessing the secret information of the consumers.

A study conducted in Germany to ask the E-commerce users about their biggest concern regarding online shopping, the 94% replied; they don't trust sharing their payment details to the e-commerce websites. A secure payment system is the first demand of online consumers. It is very important to provide a better and secure payment system to the consumers. In the second place, if the details are gone missing or the sensitive data is stolen, the E-commerce company must assure 100% refund with money back guarantee (Georgiadou et al., 2021). However, the second demand seems impossible for the E-Commerce trading websites. It is necessary to fulfill the first demand to make the online payment system easy and secure.

Cash on delivery is another type of online payment, in which a consumer pays the prices of the product or the services, when it reaches the doorstep. In that case, there are two options; to open the parcel and inspect the product first, then pay the requested amount to the courier services agent. In the second place, the product can't be opened and you have to pay the price first. In both cases, the payment via cash is necessary. It seems, the process of cash on delivery is secure, but in most cases the product requested is not up to the mark, and what is shown in the pictures or the fake information on the website (Sabih et al., 2021). The manipulated information can trigger a customer to purchase a product through cash on delivery, but on receiving the product; the consumer comes to know, it is not the product that was demanded by the consumer. It is a different product, or the quality of the product is not genuine. This fraud is common in Pakistan and Bangladesh, where you get a product from an E-commerce store.

1.2. Problem Statement

Majority of applications, and software are working to inspect fraudulent activity in online transaction systems. Their mechanism is based on the location of smartphone or computer usage, IP address and specific pattern. Change in the behavior of a consumer, or change in the place where a consumer has been using the platform before, or trying different types of passwords exposes the consumer to theft or fraud activity. In this research, the process to devise a mechanism to stop the fraud is twofold; (1) from companies' perspective to the consumer, (2) from consumer's perspective to the company. There is no coping mechanism

available on the consumer side to detect the fraud in the E-commerce system. However, ample studies have shown the perspective of companies dealing with consumer trust issues, stealing the sensitive data. In this regard, it is necessary for the consumer to fully understand the online transaction system, so that the company can't cheat him. From consumer perspective to the company; the fraud activity was noticed in eValy and Aleshmart, Bangladeshi E-commerce organizations selling products and services online. In that case; there are several platforms to discuss or encourage the organization to satisfy the consumer by assuring maximum security to the sensitive data. On the other hand, there is less research on the topic; if an e-commerce company is playing a fraud game, then how consumers can detect and save their money.

The transfer of traditional retail systems to online systems needs adaptability. It needs IBAN, an internet-based identity number, but the majority of the business owners feel uninterested in obtaining the IBAN. They also seem less interested in renewing their license, which is the reason keeping them away from online business (Sultana & Akter, 2021). The non-presence of IBAN leads to ambiguity in the identification which further leads to fraud and depiction, also to consumer rights violations. To borrow money from a bank requires a trade license, which every seller wants to get in Bangladesh. Sellers engaged in online business face fake orders, fraudulent activity on a daily basis from the consumer's side. The cash on delivery mechanism has limited reach in the cities. If the order is placed from a village far from the city, the consumer has to pick up the order. In that case, if the consumer delays to pick the order, the courier services return the order to the company. Once the order is returned, the company marks the consumer as fraudulent and blocks his access for further shopping. Identification of the customers for the delivery men is another obstacle for E-commerce services. In some cases, the fraudulent orders have fake phone numbers, when deliverymen call the number, it gets no response, or the service is out of reach (Hossain, 2021; Hossin et al., 2018). In the whole process, additional delivery fees are incurred by the sellers with unsuccessful delivery. The seller has to pay the delivery charges, which is a loss for the business.

To bring a positive change in the legal framework of online buying and selling of the products, also to implement and initiate a process of laws to protect the rights of both buyer and seller is the need of the time. In the above context, this research explores the E-commerce fraudulent activities both from consumers and sellers' point of view, also to devise a framework to stop the monopoly of online markets, establishing a pure mechanism of 'true reviews', with 'accurate product details', and clean process of 'transaction' and delivery of the products.

Lack of government support is one such importance element for the e-commerce stability in Bangladesh. The e-commerce related fraudulent activities fall under the shadow of 'online discounts'. The matter of 'online discounted products' has been presented to the Ministry of Commerce in Bangladesh. The concerned agencies were warned about the fraud of e-commerce relating to price discounts, advance payment etc. (Banna et al., 2022). Unfortunately, no agency took part in the fraud prevention process initiated by e-commerce platforms and online shopping webstores. Government should intervene in the large-scale frauds of online shopping, which cover the one third of country's market. In the upcoming years, the government has to face major issues relating to e-commerce related frauds due to their poor working and mishandling of the critical issues. Industry cannot develop in a country where online fraudulent activities are common, but the preventive measures are not enough to resolve the problems of people.

1.3. Objectives to Achieve

This research aims to understand and prevent a merchant's fraud in e-commerce platforms, especially the online web stores in Bangladesh. The research framework highlights key judgments to ensure the consumer's satisfaction regarding the merchant's benevolence, trust, reliability and risk. The development of a proficient security proof protocol for the internet and third-parties is not possible. There are human errors in the system and it needs continuous updating of the data. In our case, the research belongs to inspecting the 'fraudulent nature of the merchant' before purchasing a thing, which makes this research unique. In Bangladesh, several e-commerce platforms have been fraudulent to the consumers in the past.

It has been assumed that in the future, trust of the consumer on e-commerce platforms relating to online shopping will increase in future due to;

(1) the system will improve and be equipped with better technology and changes in industry will increase the trust. The younger generation, who depends on the technology to buy a product online will grow more. The use of smartphones is increasing and it will maximize the potential customers.

(2) The embedment of technology into humans will fluid the nature of trust. Although trust is not a binary or distributed.

(3) Trust will never grow in e-commerce platforms, rather the technology will keep on growing. Consumers will attach themselves to the online purchase risk and it will become a

'new normal' in the future. There will be no choice left for the consumer but to trust the online shopping platform.

(4) Blockchain may help in the future, enabling the merchant to gain consumer's trust.

(5) The Internet is insecure, so there will be no trust in the future. Dictatorship may rule over the internet by threatening the individual's rights.

These assumptions have their place in the future, because the governments and corporations are not interested in securing and protecting the private data of the consumer, and they seem less interested in improving a consumer's trust on the e-commerce platforms.

This research examines the relationship between internet merchant and consumer's trust on the merchant. Also, this research tries to establish a connection between consumer's online trust propensity in online shopping. To what extent, propensity of trust mediates between Merchant's trustworthiness and Consumer's trust in online shopping.

- Objectives of the study includes the following; I think the line spacing is different in the last two cases to analyzes the types of frauds in E-Commerce, to examines the processes used in the detection of the frauds, to analyzes the techniques to prevent the frauds in the consumer transaction, to formulates a framework as a preventive measure to defraud the E-commerce business in Bangladesh, to examines the level of trust between consumers and internet merchant, to observes the impact of ‘merchant’s trust’ on consumer’s shopping trust.

1.4. Research Questions

1. The trustworthiness of the internet merchant can establish the trust of consumer in online shopping?
2. Can propensity of trust effects the relationship between Merchant's trustworthiness and Consumer's trust in online shopping?
3. Can propensity of trust effects the relationship between Internet Capability and Consumer's trust in online shopping?
4. Can propensity of trust effects the relationship between external environment and Consumer's trust in online shopping?

1.5. Research structure

This research consists of five chapters to achieve the objectives of the study through questionnaire, data analysis as discussed in the previous section.

In chapter 1 of the study, overview, introduction, and background of the study has been discussed. This section begins with a complete review of the research topic, its background, problem statement of the study, scope of the study along with possible implication of the research. The research questions, objectives, and the desired goal of the researcher to conduct the research is given.

In the chapter 2 of the research, overview of the literature is given to discuss the domain of the research, and researcher's struggle to review the previous researchers. Then, why e-commerce adoption is the need of the time, what are the theories supporting the adoption of e-commerce, what is theory of reasoned action, how to measure the trustworthiness of the merchant, and how to inspect the merchant's benevolence. Also, the perceived risk, internet medium trustworthiness, usage of internet with respect to understanding of the shopping medium, website quality and security measures.

In chapter 3 the method of research along with philosophical implications are discussed. The methodology section includes the introduction, what are the possible philosophical implications, how to collect data of the research, which method is used and why. Also, the population selected for the study, sample of the research, and the research design. The empirical work of the research is carried out with questionnaires. Furthermore, this chapter explains the process of research in detail, how the researcher managed the data, which statistical software is used for data analysis, and how the reliable results were extracted. In the final section, the ethical considerations of the research have been discussed.

In chapter 4, I have discussed the brief introduction of the research along with collected research data. This chapter discusses in the tabulation form, each question with its proper statistical grouping. Also, the hypothesis of the study is being tested in this chapter. This chapter carries data analysis on smart-Pls 4.

In Chapter 5, conclusion of the research is given along with discussion. In chapter 6 New and novel scientific results are given and in the Chapter 7 summary is given. The flow chart is given below (Fig. 1).

Figure 1 Research Structure Flowchart (Source: Own Compilation)

2. LITERATURE REVIEW

2.1. Overview

In the previous chapter of this research, the background of the study along with the problem statement and the scope of the research has been discussed. What are the aims and objectives of the research, and what will be the possible implications of the research. This chapter deals with the review of relevant literature relating to e-commerce adoption in Bangladesh, e-commerce based online shopping platforms and their dealing with the customers with special references to the fraudulent activities by the prominent online shopping enterprises in Bangladesh. The focus of this research is based on the questions asked in the previous chapter, also to discover the answers to these questions in the later chapters. The literature search involves the scope of small and medium sized enterprises in Bangladesh, their working mechanism, online shopping platforms transactional pattern, the business models adopted by the online shopping malls, Business to business and business to consumer participation with context to SMEs in Bangladesh. The researcher has followed systematic technique to find literature review of the relevant studies, with different categories of frauds in e-commerce companies. The frauds that were common in the literature review are related to 'transactional frauds'. Few studies have based the merchant frauds, irrelevant business model usage (Ahmed, Ali, & Top, 2021). The researcher has reviewed the literature within categories, and each category holds ample literature to follow the research. Also, the linking between the narrative of the study, its relationship with other categories has been discussed. The literature reviewed in this study is available in the public domain, and no hidden or private paper has been reviewed in the study. Main task of the researcher is to enlighten the future researchers to easily find the reviewed literature for further consideration. Also, the government records, investigation agency reports and newspaper reports about the fraudulent online shopping activities in Bangladesh have been reviewed.

2.2. Historical overview of E-commerce fraud in Bangladesh

Ample e-commerce enterprises in Bangladesh have been involved in fraudulent activities with the consumers. These enterprises have been selling online products, providing the customer online investments in the name of e-loans over social media platforms, smartphone applications and websites. The projecting among them is; EValy, ringID, Boom Boom, Priyoshop, Dhamaka shopping, Shirajganj shop, Qcoom, Aladin’s prodip, Dalal plus, Alesha mart Nirapod

shop and needs dot com. All these enterprises have been found involved in fraudulent activity with the consumers (Islam, 2020).

EValy has been offering 20-150 percent of cash back on different products in their stores. It was a process of returning the product if you aren't satisfied with its use and we will return the money to you. People were buying the products and after some time they returned to get their cash back. Around the globe, EValy's business model never existed. It has been learned from the internet sources; EValy business model isn't a real business model. Even when Jack Ma started Alibaba in China never took service charges. Others also do not follow the business model that was presented by EValy. People trusted the EValy and deposited money to their accounts. In three months, more and more people were depositing money to EValy's account, and some of them were returned with products that were ordered on EValy. EValy wasn't returning product to each customer at the same time, if they did so then fraudulent activity will become open to the general public. EValy has two choices ahead, to flee from Bangladesh or to consider EValy as bankrupt. EValy placed a plane fraud in two ways; (1) on advanced payment they didn't return the product to the customer, and (2) they were not paying the price of the products to the merchants. In both ways, they were playing fraud, which has no place in the history of Bangladesh or south Asia. In the meantime, the Bank of Bangladesh reported to the ministry of Commerce about the EValy 214Tk amount to the customers that they haven't paid. It happened on 17 June, 2021. EValy has Tk 92 crore with working capital of Tk 75 crore (Faisal, 2018).

Alesha Mart, another online shopping market in Bangladesh, worked in the same way as EValy did. The difference between Alesha Mart and EValy is; EValy has given discounts on every product, while Alesha Mart gave discounts on Motorbikes only. EValy customers were given products in the initial phase, later they were not given products even on advanced payment, but the Alesha mart is believed to be fraudulent in the same pattern. This stance justifies the fact that past experience shapes the future experience. Although, philosophically it seems impossible, in the probable world it has a solid ground (Banna et al., 2022).

Dhamaka Shopping is another landmark of online shopping in Bangladesh with no license or business account. The business transactions are done through the Invariant telecommunication companies of Bangladesh. According to the Rapid Action Battalion (RAB) of Bangladesh, the Tk 650 crore of transactions to the Dhamaka shopping has been done illegally. RAB has

arrested several of its employees on serious fraudulent charges, because of cheating with the consumers (Banna et al., 2022).

Eorange shop is another fraudulent online shopping platform. Eorange is a family business of a brother and sister, where the brother is a cop and has relations with the elite and powerful mafia of the country. It was established in 2019. The placement of new e-commerce laws in Bangladesh to deliver the product to the end user in ten days period, the company stopped its working at the end of Covid pandemic.

On similar ground, Qcoom appeared as an online shopping platform in Covid-19 pandemic. People were facilitated by online shopping with no apparent fraud from Qcoom's side, but lately the investigation agency has arrested the Qcoom's owner under the digital security act with Tk 250 crore fraud. These fraudulent moves inspired the oldest online shopping platform of Bangladesh "Priyoshop". They have been serving people with dignity from 2012 till 2019. Then, their sales dropped due to EValy, Alesha mart and Qcoom's discounted offers. The Priyoshop facilitated their customers on similar grounds (Chowdhury et al., 2022).

2.2.1. Ease of E-commerce usage

E-commerce has benefitted the customers with significant increase in the selection and availability of the products and services, saving time through online shopping, on time product delivery at doorstep and different modes of easy payments along with refunds. The placing of product order has become easier for the customers, and shopping is accessible from everywhere in the world with few clicks. It has reduced the transactional costs, introduced a mechanism to value change, with increased comfort and 24 hours availability of the products at online stores (Abdillah, 2020). It is missing from the References. E-commerce also brought positive change in the selection of the products with a variety of product reviews, detailed product description, opinions of product consumers, and quality assurance. The consumer has the ability and access to cancel the product order at any time, rejecting the cash on delivery if the product isn't up to the mark. Also, customers can buy a product from different stores with discounted rates. Once the product has been received, the consumer can post a comment or review a product on the vendor's website (Fatonah, Yulandari, & Wibowo, 2018).

2.2.2. Ease of sellers

The increased benefit of E-commerce for the sellers is the increasing revenue. The seller has to dispatch a product from the store with the help of courier services, where the overall operational hassle has been reduced with better maintenance of product delivery costs (Abdillah, 2020). Seller's revenue has increased over the last few years. Corona Virus toppled the business and shifted the traditional stores to online stores, with reduced costs of procurement. Also, the customer loyalty has been increased with lower transportation costs. E-commerce helped the seller to build a strong trustable relationship with the customer, and improved the speed of product delivery with an improved selling process. This mechanism also developed the companies to turn into brands by maintaining product quality with a better image of the company (Fatonah, Yulandari, & Wibowo, 2018). Seller and buyer had to face major challenges in online business transactions. In the E-commerce business, both private and public organizations stay apart and never join together to grow the business. To flourish the E-commerce business, the involvement with mutual pact between private and public corporations is the need of the time. Through joint initiative, credibility is built to trust the consumer.

On the other hand, system security has always been an issue in E-commerce (C.-C. Wang, Chen, & Jiang, 2009). It is missing from the References. There are no fixed standards regarding product quality assurance, also there are lapses in the web security protocols. In case of an E-commerce website being hacked, millions of consumers are vulnerable to fraud through sensitive data exposition. Websites provide security with increased costs; most E-commerce websites don't avail the opportunity to secure the client data. In the promotion of E-commerce, financial security roles can be played by finance institutions and banks. In developing countries, the non-availability of the secure fund transfer, and inactive role of the banks is a hurdle in the promotion of E-commerce. Internet merchant needs bank support to grow their business as the transactional fraud has been increased in the developing world. Inter and Intra bank transfers have been secured by the banking system, a similar mechanism is needed for the E-commerce transaction security. In that case, the banks can help to devise an alternative modality for online transaction security (Bhowmik & Wang, 2020). The important factor is the 'trust of the consumer'. There are no laws developed to protect 'trust' as legal value between seller and the buyer. In developing countries, cash on delivery is the important element in online marketing, where credit cards are not operational by the consumers due to lack of trust in the E-commerce system (Chavan, Neb, Shakya, & Ambekar, 2022).

2.2.3. Challenges for Bangladesh's e-commerce

Other challenges to the emerging economy of Bangladesh are the lack of education. Educational systems and cultural traditions are the biggest hurdle in adopting E-commerce, where a seller has little knowledge about online marketing, hesitant to accept E-commerce as a means of business. In Bangladesh, the concept of E-commerce is still in initial state with no political support and less marketing promotions (Hossin et al., 2018). Also, the costs of the products are higher and the internet is available in limited areas only.

2.3. Fraud Theory

This section discusses the theories related to frauds, discussed in the contemporary literature, government policies and regulations. A brief review of these theories helped the researcher to examine the case of different fraudulent activities of public and private sector organizations, and SMEs. The prominent among them is;

2.3.1. Cressey's Fraud Theory

This theory is based on a triangle, which inspired people till decades. It is a classical model of understanding the nature of fraudulent activities and offender (Akomea-Frimpong, Andoh, & Ofosu-Hene, 2016). According to Schuessler and Cressey (1950), there are three main pillars as factors to base the fraud. These three are; (1) Perceived pressure, (2) Opportunity, and (3) Rationalization (Fig. 2). Cressy's hypothesis triangle is refined with the passage of time. He worked continuously on his hypothesis and tested it on different platforms. According to Donald R Cressey (1953), financial problems are the biggest source to lead oneself to deception. In that case, the person who is trustable by a community of a group of people or peers becomes un-trustable when they fall into financial problem. He tries to resolve the financial problem with secret methodology and without informing his peers. In that case, he violates the position of a trustee. A person with serious financial crisis cannot be trusted and he tried to convince people through verbalization that he is not what they perceive. In that case, the perception of trusted person with misconceptions arises.

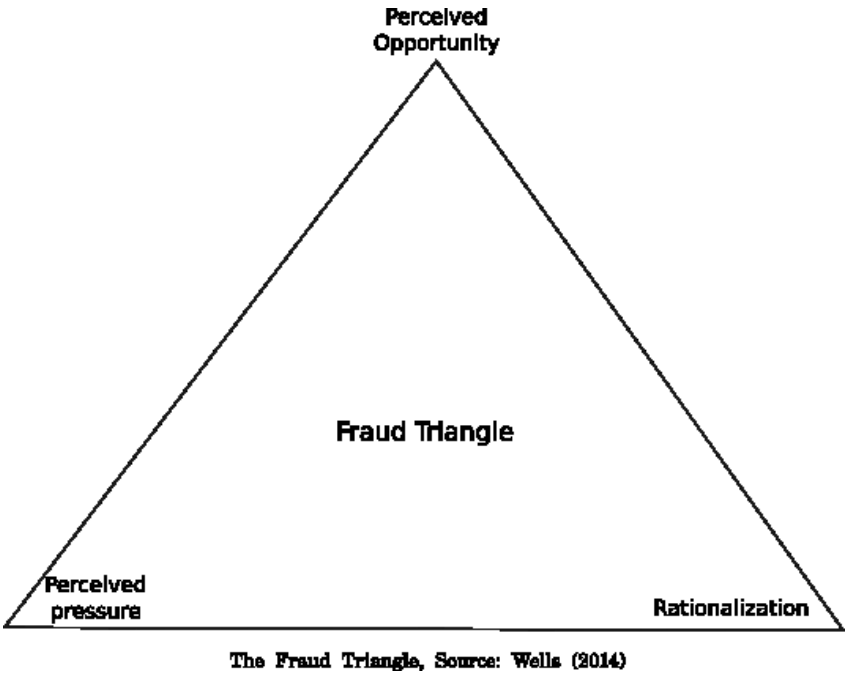

Figure 2. The Fraud Triangle, (Akomea-Frimpong et al., 2016, p. 22)

Donald R Cressey (1953) marked these people as trust violators. His case studies about fraud triangle shows, how people fall into a trap of a trust violator. His triangle answers some basic questions of 'why fraud occurs'. The three elements of fraud triangle will be explained one by one;

Rationalization: According to Ramos (2003) rationalization in fraud triangle is the process is the alignment of act with ethics. In that case, the fraudulent person aligns his fraud with his code of ethics by considering fraud a good thing. This alignment makes the process of fraud easier for him and he act justly to the fraud. There is no 'wrong or right' in the eyes of a 'trust violator', because his 'code of ethic' has accepted an evil as 'good'. Only the rationalization is the process that enable the perpetrator to reduce the dissonance.

Triangle's second domain the '**Perceived pressure'**. Pressure appears when a trustable person fell into financial crisis and cannot share his situation with another person, or he wants to keep it secret. It involves a strong sense of ego and pride, or a self-built image of a person in the society, which can be shattered by sharing his problem with others. It is commonly considered that wealth makes relationships and if one person deprives himself of wealth, he will become weak in the eyes of others. which is a fact, and to keep oneself strong in the eyes of others, the 'financially unstable person' prevents himself from sharing his need with others. Thus, it leads to 'perceived pressure', which becomes a motive of fraud (J. Dorminey, Fleming, Kranacher, & Riley Jr, 2012). According to Kassem and Higson (2012) external pressure or loss of

employment develops a financial crisis, either through financial or non-financial forces. These forces further lead a person to commit fraud.

According to Kassem and Higson (2012) pressure can be divided into three categories. (1) Personal pressure, (2) Corporate employment, and (3) External pressure. In the personal pressure, there are two categories (I) Financial, and (ii) non-financial. In financial category, addiction of any type is included which may be gambling, health related, cocaine, hysteric or grandiose. It causes sudden loss of wealth and create financial crisis. Its payment is for lifetime and one person has to bear the loss forever. In this type of financial crisis, at the end the person becomes lonely, no friends or peers. He has nothing to lose and nothing to spend on himself, which makes him poor till death. This situation may lead him to continuous 'personal pressure'. On the other hand, the non-financial person lacks discipline and greed. Greed is the only thing that leads a person to fall into the trap of a delusion of wealth. The delusion of wealth further pressurizes him personally.

In corporate or employment, the financial side is based on the continuous struggle to maintain expenditures by continuous compensation. Salary isn't enough to support the person, or he has other financial interests or management related tasks. All these tasks depend on the employment but the employment cannot fulfill the task. Which further lead him to employment pressure. The employment pressure is common among salary people due to their continuous struggle to earn more and spend less. Their expenditures are more than their salary, which further makes them poor and financially strapped. On the other hand, non-financial employment has unfair treatment, always fearful of unemployment. This type of person remains frustrated from work, or may remain frustrated that's why he has no financial activity, or he tries to challenge the system (Kassem & Higson, 2012). In all cases, the corporate or employment pressure leads a person to further fraud. The external pressure involves the financial side as the threat to a business. The business always remains under threat due to circumstances. In that case a continuous pressure is holding a person to fell in financial crisis. In the time of covid-19 pandemic, classical business owners remain under continuous threat. Their shifting of business from classical mode to online is a type of survival from the threat. Also, the market expectation is another holding mechanism to make external pressure real for a person. In non-financial form the loss or reputation, worth in the society or image damage also the social pressure is the form of external pressure.

Perceived opportunity: The circumstances that support the fraud, their appearance is known as perceived opportunity. Opportunity is the supportive mechanism to pick a move by the fraudulent person to achieve the target. To commit a crime, the fraudster seeks opportunity. this opportunity is either in the form of a trick, empty house's watch, or compelling one to give a spot for the fraud. In either case, the fraudster will find opportunity to fraud. Jails are built to cut perceived opportunity of the fraudsters. In they remain free, their wishful thinking will lead them to commit a crime by finding an opportunity (Kassem & Higson, 2012). A fraudster finds an opportunity when he seeks for money or financial stability, or under the threat of a financial problem. In any case, the fraud triangle shows the only demand of the fraudster is to find an opportunity. If he has opportunity, he will commit a fraud. In a World War II, a reputed lady stole an item from the store. She was wealthy and have enough to eat and spend money on daily routines. When the case was brought to the judge, he asked; My lady, why you commit such a crime, whence you have everything in your possession. She replied, I found opportunity that day. This opportunity makes a greedy man to commit a crime, either he wishes or not. Opportunity also can lead a fraudster to commit a crime without the support of rationalization or pressure (J. Dorminey et al., 2012).

According to (Davis & Pesch, 2013) opportunity is defined as the proxy which gives strength to the motives of an organization to fulfill the inner control tasks. The opportunity in this case is; to provide a chance of stealing money or chance of fraud with public, organization or group of people. Opportunity arises from certain different situations. These situations differ according to the standards and situations. A person's inner control, lack of proper control on self, poor supervision and training, and in effectivity of the fraud prevention techniques, courses are the reasons behind the 'finding opportunity to fulfill the fraudulent activity. In fraud triangle, certain factors are observable and others are not. According to (Kassem & Higson, 2012), rationalism is a factor which cannot be observed in a fraudster. Similar is the case with pressure, which cannot be observed. These two factors will remain salient in a person, only the observed factor is the opportunity. If rationalization and pressure cannot be observed, it shows that these factors cannot be controlled. Only the controlling factor in the fraud triangle is the 'opportunity'. Third parties can inspect this element and they have the ability to explore the 'need and opportunity'. This research is more focused on 'opportunity' in Cressey's fraud triangle.

The Cressey’s triangle shows the crime scene status. It can be observed that, where a crime has occurred, there an opportunity has existed. If there were no opportunity, there won't be any crime. That's why opportunity is traceable and observable. Although it is an assumption, but as

per the analysis of Madensen (2016), role of opportunity cannot be neglected in the crime scene. It seems relevant, because whenever a fraudulent activity occurs, the organization has to observe first the role of 'opportunity'. In the case of EValy online shopping platform fraud, the opportunity is provided by the EValy enterprises by giving discounts. The discount is the 'opportunity' and consumer were eager to get the discount on the products. These products were not irrelevant. These products remain in the warehouse and the enterprise never delivered them to the public. Instead, they were promoting more and more 'opportunity'. For any organization, 'opportunity is the first fraud. Opportunity not remain same in every crime. It changes with the crime, for example a crime happened in the street and in the organization has different type of opportunities. The only mutual thing between crime at every place is 'opportunity'. In case, where crime has occurred, there is an essential place of opportunity. There may be different types of opportunities. According to Shafiee and Bazargan (2018) opportunity of a crime is one thing, type of opportunity is another. It is not necessary; a fraudster follows the same type of opportunity to commit the same crime. Killing is a crime, which is committed by several people. Each killer has found an opportunity, but the type of opportunity differs in each case.

This research has focused less on why the crime has happened, and why the opportunity has importance, instead this research focuses more on 'how' the crime has happened, how the fraudster has committed a fraud by finding an opportunity, which is one factor. How the crime or fraud has been committed, this question can be addressed by presenting a conceptual framework. A Conceptual fraud model has been devised to explore the different mechanisms of the frauds, with their legislative alignment. Also, what type of practices are common in the government sector to prevent fraud.

2.3.2. Other Fraud Models

How fraud happens in an organization, or in our case how a fraud occurs in online shopping platforms. wide range of literature has been consulted to cover the topic, also to uncover the fraud mechanism. The prominent models selected in the study to explore the fraudulent practices are; (1) White Collar crime, a model presented by Sutherland (Simpson, 2019) (2) Fraud scale presented by Albrecht and Axell (1984) and (3) Fraud diamond presented by Wolfe and Hermanson (Onodi, Okoye, & Egbunike, 2017). These three models explore the different types of frauds in organizations. These three models are the extension of Donald R Cressey (1953) 'fraud triangle'.

2.3.3. The Fraud Scale

Cressey's scale that was presented in 1953 based on the fraud triangle, has three prominent factors, perceived opportunity, perceived pressure and rationalization. These three factors cannot make a perfect prevention of fraud. This model has become obsolete in the modern world and several scholars have been working on to devise a better model to prevent fraud from the organizations. In that case, the Albrecht and Axell (1984) presented an extension of Cressey's scale. He named it 'Fraud scale'. This scale can be understood with an image (Ismail, 2019). Purpose is to balance the risk, hence by balancing the fraud scale. There are two types of pressures in the Fraud scale. In Cressey's (1953) scale, there was only one pressure which was 'perceived pressure'. These two pressures are (1) high pressure, and (2) low pressure. These two pressures balance the fraud scale. Donald R Cressey (1953) triangle, there was one opportunity. In fraud scale, there are two types of opportunities, (1) greater opportunity, and (2) Lesser opportunity. Other factors added in the fraud scale are integrity and risk. Integrity has two types, (1) Low personal integrity, and (2) High personal integrity. Similar is the case with risk, (1) High fraud risk condition, and (2) lower fraud risk condition (Fig. 3).

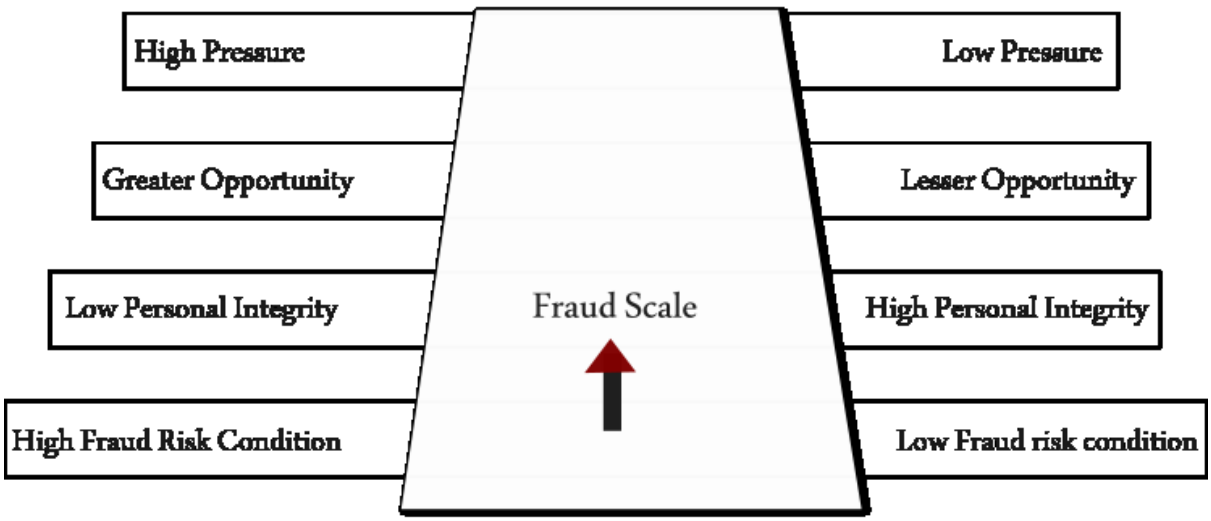

Figure 3. Fraud scale (Balance),(Ismail, 2019, p. 57)

According to J. W. Dorminey, Fleming, Kranacher, and Riley Jr (2010) individual's personal integrity is more important to inspect in case of a fraudulent activity. Also, the pressure either low or high and opportunity has little impact when integrity is high. Thus, the change in the study follows from the fact that, unlike Cressey's triangle, the fraud scale determines the integrity of a person as observable. Cressey's view was, the opportunity is easily observable.

Similar pattern has been observed in the fraud scale, where the view match in case of 'no inspection is possible of rationalization'. Rationalization is a subjective phenomenon and it cannot be observed. The observed variables are the apparent or the objective variables. In case of a fraud, the objective variable is the opportunity, or the integrity. Individual's integrity is equally opposite to the person's rationalization. The term 'rationalization' is vague in the fraud scale, also in the Cressey's triangle. Philosophically, rationalization is the overall phenomenon of a person, his act, thinking and movement. All these acts are the acts of the mind, then it can be said that mind itself is the integrity, and mind itself is the subjective phenomenon. Mind is the opportunity. To judge a person's fraudulent mind, it is necessary to judge a person's decision- and decision-making process. His commitment about the decision will become obvious.

2.3.4. The Fraud Diamond

The fraud diamond model presented byWolfe and Hermanson (Onodi et al., 2017), which further expands the Donald Ray Cressey and McDermott (1973) model of fraud diamond, in which the fourth element is considered an addition. The fourth element in the fraud diamond is the capacity of an individual to commit a fraud. It inspires the person to commit a crime and to make it possible in every situation. In the fraud diamond, the fourth element is the 'incentive', which inspires the person's opportunity level and rationalization. It is not enough, as four elements cannot lead a person to commit a fraud. Significant factors are the traits of a person, understanding of the matter in which fraud is going to happen, its deep study and proper sketching in the mind (Fig. 4.). Although these elements can help to predict, either a person is capable to commit a fraud or he is willing to perform an unjust act under certain conditions. In these conditions, for example the online shopping medium is used, which is 'internet connectivity', and the 'website' as a tool to fetch the consumer. The other leading sources are the product description, product's images. These elements can be used a trap or opportunity.

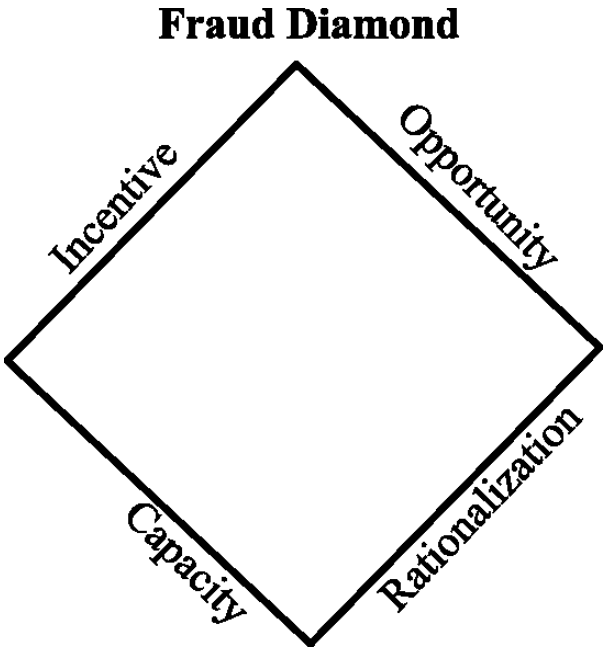

Figure 4. The fraud diamond, (Onodi et al., 2017, p. 105)

2.3.5. Cyber Crime

Online frauds have a specific term 'Cyber Crime', which describes the very nature of crimes committed through the internet. In general, these crimes are of common nature, based on manipulation and exposing of sensitive user data and information stores in the internet, or stores through the internet to a platform. According to (McGuire & Dowling, 2013) the range of cybercrimes from copy infringement, which is a form of data breaching and related to content breaching crimes, forgery or theft of any kind, and unauthorized access to a system. The range of cybercrime in south Asian countries is not limited to specific tasks, but to investigate the state criminals, inspection of social media accounts, political activity over the internet or any other type of activity that is not in favor of the state comes under the cybercrime. Computer hacking has two broad branching, (1) ethical hacking, and (2) unethical hacking. Computer hacking is considered a crime, because it is the breach of data of one person to another. In that case, hacking a system, which includes the hacking of banking system, transactional system of an organization, or illegal access to a secure system comes under the hacking crimes. According to Monteith et al. (2021) cybercrimes are the modern-day crimes. Two prominent categories of cybercrimes elaborated in research are; (1) Illegal activity by a person, or group of people or an organization towards another organization over the internet relating to electronic operation of computer system, and (2) illegal behavior committed by means of, or

having a relation with the computer system or networking system comes under the category of such crimes. The illegal possession of data is the crime committed on cyber or internet.

Consumer's sensitive data, the transactional records are available over the internet by renowned organizations, shopping websites, etc. The record of transaction, credit card information if stolen, shared or illegally used by someone else, is the crime committed by the cyber. Hence, cybercrimes are unlimited in nature, because the activities on the cyber are unlimited. With each passing time, these activities are going perplexed for the laymen, but the experts are aware of every trick to manipulate data (Willis, Jai, & Lauderdale, 2021). In e-commerce the penetration to a system of information which holds the transactional details opens up a fraudulent activity, as the fraudulent people hide themselves behind the cover of anonymity over the internet and they carry out their working in unknown position. The online user is vulnerable to the internet and cybercrime each time available over the internet, or in case not available as login user, but the information of the user is available on a website or platform.

The internet has created a world of business through merchant's involvement. Business platforms over the internet facilitate the business world from trading to online shopping, selling of goods and services. Internet merchant's make payment over the internet, use credit card, online banking system, and smartphone applications to access their banking accounts. The smartphone technology has emerged as a game changer for the internet merchants and internet consumers. Mode of payments over the internet has become diversified and easily accessible for anyone. However, the fake merchant has created channels over the internet, doing their e-commerce activities as online business (Fatonah et al., 2018). To inspect and differentiate a good and bad internet merchant over the internet has become impossible due to anonymous locations. On the other hand, consumers seem less interested in finding a reliable merchant. The world is in haste and nobody has time to probe a merchant for a solid reason of buying a product.

2.3.6. Pre-Order a product Fraud

The cybercrimes relating to fake merchant are common in Bangladesh and Pakistan, where discounted process, pre-order booking of smartphones, graphic cards, computer related hardware has become a trend. In many cases, the fake merchants flee from the country after collecting a large sum of money in the name of 'pre-order a smartphone', or 'pre-order a camera, laptop, or other gadgets'. Well known internet-based companies open a pre-order of a product platform (Drew & Farrell, 2018). These platforms serve the very purpose of the consumer by

adding a value to their life. The value to be added is based on, getting a new smartphone, iPhone, Laptop, Graphic Card, Desir, camera etc. These gadgets are costly and pre-order companies earn a lot of amounts in the name of such activity. Initially, these products are delivered to the customers willing to pay the full price before the product is launched in the market. The similar trend is going on in the automobile industry, where pre-order a vehicle has become a fashion due to limited number of products, haste in buying a new. According to Zhang and Yang (2021) pre-ordering a product involves the 'need' and demand of a consumer, in which a consumer assumes that the product maybe in limited number, or he may never find the product again. In that case, the companies offer discounts on pre-order, because the internet merchant is aware of the fact that, 'If the product is launched without pre-order', it may not work in the same way, or it may not perform the way merchant, or company is expecting. In that case, pre-order is beneficial. In Bangladesh, and Pakistan the pre-order frauds has been going on since the creation of 'pre-order a product' platform.

In general, the world has observed increased fraudulent activity in the online wallets, commonly known as virtual wallets that are online transactional accounts of the citizens. Its demand is noted in the regions, where e-commerce businesses are in number and internet users are aware of e-commerce and online selling and buying of products and services. Online fraudsters play their cards in online banking, auction trading, money laundering, online user victimization, fake job creation etc. (Zia, Abbas, & Arshed, 2021). The concurrence of online fraud is all related to money. In case, where the money is in the form of an online transaction, a bank account or anything related, the crime between two or more people can happen. In that case, physical parties are not physically involved in bargaining of a product or services, but they are involved in a way, where they want to transfer the amount from one direction to another. The transferring of amount from one bank to another, or from one user account to another can cause online transaction fraud, as in the middle a hacker can anonymously intervene to stole of credit card details shared between two people. If a bank related smartphone application remains non-updated for a year, the chances are it is prone to error or hacking. In 2012 the high record of online transaction reached to $268 billion. The number in increasing rapidly over time. In 2013, the internet crime complaints in Saudi Arabia were reported by 262,813 users. These reports were related to non-payment of transaction, investigation related frauds, identity theft and victimization of citizens. According to Milošević (2022) internet related fraudulent activities have been increasing over time in billion dollars.

To a rapidly growing e-commerce organization, securing of data, maintenance of security protocol, updating of internet related services, inspection of software from malware and other virus-related problem has become necessary. According to Dong, Shatz, and Xu (2009) online frauds has reached to its limit and the controlling of online fraudulent activities has become impossible over the time. New techniques have been devised to prevent the online frauds, or to strengthen the security system over the internet. It demands manpower, rapid growth of internet related technicians, and public awareness relating to e-commerce activities. if the e-commerce activities became secure, the chances are, less and a smaller number of cyber-attacks will be observed. But this case has not become so common among the general public, because people are fully dependent over the internet, assuming that internet is a secure medium of transaction. There are less chances to control the cybercrimes because of general public's unawareness about the fraudulent activities over the internet (Davis & Pesch, 2013). Government has made effort to control the online frauds, and cybercrime agencies are working to control the fraudster people around the globe. It seems hard to observe the same case again and again. However, the advancement in their internet world will improve the security of the internet related transactions.

2.4. E-Commerce adoption

E-Commerce is the emerging market with a changed face for the betterment of the industries in the present globally controlled economic system. The system of economic growth is interlinked with other systems. In the past, it has been a system based on a separate mechanism, now it is a union or mixture of more than three systems (Wymer & Regan, 2005). Through the e-commerce industry, the trading companies are surviving and directly benefited. The reason to adopt the e-commerce system is the cutting costs, which has several viewpoints. The advertisements have become a tradition in e-commerce which need a click to follow the product. In the traditional business setup, advertisements were planted on billboards, on the roadside views, which benefited little. In the television, on written magazine, or newspaper these advertisements appear, but due to their non-availability in the present area, the business always remained in a hiss. In today's world, business is helping people to build a relationship with their customers. It can be defined as an interaction of a buyer and seller based on the internet, and make transactions possible through the internet or computer networking systems or through the online process (Bojang et al., 2017).

E-commerce is more than an activity to sell and buy a product or services through the internet. This activity can be done by everyone and it has no limits. It is easier to access and

has no limit of space or time. The innovation has come to E-commerce shopping through Daraz and eValy, which has become a trendsetter for the new mode of buying and selling of products. Businesses attached to sell online, having their presence as offline stores are linking with these platforms (Faisal, 2018). These platforms work in a way; the consumer requests the platform to buy a product which is available in the form of pictures, with written description on the platform. The platform collects the order and transfers it to the business holder. The business holder dispatches the product and receives the amount from Daraz or eValy. However, these platforms didn't guarantee the product quality and product performance. It is up to the business holder to assure the consumer about the reliability of the product, which isn't available on the platform. There is no government intervention about the scammed or faked products or services (Karim, 2020).

In Bangladesh, E-commerce is more encouraged through the MFS. If the payment is made through MFS, consumer get discount on BKash and Nagad (Banna et al., 2022). Also, the same rule applies to online bank payments. The standards followed to purchase a product online in Bangladesh are;

1. Cash on delivery (COD)
2. Partial Payment (PP)
3. Payment via MFS
4. Payment via online banking system

To promote a product, offline and online markets work equally through advertisements. Advertisements are no more assuring for the consumer. They demand reviews in the form of videos. These video reviews help the consumer to select the product. Smartphone reviews are common nowadays on YouTube and other social media platforms Facebook. These reviews elaborate the product bit by bit, positing its pros and cons. Paid people promote a product with fake reviews, and these reviews are known as paid reviews (Kumar et al., 2018). These reviews are paid from the product's vendor. The information given in these reviews is not accurate, and based on misconceptions about the product. However, to counter the issue, it is necessary to watch other reviews of the same products. But it makes the selection of the product harder.

In the developing countries, E-commerce emerged as a means to benefit the businesses through the commercial revolution. E-commerce is a revolution for the third world as a business practice which invites consumers all over the world at one place. In the past, the businesses were limited to regions and buying of a product was limited to a community. Brands

offering their services were famous at one place and unfamous at other. E-Commerce not only invoked the idea to reshape the businesses to the modern world but also it produced the need-based mechanism for consumers. E-Commerce is a term that interconnects the transaction between business partners (Khan, 2016). It describes the process of buying and selling of products, services, goods and information among consumers through the internet (Xiang & Sarvary, 2013). Commercial transactions are related to value exchange (e.g., money) across the globe in return of products and services. Exchange of value determines the limits of E-commerce. If there is no exchange of value, there will be no e-commerce. So, it is necessary to implement the concept of E-commerce, to implement the exchange of value. For this purpose, the secure data interface (EDI) has been introduced. Through EDI, it has been ensured to transfer information in a secure process between enterprises, production units and logistic systems (Levshun, Chechulin, & Kotenko, 2018). It binds a chain to transfer the value through a secure source from consumer to the organization. In most cases, these transactions are implemented properly, but the usage of EDI is not secure for everyone.

2.4.1. The e-Commerce and Covid-19 Pandemic

In the time of covid-19, where the world was brought before the death, loneliness and severe depression, online shopping appeared to make miserable life happier. In that time, consumers and general public know the importance and benefits of online shopping. According to Iqbal, Hunjra, and Rehman (2012), online shopping remained convenient from the time it started till today. Online shopping is to shop the products online through websites, and other social media platforms. Now, people have ample of options to buy products of same nature from a same store. Each store offers a variety of products. Consumer can compare product prices, product description. the comparative feature of the online shopping is the only thing that is not available in the traditional market. The traditional market offers products, but a customer has to walk in every shop to ask for prices. According to Miah and Das (2021) in the new digital economic world, internet shopping and online shopping has become a 'new norm'. E-commerce has become a pivotal segment of 'new world order'. It has a significant positive impact on new world economy. each country is promoting the e-commerce adoption, which increased in the time of Covid-19.

2.4.2. Theory of reasoned action (TRA)

Theory of reasoned action was proposed by Ajzen & Fishbein, (1980) It is missing from the References, commonly known as TRA, which is based on the explanation of human

behavior and actions (Vallerand, Deshaies, Cuerrier, Pelletier, & Mongeau, 1992). According to the theory, the intention of a person will influence the behavior of a person, which further leads to do or not to do an act or behavior. Intention is the first cause; behavioral influence is the second cause and resulting behavior or action is the third cause. The intention to do or not to do is linked with certain determinants. Among them, the first intention is directly related to the attitude of a person towards his behavior, and the other is directly influenced towards the social behavior of a person. Here comes the two types of determinants according to the Theory of reasoned action; attitude related and social influence related or subjective norms. It is believed that there is a causal chain of events connecting the beliefs of behavior and normative, or the person's internal behavior and his outer circumstances. This theory is used in this research, because it gives motive and provides a basis for the action based on operational components.

A theory based on the reasoned action is the purchase intention formation (J. Wang, Cai, Xie, & Chen, 2021). The interest to purchase online products and services shapes the behavior of the consumer, which is considered a psychological aspect of his personality (Tendai & Crispen, 2009). This theory assures the consumer to buy a product or services online that has been trusted by ample of buyers. Once consumers focus on the rating of the product, reviews about the product, he no longer waits to buy it because many consumers already trust the same product. It gives motive to his behavior; if everyone is buying this product, then it should be worth buying. The decision of 'worth buying' is based on the purchase intention of the consumer. The role of intention is pivotal in this game, where a consumer shapes his behavior through an intention of buying a product. The decision to buy comes later, first the influence to buy a product. This influence is developed by the E-commerce industry through different means of advertisements, positive reviews, product rating and word of mouth. All these tactics are in favor of the vendor and shape the intention to buy a product.

2.5. Trustworthiness of Internet Merchants

Everyday new types of fraud are invented on digital transactions. A careful analysis exposes the types of frauds. The most common type of E-commerce fraud is identity theft. In this fraud, name, phone number, email address and national identification number is targeted by the fraudulent activities. This type of fraud is most dominant and used for a number of different frauds. The information gathered through this process is sensitive and can be used against the recipient. Another type of fraud is friendly fraud. Consumers go for online shopping

through their credit card on different websites and smartphone applications (Drew & Farrell, 2018). The payment method in those websites is the credit or the debit card. In this process, the companies stole the information of the consumer and declared the sensitive information of the buyer as stolen. That's how they keep the services and products to themselves. In clean fraud, the credit or debit card used in the purchase is already stolen, but it is used in a way to manipulate the E-commerce system. In the Affiliate fraud system, the affiliate process is initiated through a third person's help with the help of fake accounts. This is a fully automated process, in which the fraudster manipulates the signup process. Merchant fraud is a different type of fraud that has been going in Bangladesh on eValy and Aleshmart e-commerce companies. In this fraud, the merchant sells the goods and services on cheap and unbelievable rates. The consumers, without thinking twice, pay the requested amount, and get nothing in return (Faisal, 2018). The merchant keeps their money and never returns it, nor ships any product in return. That's a very simple method of fraud, which has been common in different countries. In this fraud, the merchant uses fake websites, social media pages, phone numbers. In the first place, they build trust and once the trust is built, they go for highly priced products with discounts. Once the merchant gets ample of money, he turns off his mobile phone, immediately deletes social media pages and other websites. In triangulation fraud, the process is similar to the merchant fraud, but the credit card is used in favor of a fake consumer (Chua & Wareham, 2004). That consumer is real, but the card is stolen and used to pay his debts. In that case, the fraud remains a mystery because the unknown connection is between the credit card numbers, which seems impossible. The matching mechanism is simple, but matching the name, the products are transferred to the other person. This type of fraud has been common in the past and today, the repetition of these frauds is observed in several countries via E-commerce companies.

According to Junior and Kamienski (2021) trustworthiness of the internet merchant is essential both for B2B and B2C businesses. Psychological theory deals with trustworthiness as willingness and anticipation of the trusting party within a business deal. The deal between the consumer and the merchant is through an online website or online smartphone application to purchase a product or service, is considered a business deal. It is not written on a paper. Consumer attention to purchase a product from an online store is the initiation of a business deal with a merchant. In that way, merchants are aware of the deal. A merchant knows he has opened a business online, and anyone willingly participating to buy a product as a consumer is a client. In a business deal, risk is connected to the contextual elements, which further leads to

successful business deals or prevents a consumer from trusting the merchant. This deal is considered successful in the form of a transaction from the consumer side. The transactional process shows the consumer has behaved in a professional manner with rational decisions (Table 1.).

Table 1 Summary of Trustworthiness of Internet Merchant

❖ **Trustworthiness of internet merchant**	Perceived Benevolence
	Perceived Risk
	Perceived Ability
	Perceived Integrity

(Source: Own Compilation)

2.5.1 Perceived Benevolence

The perceived benevolence is the trust of the consumer on the knowledge source, with good will and good intention towards the source. In this research, the benevolence of the merchant is discussed. The merchant has to be more careful in his relationship with the consumer and client. He has to be helpful for the client and provide what is demanded. For example; when a client interacts with the merchant through a website or smartphone application to buy a product from an online store, he is seeking risk behavior by providing his information relating to credit card and other sensitive data. In this case, the merchant needs to be trustable and showing trust for the client or consumer. He has to assure the client that website security protects his sensitive information and there will be no compromise on client's data (Guo, Wang, & Wang, 2021). Also, the merchant has to provide quality products to the client, so that the client may return to him whenever in need. In online shopping, merchants get a signal of client's attention, also the algorithm shows the level of trust of the consumer. If a merchant shows benevolence, he is more careful in seeking and protecting the client's knowledge requirement, it will increase the level of trust of the consumer on the e-commerce platform.

It has been observed by Degli Esposti, Ball, and Dibb (2021) that individual trust propensity has an important place between the relationship of trust. Discussed broadly in the literature, businesses having strong bonds with the internal environment, can create external environment relationships with ease. Their partners trust them, because they trust their inner system. This type of cooperation has a strong impact on 'propensity of trust' among internal and external environments. International market holder businesses have the same image of making trust with consumers.

A study conducted by Drew and Farrell (2018) to inspect the risk and customer has to face during online shopping, and what type of behavior websites show to the end user. The major risk for a customer is the 'lack of discussion with the merchant'. Although this risk has less solid place, a customer buying products from the market with interpersonal discussion with the buyer, needs a mechanism to communicate with the merchant online. In this regard, websites can provide a platform of chat with the merchant to improve the level of trust between consumer and merchant. Other types of risks are the privacy risk and item risk. Items sold online have their worth, but in the market they have less or no place. They are considered unique and that's the reason, consumers have to face item risk before buying it. This type of risk is common in Bangladeshi online markets, where products travel from China and India. These products are reliable, but for a new customer these products have 'item risk. The privacy policy of each online shopping platform is different, but not according to the consumer's demand. On the merchant's side, 'cash on delivery' has risks. When a merchant dispatches a product via cash on delivery, there are chances the buyer will not get it or won't pay for it. In that case, the product returns to the merchant and merchant have to pay the price to the courier services. If the level of trust between buyer and seller is dependent on the quality of the product, then the buyer has to face the COD risk.

Digital re-embedding is a technique used by the online shopping websites to assure the customer to trust the product and the services provided by online shopping platforms. Several online stores use the picture of the product along with description of the product and video reviews of the product to assure the customer about the reliability of the product. Also, the genuineness of the product is dependent on the reviews about the product (Han, 2021).

According to (Kim, Ferrin, & Rao, 2008) consumer perceived risk can be eliminated or decreased through proper institutional belief, in which the institution has to fashion itself as open-market, where a consumer can enter anytime. The interpersonal communication between institutions is another major factor to develop consumer trust. In this case, the consumer assures that a strong link is between government institutions and online shopping platforms. This case is rare in south Asian countries, where online shopping platforms have limited capacity to interact with government institutions, also no proper laws to secure the privacy of the consumers. According to Mahaputra (2021) the key elements to benefit the consumer and also to gain the trust are the website security, brand and product quality, and also the company's profile with a positive rating. In case of female shopping, the merchant has to gain the trust of

female customers to buy products of their choice. Also, it is necessary to dispatch the product with proper care and a strong mechanism is needed to deliver the products to the female customers. On the other hand, the female customers are ignored in online shopping platforms and no better policy is valued for them. Website quality and easy search of product plays an important role to build strong interest between consumers and merchants (Diputra & Yasa, 2021). If the webpages have moral adjustment and the products on the webpage shelf are shown according to the demand of the consumer, it improves the time given by a person to the internet watch. It has been observed that security protection of a website has more impact on consumer's attachment to the online shopping platform than the popularity of the merchant.

2.5.2. Perceived Risk

Risk is a word, which is used at different places with different meanings. According to XU and CHENG (2021) economic times the risk is the uncertain result of future outcome, or the expectation with fear in future. In economics, every investment has a risk of its own type, which is related to its uncertain realization (Lăzăroiu, Neguriţă, Grecu, Grecu, & Mitran, 2020). Risk is the uncertainty of a certain mind, of thinking human being, having desire to achieve a goal or attain a motto. In every situation either positive or negative, risk is a part of the game. If there is no risk in some future activity, then a person holding the future activity is either an experienced person or a person with positive intentions. In most cases, the intentions of a person or a group of people shape the risk. In some cases, risk is attached to the task, activity and work. Risk holds many types and these types develop in different situations. Economically speaking risk has types; liquidity risk, business or insurance risk, default or health risk, etc. There are ample factors with an unlimited number of risks. According to (Ahmed et al., 2021) risk is a solid form of an activity, while perception of risk is a liquid form of a human mind. Each human mind is unique and different to its subjective judgment. In case of a road accident, risk for a motorcyclist is different and risk of a long vehicle driver is different, even the road is the same for both. In case of the death of a beloved one, or a family person, the risk is to care about others, so that one can hold them together. Even, the risk is there, but the situation goes on continuous change to shape the risk and situation together. In a business, a seller's risk is different from a buyer's risk. The risk attached to the salesman is to sell the product to meet the target, while the seller's risk is to pass the product to the customer with positive intentions. The buyer has a risk in mind, in case he gets a product double to its original price, or the quality of the product is poor and compromised, or the seller hasn't informed the buyer about any fault in the product. In the case of retailers and suppliers, the perception of a risk is very significant

to understand. To perceive the risk, communication about the risk is mandatory. It is recommended to talk to people to understand what type of risk they are facing. Also, how to deal with a certain type of risk. In the case of online shopping, the buyer's risk is to get the original product, safety of the private information and on time delivery. If there are people around a buyer telling, some online shopping stores don't keep an eye on the secret information of the client, or the credit card details have been compromised before, the buyer will seek a second opportunity (Bojang et al., 2017). In a risky situation, the buyer can't compromise with secret details of his phone number, address and credit card information.

A potential failure or uncertainty to attain a target or certain standards is considered the perceived risk. According to Faisal (2018), in online shopping the perceived risk is attached to the expected target achievement. In case of failing to meet the deadline of the product delivery, or product selling is perceived risk which has a negative situation. In case of buyers, the perceived risk is to get a product of lower quality, getting what wasn't the choice or wrongly delivered products on time. Also, the services after sales and other situations are attached to the perceived risk. Loss is a physical phenomenon and solid form of human braid, while perception of loss is subjective phenomenon and liquid form of a human thought. Possibility of loss is subjective in online shopping which is attached to the assessment of a person's (Pantano & Willems, 2022).

The fraud risk is common in today's E-Commerce. In Bangladesh, the fraud risk has damaged prominent industries. The eValy scam is one among many around the globe. This company started its business in 2018 in Bangladesh. It offered products and services which seemed unrealistic. People started investing in eValy and consumers bought products on online payments. eValy failed to provide the products, also the media coverage encouraged more consumers to buy products from eValy. Fraud risk is the illegal transaction process through E-commerce which helps the online seller to get profit. On the other hand, it harms the buyer both financially and emotionally, because the buyer or the consumer feels a security threat (Kim, Ferrin, & Rao, 2008). In Bangladesh, fraud is registered as a criminal offense, which is non-bailable without paying any guarantee. Online fraud is considered the same in the course of Law. Either fraud is offline or online, and has an equal penalty. In some countries, the consumer courts have better laws to secure online payment, but in third world countries, conventional laws are considered equal in conventional and online cases. In the online fraud mechanism, the internet is used to buy things though computers, smartphone applications, websites or other telecommunication equipment (Hossin et al., 2018). The rapid pace in the developmental

process of the internet services from 2G technology to 5G has increased the speed of the internet, also the ability to connect with the internet from far distances in the villages. In the past, the internet was limited to cosmopolitan areas only, when it reaches the urban areas, the situations have been changed with online shopping. As a result, the crimes have been increased in the name of online shopping, online jobs, freelancing learning activities and others. All these frauds are violations that have to be taken care of by the cybercrime department. To uncover the online fraud, specialized staff is needed, having the ability to cope with the fraudulent practices of present times. Each day, newer trends have been introduced to the market with new tactics based on the online buying and selling, that have sensitive ways towards fraudulent activity. According to the TRA theory, the fraudulent activity is attached to the behavior with basic determinants (Al-Suqri & Al-Kharusi, 2015).

According to Dong et al. (2009) there are several ways in which small business owners can combat fraud and theft through online weak links and transactional activities. This article mentions several tools that can help the E-commerce business to cope with fraudulent activity and easy steps to inspect the data in the system through several tools as per business requirement. The business owner should learn machine learning, so that he can inspect the website data and other activities in the system. If the owner has no knowledge of websites and machine learning, he may never be able to get rid of fraudulent activity. Although, this opinion seems irrelevant, because the business owners are not able to learn, rather their task is to spend money in a business.

A similar case observed by Zhu et al., (2017) seven step programs to defraud the online system. These seven steps are; To build a profile of potential frauds, which accounts for all the frauds that have been happening to the modern web system or online system. The information about how a fraud is happening is more important to deal with the fraudulent activity. The second step is the inspection of the online data stores in the webserver to predict the possible leak in the system, or any weak link vulnerable to the hackers. Third step is to improve the system through continuous inspection and monitoring (Zhu et al., 2017). The fourth step is to enlighten the organization about the fraudulent activity and provide them valuable information to cope with the situation. In the fifth step, there is a need to provide immediate notification to the authorities about anything going wrong, then fixing the broken control is the sixth step and expansion of the scope with repetition process is the last step. These steps help to control fraudulent activity in a system, and also empower the organization to deal with any type of

mishandling in future. In addition, if the organization updates its system according to up-to-date security standards, the risk of fraud will be limited.

2.5.3 Perceived Ability

Trust beliefs are positively attached to the internet merchant with trust intentions to focus when purchasing online or offline. In traditional shopping style, trust on the merchant is the first approach of the consumer, and when the consumer feels satisfied with the merchant, then a relationship is built between consumer and the merchant, which is based on the level of trust. This level of trust has ability standards of the merchant (M. K. Lee & Turban, 2001). If the merchant isn't able to deal with the consumer, or to provide a reliable product, the relationship isn't built and the shopping process never last for long. In that case, the merchant has to face severe consequences in the form of low business income and finally the merchant repairs. In internet shopping, the trust belief which is mainly from the consumer's perceptive about the internet merchant is based on 'trustworthiness' of the internet merchant and it is the perception of the consumer. According to Xia, Xiao, Zhang, Hu, and Cheng (2019), online trust is the most pivotal element in making a business deal with the merchant. It is the first business strategy to gain consumer's trust in online shopping. In online shopping, a consumer is a trustor seeking a product at a risky place. He has to pay the price for the product he is going to order. The first 'fear' in the mind of a consumer is to get the right product of his choice. If there is no 'right product' at an online shopping store, it questions the 'trustworthiness of the merchant'. Placing the right product at the store is the first responsibility of the merchant. In that case, the product quality is genuine and the product has standard labeling. Product is approved by the government. In Bangladesh, and south Asian countries the genuine products are hard to find for the consumers. While shopping online, genuine products are costly and a consumer can't pay the price. In that case, the merchant places the product's copy instead of the real product. If this is the case; making a proper marking of 'what this product is' either a genuine or a copy is the responsibility of the merchant. In most cases, as has been observed by Hammouri, Al-Gasawneh, Nusairat, Hanandeh, and Barakat (2021) 'copy of product' is sold without informing the customer about it. Copy fraud is common in online marketing all over the world. In Bangladesh, copied products have been sold since the beginning of the online stores. Similar cases are observed in India and Pakistan.

2.5.4. Perceived Integrity

In formal and informal discussion, the concept of 'integrity' is used under the leadership and organizational theories. This concept is not clearly defined in previous research. There are terms in literature of research that are not differentiated by the researcher, rather these terms are used interchangeable; honesty, benevolence, consciousness and integrity. Although these terms have different meanings and their origin is different (D. Peterson, 2004). Integrity is attached to the moral obligation of a person to fulfill a duty, but the perception of integrity changes with cultures and traditions. Also, the institute differentiate the word 'integrity' according to its nature. In practical terms, the process of differentiation isn't considered valuable, but philosophically each term has its limit and scope. In case of leadership qualities, Adolf Hitler may possess integrity, but according to a number of people, this term didn't go with him. Similar is the case with other situations.

According to Parry (2002) there is no similarity between the values and morals of internet merchants that they represent in their behavior. The moral values of an internet merchant may differ from the other merchant based on the professionalism, commitment and integrity. Integrity is limited to 'behavioral integrity' in its unique perspective. This idea of behavioral integrity has importance in positive organizational management of a person to cope with routinely problems. It has certain limits and it has a scope to commitment. Although it is considered reliable to say; integrity is the personal commitment of a person in action to the moral justification of principles and values. Academic integrity is another dimension of integrity in which it is considered a student has no relation to the plagiarism and cheating in his career, and similar is the phenomenon with other types of integrity in which each domain demands the moral obligation in practice (Parry & Proctor-Thomson, 2002).

In English language, integrity is used in parallel to the honesty. Honesty is considered as the value of a person to fulfill a task without cheating. Now, the dimensions of cheating are many and differ accordingly. Philosophically speaking, the honesty is the subjective value of a moral conduct. Integrity is also subjective and demands same, but the difference can be drawn as; integrity is a commitment in a professional career, while honesty is a commitment in routine life. The trustworthiness of the internet merchant to his business shows his integrity and the trustworthiness of the consumer shows his integrity in buying a product and paying the requested amount. Internet merchant's integrity is linked with the provision of a product without compromise, making things accessible to the consumer and granting him leverage to

pay the amount. Also, the transactional related integrity is observed in internet merchant, where it is considered that the merchant has no fraudulent mind and can't cheated a consumer. These values in common are known as 'honest merchant'. In Chinese language, the integrity is located in the literature of Confucius (X. Li, Shi, Liang, Liang, & Shan, 2009). In Chinese language two words shows the integrity as; 'Cheng' and 'Xin'. The meaning of 'Xin' in Chinese literature is integrity. The root of 'integrity' in English language comes from the word integer which means 'as a whole', or in complete form.

2.6. Shopping Medium Trustworthiness

According to Google statistics of 2019, in Bangladesh 12.9% of the population use the internet. In 2022 there are 52.6 million internet users in Bangladesh. The most important factor in online shopping for consumers is to understand the shopping medium (internet usage). According to Rossolov et al. (2021) the prominent factor impacting the online store's purchase is the internet usage experience of the consumers. Experienced internet users have two prominent types, (1) Educated or literature and (2) uneducated or illiterate. Among literature internet users, having the ability to understand the product language, can read and understand what is written. Their reading and understanding skills enable them to experience the internet with care. On the other hand, illiterate internet users can access social media platforms but they cannot access online shopping products. Although the online shopping products' advertisements are shown equally to literate and illiterate internet users. Illiterate internet users are focused on 'Blind Click', without understanding the written warning, their task is to try. While, the literature internet user can avoid fake emails and un-trustable websites. In this regard, online shopping is limited to literate internet users only.

According to Hammouri et al. (2021) online trust is important because of two basic reasons; (1) it shapes the business strategy, (2) it creates a word of mouth and reduces the perceived risk. In online shopping, the customer or consumer is a trustor and the merchant, or online shopping platform is a trustee. Trustor is in a risky situation, where the internet is the medium as a tool to communicate between trustor and trustee. Both share information with each other. The information shared by the trustee is already on a public platform, and the information of trustor depends on the merchant's reputation, and online shopping trust. Trustor is willing to pay for the product. The method of payment is given by the trustee. Trustor has no choice but to follow the trustee's rules to pay the price. In that case, it is the responsibility of the trustee to keep the information of the trustor safe.

According to Qalati et al. (2021) trust has no specific and fixed definition. In every field, the definition of the trust varies accordingly. Trust is a force that binds the expectations of the buyer and the seller, and in future the transactional trust binds the seller and buyer to protect the rights of each other. In the protection process, it is mandatory for the buyer to pay the price of the product and for the seller to keep the credit card information safe. Hence, in e-commerce, online shopping the trust is to expect quality, no cheating, responsiveness and benevolence of the merchant and company. There are three prominent elements in online shopping according to Ahmed et al. (2021) the predictability, reliability and the fairness. Building a bond of relationship between seller and buyer for a long-time, it is necessary to minimize the risk, which is the form of a trust building. A lot of consumers and buyers don't trust the seller due to fraudulent activities over the internet shopping. In that case, it is necessary for the consumer to get knowledge about the internet medium, to track the fake seller. Also, it is recommended to educate oneself to focus on reviews and other valuable information relating to the product and the merchant. In some cases, online shopping demands a proper skillset to follow.

According to Quoquab, Sadom, and Mohammad (2019), the perceived reputation of the merchant is the ratio of expectation from consumer's side to the merchant regarding the honesty, fulfillment of the promises and responsiveness. A consumer believes before buying a product, or going online for a shopping that an online website, store behaves honestly and justly, and there are no fake products, services and cheating in online shopping. The merchant's reputation depends on the system overall quality which facilitates the consumer to enter into an online market to buy products and services. Also, the website quality is important, the security of the website to secure the consumer's record of private information and the privacy of the consumer. On the Google platform, Meta and others have a compromised quality program on the way. When a consumer buys a product from the retailer, his/her personal information is compromised to show him relevant advertisements. Also, the information saved in the online system is used to target the consumer. On the other hand, if online shopping websites don't secure the consumer's record, it is considered cheating and fraudulent activity. According to Yuniarto, Suryadi, Firmansyah, Herdiana, and Rahman (2018) trust of the consumer depends on the merchant's reputation. No consumer goes for online shopping on fraudulent websites. Similar is the case with social media pages, where fraudulent activity is going on and consumers seldom trust. Previous studies have found a significant relationship between consumer and seller's trust based on the merchant's reputation (Table 2).

Table 2 Summary of Shopping Medium Trustworthiness

❖ **Shopping Medium Trustworthiness**	Perceived reliability
	Perceived technical competence
	Perceived capability

(Source: Own Compilation)

2.6.1. Perceived Reliability

According to Webster's dictionary, "When a thing adds comfort to one's work, making it simple and reliable, either it is a service, a product, a device". The concept of convenience was introduced by Copeland (1923) in the marketing world. At that time, marketing literature was filled with classic ideas, where the level of comfort was none. The concept of convenience, then, was related to the accessibility of products and services in the stores. (Sundström & Radon, 2015) used the concept of convenience as a classification of products and services that have limited involvement of risk in purchase. The construct of convenience has dominated the online marketing world, where the shopping process is assumed to be easy and simple for the consumer.

Perceived service reliability is one amongst important elements of trust in online shopping. According to Obeidat et al. (2019) perceived quality is the assumption and expectation of the consumer about the service's, assurance of product's quality, on time responsiveness and empathy of the merchant. If the quality of a product on the online store is not up to the mark, there is a section of review from the consumer behind the product description on every online platform. The buyer can review the product, and also rate the product quality. It's a mutual responsibility of the buyer and the seller to provide quality products. In case, the product quality is being compromised, it hinders a long-term relationship between merchant and buyer (Shafiee & Bazargan, 2018). Brands are successful in Bangladesh, Pakistan and all over the world due to their service quality. People buying brands won't expect compromised quality. Similar is the case with online shopping stores, where products have been placed from different categories, and if the service quality perception of the consumer is neglected, it affects the shopping mechanism (Ibrahim & Daniel, 2019).

According to Ibrahim and Daniel (2019) there is a significant positive relationship between product's service quality and the trust between the consumer and seller. The service quality consists of environment, outcome and interaction. In China, WeChat is common to sell products online, which works like an online platform. A study conducted by Camilleri (2021)

examined the service quality provided by WeChat sellers and consumers. It has been observed that there is a positive impact of usage intentions and service quality. This study consisted of 310 respondents from China.

2.6.2. Perceived Technical Competence

Three main components of online platforms are the marketplace, virtual wallet and the registration portal to log in or log up the services. The registration portal is a place to store data relating to the basic information demanded from the consumer. This option lets the consumer enter into the system as a client or user. The data in the system needs categorical placement as per email, phone number and type of account (Prieto-Torres & Galpin, 2020). The virtual wallet is a place where the currency is converted into digital currency that can be used for shopping. This currency is used to buy products and services from a company. The virtual currency offers time to time rewards and offers relating to products for the customers. In today's world the real currency can be used in the form of an online banking system to access and transfer the desired amount to the online shopping company. The process of registration on the shopping websites is through login which generates questions regarding the demographic profile of the respondent. In that case the market place serve as a tool and the virtual wallet is the money collector in the form of online transaction (Fig. 5).

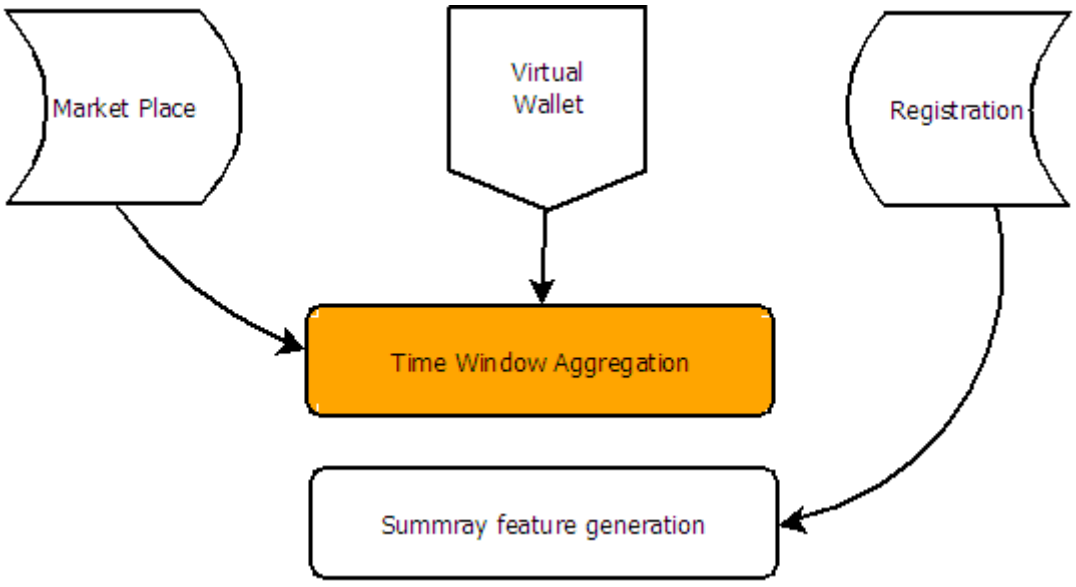

Figure 5. Summary features originate from multiple sources (Source: Own compilation)

Customer records are kept stored in the virtual wallet to inspect the purchase behavior of the consumer in two databases. These databases contain the transactional details of the consumer and the registration record of the database.

Article written by (Zhu et al., 2017) discussed in detail the prominent factors behind the mishandling of online business in Bangladesh. The contract infraction is the main issue, in which consumers and the traders feel unsatisfied, and as a result, anomalies in the payment are observed. He encouraged the government bodies and regulation authorities to tackle the transactional issues in the online e-commerce platforms.

A similar case discussed by Kaiser et al. (2021) the challenges faced by the e-commerce sector in online transaction and fraud are the inappropriate national policies, non-supportive government setup, specific roadmap to follow in case of fraudulent activity, lack of human power and inoperable infrastructure.

Another case discussed by J. Wang et al. (2021) is that knowledge is the key for online shopping. People with less or no knowledge of online shopping always trap themselves in transactional frauds, non-refundable deals, and other similar cases in E-commerce business. It is necessary for the online shopping person to get educated about buying a product, or reading the privacy policy of the organization. Majority of the consumers don't pay attention to read the company's background, they're about page and contact page or return refund policy. They go shopping and end up being deceived. There are allegedly organized groups of traders, running the social media platform pages on Facebook, YouTube. They sell the product and produce valuable positive reviews with attractive advertisements. Their promise to dispatch the product after receiving the payment delays the product delivery, and in return the consumer has to face the fraud. These groups have become common all over the social media platforms. To get rid of the situation, the government should intervene by registering online traders, selling products and services. Through registration, the record of the trader is the biggest asset if he is cheating with online consumers. In retail business, the world has transformed and experienced, where Bangladesh is no different than any other country. E-commerce in Bangladesh is in youth and growing rapidly, however this growth has some risks attached to it. In the expansion of E-commerce in Bangladesh, the important category is the B2C, business to consumer which is slowly moving forward. The developed countries have progressed a lot in this field, but the developing nations are struggling to mitigate the challenges. In recent years, the invention of smartphones has transformed the world, however the entry of smartphones in Bangladesh to common people is still not in hand, but ample of users in the streets, doing small and medium sized businesses, factory workers are using smartphones. The usage of smartphones has progressed the E-commerce industry of buying and selling of products and services. In 1997, the payment gateway started through mobile technology (Gulati &

Srivastava, 2007). In Bangladesh, the number of smartphone users was limited before 2018. During the pandemic, this has increased dramatically over the last three years. The increase in the usage of latest technology has enlightened the generation to start their own business in the form of freelancing, E-commerce buying and selling etc.

2.6.3. Internet Capability

To develop a sustainable e-commerce ecosystem in the demand of every society, which is possible with information and communication technology (Buxton & Walton, 2014). A challenge each E-commerce industry is facing; the increasing development in the fake products. Production of fake products has dramatically reduced the trust of E-commerce consumers. Consumers are suffering more from fake products, but traders also face severe consequences. The innovation of a product, when faked with a little change, not only ruins the worth of the patent company, but also it makes the product worthless. It is hard for a consumer to find the originality of the product. In that case, the third-party E-commerce has a significant role as a mediator. In the developed countries, the transformation to E-commerce was a result of poor infrastructure, incorrect product management. As a result, E-commerce helped the consumers to find an appropriate product online without any problem. In that case, millions of online stores offer quality products, but their products are faked by a bunch of groups on every platform. The generic model of e-Commerce presents the product or services, to consumer or the client through the supply of the products or the services. In the first place, e-commerce platform presents the shopping material by executing the order to the client (Fig. 6).

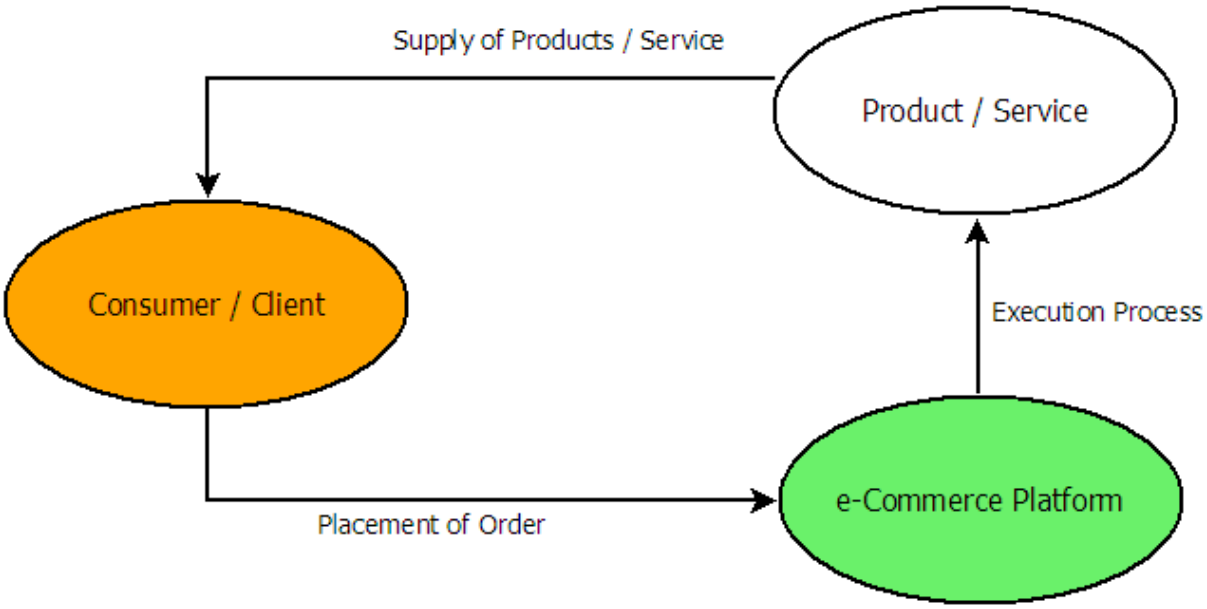

Figure 6. Generic E-commerce model (Own construction)

In competitive culture, the value of service quality is considered one of the important and essential strategic elements. According to (Fatima, Humayun, Iqbal, & Shafiq, 2019) service quality differentiates between the demand and supply. Demand of the consumer and the supply from the vendor if remain equal and according to the demand, then it is considered good quality and best performance. The value of quality goes down when the consumer gets what he hasn't demanded. In some cases, the quality of a product is dependent on its ratio to usefulness. Service quality is considered below average when the price is high or product is considered less in price and delivered more in price. Price and product availability are the prominent factors that lead a product up to a mark. In case of service quality, several dimensions are considered, which are directly connected to vendor's loyalty.

2.7. External Environment

In the external environment, (Table 3) there is one variable “Perceived Certification” .

Table 3 Summary of External Environment

❖ **External environment**	Perceived certification
	Trust propensity, security, and Privacy
	Consumer trust in online shopping

(Source: Own Compilation)

2.7.1. Perceived Certification

This process is also known as 'authentication' which links the internet merchant with the third-party, that guarantee the genuine form of the e-commerce business, also it assures that internet merchant isn't fake. In some cases, the third-parties are the reliable source to assure that internet merchant is, what he claims. Third party certification is the independent organization in every sector to assure that the company or organization is properly functional and the product of the company is up to the quality standards regarding performance, safety and quality. With the development of e-commerce, institutes are concerned with quality of the e-commerce services, its reliability and transformation of overall technologies that are in use of e-commerce. In traditional businesses, government agencies assure the standard of the products, that were housed in their parent country (Hatanaka, Bain, & Busch, 2005).

Now, the transformation of the e-commerce has brought several products from all over the world, and the standard checking process of the product is not limited to one organization of government. It is necessary for the organizations to serve the quality and security checking with third-party affiliation. In the third-party companies, internet security companies are prominent. These companies assure the safety of internet protocol and keep an eye on the fraudulent activities in the transactional process (Jiang, Jones, & Javie, 2008). Also, these companies assure that no hacking is occurring or no part of the internet and website is compromised. Hackers' attacks are common over the web, the third-party assures that hacking has caused no damage to the website, and the products listing is safe, and the consumer record is intact and secure.

The process of third-party certifiers has become complex with the passage of time. The institutional mechanism has become rapid and strong. The governance system has also been complexing over the time. The increasing complexity of governance to deal with growing businesses, assuring the security and reliability of the e-commerce has become difficult. In that case, the governments are handing over complex task to the third-party organization, competent in their field to deal with every type of issue. In that case, the third-party certification serves the purpose well. Third-party can be based anywhere in the world, as it is not necessary to base itself in a particular or parent country. These third-parties can be differentiated as, (1) private co-regulation, (2) private governance, (3) networking markets (Stafford & Wallnau, 2001).

It is often assumed that products in the market are copied from the other products. The genuine product is one thing and its copy is another, which is considered cheap and not reliable. To

understand, why original product allows a company to produce a copy of it by defaming its standards needs third-party certification help. Third parties assure that no product is copied and the rights of the product are limited to one company only. In case of any violation of the copyright, third party intervene to expose the fraud in the court. In that case, the companies build a trust mechanism on the third-parties, and these parties assure that the trust of the companies will be their first priority. In no case, this trust is violated (Stafford & Wallnau, 2001). To become a third-party certifier, it is necessary for e-commerce online shopping platform to apply to get certification as per the standards build by the international companies. These standards build by third-parties are based on fine-lines, if the standards are lower the objective to achieve are meaningless, and the objectives are not met, there is no need to get third-party certification (Naylor, Eagle, & Smith, 2003).

2.7.2 Trust propensity, Security and Privacy

According to Kaiser et al. (2021) consumer point of view regarding the risk of personal information security in E-commerce is the biggest concern. Consumers are sensitive about their personal information, due to many customers feeling unrelaxed when sharing their personal information in online shopping through credit or debit card. The online transaction is considered unreliable when it comes to barging on the E-commerce websites and portals. It has become a trend to not share the personal information, or if necessary, assure that information will remain intact and in control. In e-commerce transactions, personal information regarding the credit card number, phone number, is shared with the trader. This trend limits the E-commerce profit and sale, and in return it gives negative review to the organization. The trader and the organization can change the viewpoint of the consumers by taking necessary actions; to assure the consumer that his information will remain in the system and no one has access to it. On the other hand, the information shared by the consumer is peer to peer and it will be deleted once the consumer deletes it from his system or smartphone. By giving control to the consumer, the E-commerce market can grow. If the trader's organization or website fails to assure the consumer about the security and privacy of his sensitive data, that will turn the positive image of the organization into negative (Bojang et al., 2017). In every business, the privacy of the consumer is the main concern of security. Capturing of data has become easier though advanced techniques of data mining. Each e-commerce website stores hundreds of people's data every day. This data is stored in the main server of the organization. The collected data not only consist of personal information, credit card details, but also the pattern of shopping, selection of the products by the consumer. This pattern gives a unique algorithm to

the trading company to sketch a pattern about the living standard of the consumer, his habits and product usage. Main social media platforms, Facebook, and Meta company uses this information to stabilize the customer's purchase experience. This informative pattern of the consumer shows advertisements to him of his choice. Even, the Google operated smartphone system, Android can sense and sketch the day-to-day routine of the consumer. This information, in the eyes of giant industries, is safe, but for small and medium sized enterprises, consumer's information is not safe. The Bangladeshi consumers have their concern regarding online shopping (Hasan & Islam, 2013). Cash on delivery is available to some platforms, which facilitates the consumer to pay the prices on the spot, but it also has biggest concerns.

In the development of E-commerce, security is the important element (Jahangir & Begum, 2008). As per the opinion of the scholars, improved security increases the adoption of E commerce services, not in Bangladesh but all over the world. The definition of the security is; to protect the data either in the form of personal information or organizational sensitive data from accidental vulnerability to unauthorized people (Udo, 2001). Also, the unauthorized modification in the data, change in the data or exposing the data to any third party is a theft of data and considered illegal fraudulent activity. The exposure of the data is based on the controlled mechanism, in which no other person or system can interact to steal it. If the data is lost, or mishandled, the security threat is happening, in that case the control of access, confidentiality of the data and non-renouncement is broken.

According to (Pedro et al., 2015), concern on the data mishandling has been a top risk for the consumers around the globe. A person buying an application for iPhone or Android pays an amount through credit card or debit card. In that case, if the application is created with a fake link, the consumer is vulnerable to online fraud. In every situation over the internet, payment always remains the biggest problem for the consumers. System's overall compatibility and the feasibility is targeted when the system fails to protect the consumer's sensitive information.

The rapid expansion of the digital applications and software have provided a vulnerable framework for the fraudulent people around the globe (Gupta & Hammond, 2005). E-commerce has no direct link to information technology, but in the future, it may have a strong link with information technology to efficiently manage the risks. A branch of IT dealing with security software’s still working to safeguard the world's most pivotal systems, but they are still vulnerable to cyber-attacks. To create consumer trust, there is a continuous need to

improve security each day. Each passing day exposes the security and the internet has to deal with ample virus, malware programs each day. Apart from hacking, the malware programs are present over the internet and in reach of the consumers. The consumers get this software for free and after installation lose their sensitive data. Although, there is no company or organization involved in the fraudulent activity, the only source which is open is the consumer itself.

There are studies showing the people's preferences regarding online and traditional offline shopping. In most countries, people try to adopt the offline mode of shopping instead of online shopping. According to (Gupta & Hammond, 2005) consumers didn't complete their online shopping order, because they wanted to touch the product. They didn't feel satisfied by the product quality on the screen, rather to taste or smell the product is their demand. The intangibility of the purchase is common among consumers. Although product images and videos are shown along with the product description, the consumer's satisfaction lies in feeling the product before buying. Another study suggests that;

Consumer's need to feel and touch the product before buying online is increasing due to quality of the product. Instead of waiting for the product delivery, and getting a low-quality product, consumer feels more satisfied in feeling it before it is bought by him/her. Every product that is produced over the online shopping has a risk of selling due to its demand to 'touch and feel' the product before it is bought. It's a human nature to protect the assets. It is a natural phenomenon of human mind to protect the information relating to the assets. In case of transaction via credit card, the consumer has automotive ability of security and privacy of the information. In case of motor vehicles purchase, or other purchases, higher the amount, higher will be risk to transfer it online. Although this case isn't specific to online shopping, while offline shopping, credit card transaction is equally risky relating to security and privacy of the consumer.

2.7.3 Consumer Trust in Online Shopping

Trust is a value shared by two parties to build a relationship, which is based on some beliefs that E-commerce is a system of integrity and ability (McKnight & Chervany, 2001). Trust is defined in negative. In positive terms, trust cannot be understood. When there is a trust deficit, or trust is broken, then it comes to the mind that trust is something which binds the relationship between consumer and the producer. In that case, the buying and selling of products and services is based on trust. In case of transaction or online payment, the trust is to

keep the sensitive information secure, and in case of delivery of the product, the trust is to safely dispatch the product that has been ordered (Liu & Ding, 2007). This whole category makes it at one point; the trust of the seller. It combines all the trusts that are divided from product selection, payment to product delivery. In cases where a product is replaced with a similar product, or the delivery of the product is delayed or mishandled, the blame is shifted to the seller. The transactional trust begins before shopping for a product or services. In the payment method, trust is applied before and after the purchase, which is a belief on the E-commerce website to secure the payment experience. The credit card information is stored in the system by the buyer, because of trust on the trader for further purchase. Buyer has to decide whether to trust a system to store its information for further shopping or not. In most cases, the buyer trusts the system due to ample reasons. Buyer didn't want to go through a hectic process of feeding credit card information to the system again and again. To save his time and memory, he has to feed the information to the system and system store the information for further processing. In that case, if the trader's website fails to ensure the sensitive data of the buyer, the trust is broken. This trust not only breaks the belief on the seller, but also on the further online transaction to any other trader or E-commerce website (Pavlou, 2003). In TRA, the buyer rationally understands the behavior of other people and its consequences, then he makes a decision. If more than ten people have experienced the same situation, the buyer will never trust the E-Commerce system. It shows there are people in favor or against the beliefs to follow certain behaviors.

Several studies on trust in E-commerce adoption haven't used any specific definition of trust (Chen & Dhillon, 2003). Trust is divided into various branches of knowledge, in ecosystem, economics, social networking, cyber security, but the value of trust in E-commerce is defined as expectation of trustors and trustees' behavior (Iqbal et al., 2012). Trust gives meaning to the E-commerce business through mutual agreement, to not shake the belief of the consumer, and in return the trader demands, to return for shopping again and again. This isn't a written agreement, nor is it coded somewhere on the wall, but it is a pact between two people to make the transaction possible. The consumer trust shapes the shopping behavior to buy a product from the online store, or to recommend it. Online shopping is an easy habit, and if a consumer adopts the habit of online shopping, he is considered to be in need of a product. In that case, the vendor is not trustable, the consumer will never be back to shop online again (Jung & Kang, 2021). In offline shopping, the consumer is in direct contact with the vendor, while in online shopping, the trust of the consumer is indirectly on the vendor. In a

psychological way, trust is considered to be a less complex and more secure process. Trust minimizes the anxiety and stress on the selection, quality and price of the product. Giant E-commerce companies Amazon and ebay float surveys to improve the services for the customers. They get feedback and adjust their privacy issues according to the demand of the consumer. In Bangladesh, the trust of consumers is shaken by the eValy and Aleshmart companies. once, consumer has faced the fraud, he will never be back to the same platform (Islam, 2020).

3. MATERIAL AND METHOD

This chapter deals with the methodology of this research. Theoretically speaking; methodology encompasses bodies of elements relating to the process of research. Methods involved in the methodology are the techniques used in the collection and analysis of data (Brearley & Walshe, 2020). In other words, methodology provides a plan to carry out research from the initial stage by building a hypothesis to the conclusion of the results. This research uses quantitative methods of research. Quantitative data analysis can be found in Chapter 4 of this research.

3.1. Philosophical stance

This section of the research methodology shows the philosophical approach of the researcher towards the research method. In the first place, the epistemology of the research is presented, then the ontology of the argument is derived from it. Then, the philosophical approaches are compared in parallel with similar concepts. The epistemological approach of the researcher is logical positivism and the ontological approach is objectivism (Maarouf, 2019). It is solely a personal matter of the researcher to adopt any type of philosophical approach towards research. Although the researcher is bound to obey the data collected from the respondents and to derive a logical conclusion from that data, every researcher is not free from the biased opinions of the research topic, his wishful thinking and his view about the objective world. In that case, the philosophical approach is necessary to follow.

Two basic questions to follow before embarking on the research method; (1) are we living in the real world independent of our perception, which is ontological questions, and (2) how knowledge of the world is gained, which is an epistemological question. This section will discuss the epistemological pattern first and ontological pattern later, because it is necessary to portray the epistemological theories to reach the conclusion. According to Dewey (2013) reflective thought is defined as the active form of a belief to support a certain stance for further consideration. In that case, what is the definition of a belief?

Belief is based on past experiences and prior knowledge. This 'prior knowledge' has different dimensions in philosophy, but it is not considered that logical reasoning is a part of building a belief, because it is established that logical reasoning cannot add knowledge to an argument, because mathematical methods and logic cannot give birth to new knowledge (Benton & Craib, 2011). Similar argument is presented by Ralston (2013) logic cannot birth a new knowledge,

but it shapes the previous knowledge based on assumptions. To formulate a belief, it is necessary to experience it.

3.1.1. Ontological Assumption

In business research, the role of ontology is to deal with the nature of reality (Saunders, Lewis, & Thornhill, 2009). It enlightens the research about his research's scope in the light of reality, how certain the results are and how accurate the findings are according to the nature and existence of the object that is being studied by the researcher (Moon & Blackman, 2014). That is the reason, the researcher widely studies different thoughts and patterns to find a logical conclusion. He explores plenty of evidence from different angles to reach the conclusion. Each participant has responded independently to the data collection. The researcher experiences how these participants of the research have formed a collective answer to the given question.

To carry out this research, I have traveled to universities of Bangladesh to collect data from different backgrounds, students and faculty members regarding their experience of online shopping in Bangladesh. Private employees, and volunteers also participated in the research. This phenomenon helped me to understand the views of the respondents in verbal and written. The verbal discussion is not a part of this research, but it has solid ground to carefully analyze each respondent's result to reach the conclusion.

This research's ontological position implored the issues related to the fraudulent and cheating issues of online shopping platforms of Bangladesh. Also, what type of business model these fraudulent companies have adopted, and can we trust that specific type of business model. As per the verbal answers, it is clear that no specific business model is being followed by EValy and other fraudulent online shopping platforms. If there was any, then it is not regarded as a business model. It has been observed both objectively and subjectively that internal and external factors are involved in these activities. The subjective view of this research is to explore the beliefs of affected and the objective position of the research is to find the preventive technique to safeguard online consumers from future threat of online shopping.

3.1.2. Epistemological Assumptions

In this section, the researcher discussed how he knows what people know about the fraudulent activity of online shopping platforms in Bangladesh. Is the opinion of the researcher differing from the affected and on what grounds the researcher differs with the respondents (Macdonald

et al., 2015). To get the answer, the researcher has to involve the respondents of the research to collect observations and data (Klassen, Creswell, Plano Clark, Smith, & Meissner, 2012). Being a researcher, I have studied different business models of online shopping platforms, I have traveled to discuss my concerns with companies relating to fraudulent activities, also I have explored the government rules and regulation on the e-commerce adoption and its survival in Bangladesh. These opinions and interactions helped me to formulate an initial understanding of the matter. The subjective position of the research was to collect the evidence from the respondents.

Epistemologically, the researcher has presumed that understanding of the shopping medium can help consumers from falling into a trap of the merchant's fraud. In that case, the fraudulent activities of the merchant are obvious from the past experiences of the consumers, which can be conveyed to other consumers through online platforms of discussion. Also, the media can play an important role in highlighting the fraudulent activity of the online shopping platforms to save people from fraud. The Bangladeshi government has implemented new laws to ship the product to the customers in 10 days of time. In case, the merchant fails to follow the rules, the customer can consult with the government institution. To make that process easier, 'ease of e-commerce adoption laws' by the Bangladeshi government is the need of the time.

In light of our research topic, "Bangladesh's e-commerce frauds from a merchant point of view", the question is, can we trust the past experience? Millions of Bangladeshi consumers have been defrauded by ample online shopping platforms. Can we base our opinion against online shopping platforms on the past experiences of the consumers? The philosophical point of view about it is clear, no, we can't. Although, in the views of Kant, there is an innate understanding beyond experience. According to Heis (2013) certainty isn't possible, but probability shapes trust. In that case, the real world is more real than the subjective world, and therefore we will derive from the positivism and objective ontology of the world. Logical positivism believes that several logical arguments cannot shape the necessary conclusion, because ontological implications are dependent on the logic itself. In that case, logical positivism leads us to a certain subjective ontology.

3.1.3. Axiological assumptions

Axiology is the research's aim (Heis, 2013). The aim is to carry out research in parallel to the world. It helps to initiate the process of explaining the world, or to understand the motive of

the research. This research results in combination with experience and knowledge about the subjective matter of understanding with respect to the participant's point of view. Also, the I have experienced the subjective matter. It needs knowledge of the domain with proper understanding of the field. I have established a case to empower the reliability of the research with knowledge of the field, past experiences, and respondent's opinions to keep this research unbiased.

3.1.4. Methodological Assumptions

The methodological assumptions of the study include the ability, integrity and experience of the researcher to collect and analyze the data with quantitative approach. These methodological approaches are considered under theories that were discussed by the researcher in the literature review of the study in Chapter 2. Practically, the researcher chooses to follow the quantitative method to collect the data through questionnaires. In that case, the researcher used an online questionnaire along with visits to the respondent's universities in Bangladesh. The data collected from the students, teachers, and private staff of the university. University is considered for the data collection, because of two prominent reasons. The university students are literature in 'online shopping medium' and they understand the 'fraudulent activity pattern' of the merchant, also aware of the transactional frauds in the country. Another reason is; university employees, especially teachers, understand the business models, and they can work on future online shopping business models with observations of this study.

3.1.5. Positivism and Postmodern approach

Although, it is established that in management and business, positivism has supremacy over other trending philosophies. Positivism has been widely challenged by its critics. These critics have made several assumptions in favor and against the role of positivistic philosophy in social sciences. They consider it a bit more optimistic approach, which is not the need of the management. The disagreement lies in the meaning of positivism, because it has been observed that this philosophy can’t quantify the phenomenon (Collis & Hussey, 2009). According to Bahari (2010) ontology has solid basis to uncover the trust with research process, also it assists the researcher to disclose the information relating to human behavior in building a strong methodology. Ontology helps the researcher to uncover the truth and further it leads to promote the epistemological sciences. The base of this study lies in epistemology. The ontological grounds of this research are to uncover the human behavior behind the fraudulent pattern following in online shopping. Also, to uncover the ‘need and necessity’ of finding things that

are not in possession. This subjective phenomenon of human brain rules over the external behavior and environment. It has also been established as ‘nature of existence’.

According to Bahari (2010) human actions are not from the self, but the prime motives lie somewhere outside in the external environment. The external stimuli are the antecedent to force the human mind to follow a pattern. Human brain cannot think without a stimulus, which isn’t present in the brain. The phenomenological approach uncovers this truth in the form of Noumena and Phenomenon. Noumena exist outside of human brain, and the image of it exist inside the human brain. In that case, the noumena is the object, the real existence of a thing or idea. It is hard to believe that ideas can exist in the form of noumena. The perception of it in the human brain is the ‘phenomenon’. However, according to researchers the methodological approach through the positivistic epistemology has been limited. It has no capacity to make a clear distinction between the knowledge of human and non-human. That’s why this research used mixed method approach to diverge the research to end conclusion (Klassen et al., 2012). This is the natural response of the study, because it holds the decision-making process, also the observer can move freely to ask questions about the ontological basis of knowledge.

This research further discusses the relationship between consumer sensitive data and its illegal usage by E-commerce companies. This study has employed a research methodology based on quantitative analysis to elaborate the questions of the research along with hypotheses. This section of the study discusses the brief overview of the study's method and material, historical background of the E-commerce fraudulent activities in Bangladesh, research questions of the study and research design. Also, this study addresses the hypothesis of the research, and research methods. The data collection procedure, time needed to collect research data and procedure to data analysis techniques, reliability and validity of the data are included as part of the section.

3.2. Research implications

Online shopping is a process based on transactions to the merchant. It is assumed that transactions deposited by the consumer are either legitimate or illegitimate. It shows the existence of the objective truth which remains unknown to the consumer as if it was a fraudulent activity or legitimate transaction for product purchase. The estimation of the fraud needs evidence. This research aims to investigate the fraudulent activities of e-commerce shopping platforms in Bangladesh, its prevention with respect to objective truth and ontology.

Logical positivism is favored as a philosophical approach to this research, but it does not hinder the researcher to carry out research in a quantitative manner (Nikiforov, 2021).

3.3. Research Process

Theoretical analysis of Scale development

Content validity of the questionnaire is established, which shows the questions are according to the hypothetical demand of the study and represents the situation in which the study is happening. According to Meneguin et al. (2022) the content validity is the process of measuring the reach of a questionnaire to determine whether it will encompass the desired findings. Content validity is the depiction of the sample items. In the initial stage, it has been observed that either the questions depict the situation genuinely, and to measure the merchant's fraud in e-commerce in Bangladesh is justified in the sample items. The development of the research instrument involves a two-stage process of sample item development and sample item quantification (Klassen et al., 2012). The third step is to revise the construct till further quantification. Using the content validity ratio (CVR), and Content validity index (CVI) each item's content validity is observed. This technique is used to measure the inner rating of the research sample construct (Junior & Kamienski, 2021). Necessity of items is established through careful analysis of the sample items. All the items in the questionnaire have relevance to the hypothesis.

The pretesting of the questions has been established by minimizing, rephrasing the misinterpreted sample items. The items related to e-commerce adoption were rephrased according to the 'online shopping store' selling techniques in Bangladesh. Poorly worded items were removed. According to Klassen et al. (2012) it is better to eliminate the poorly worded items from the scale to ease the population to fill the survey questionnaire without making any wrong judgment about the question.

According to Joseph F Hair Jr et al. (2021) there will be a ratio of 5 people per scale item in the questionnaire. This technique has been adopted when the sample size of the study is established. In the final phase the final size was 20% larger than the size established in the initial phase. This technique was adopted to delete the misfiled questionnaires so that the desired number of the respondents can be achieved. However, an independent number of survey sizes can be adopted, also the range between 200-300 is considered better for factor analysis. It has been observed in a study conducted by Osborne & Costello, (2004) It is missing from the References if the sample size is larger, there will be less chances of measurement

errors. Also, the bootstrapping technique uses large scale item sets. In the statistical analysis it has been considered the confidence level will be 95% with 3-5 percent of error margin.

3.3.1. Sample and Data Collection

The sample of this research is seven hundred respondents (*n=700*) from the universities of Bangladesh, and from the corporate job sector of Bangladeshi cities including Dhaka, Chittagong, Raja Shahi where the availability of the internet ease the task to collect data online through Google Forms. These universities are located in different cities of Bangladesh. The universities consulted for data collection are; Bangladesh Open University, National University Bangladesh located in Gazipur, University of Dhaka, and Bangladesh university of Engineering and technology in Dhaka, BRAC university, North South University, Rajshahi University, American international university Bangladesh, Ranada Prasad Shaha university, East west university and Asian university of Women, Comilia university, University of Barisal, Leading University, Asian university of Bangladesh, Eastern university of Bangladesh and Sonargaon University. The online questionnaire is prepared on Google Forms, where it was circulated through a link, email and social media platform. The respondents have age above eighteen years (18) and below sixty (60) years. The limit is applied on the age because the aged respondents have limited knowledge of online shopping. The questionnaire of the study consists of two sections. Section 1 is the Demographic profile of the respondents, and section 2 is the questionnaire of the study. This is quantitative research. The research analysis is carried out in a statistical software SmartPLS.

3.4. Research Hypotheses

The hypotheses of the study are summarized by Fig. 7.

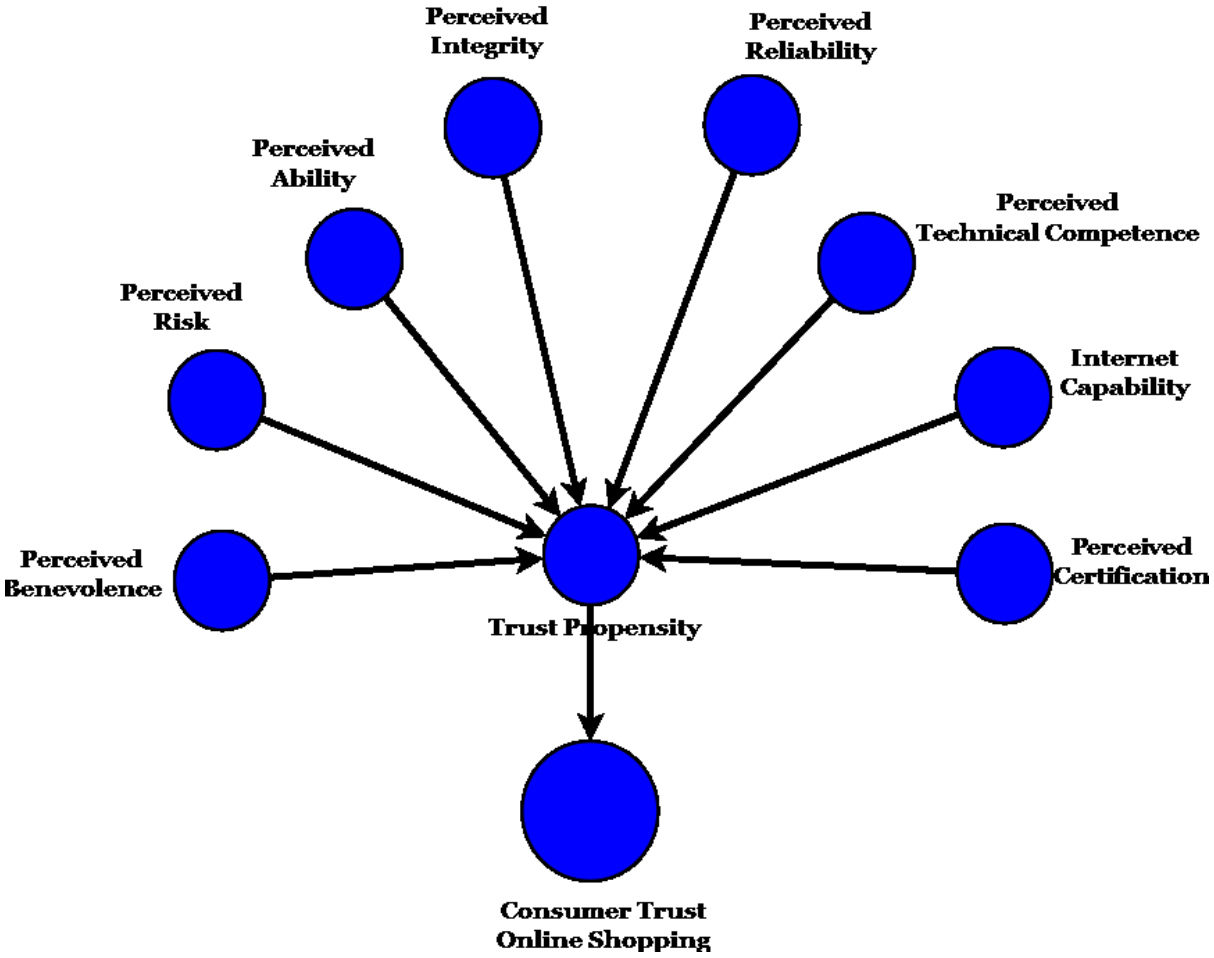

Figure 7. Research Hypotheses (Source: Own compilation)

The perceived benevolence is the trust of the consumer on the knowledge source, with good will and good intention towards the source. In this research, the benevolence of the merchant is discussed. The merchant must be more careful in his relationship with the consumer and client. He must be helpful for the client and provide what is demanded (D. Peterson, 2004). Perceived benevolence in electronic commerce refers to the extent to which consumers believe that online retailers have their best interests at heart and are motivated to act in their favor. In other words, it reflects the degree to which consumers trust that online retailers are honest and have their well-being in mind. Perceived benevolence can be influenced by a variety of factors in electronic commerce, including website design, customer service, online reviews and ratings, brand reputation, and transparency of pricing and policies. For example, an online retailer that offers a clear return policy, provides responsive customer service, and has a strong reputation for delivering high-quality products is likely to be perceived as more benevolent by consumers. Perceived benevolence is an important factor in building trust and loyalty in electronic commerce (Guo et al., 2021). Consumers are more likely to make purchases from

online retailers they perceive as benevolent, and they are more likely to recommend these retailers to others. As such, online retailers should make efforts to build and maintain trust with their customers by providing transparent and ethical business practices that prioritize consumer well-being (Degli Esposti et al., 2021). Perceived benevolence can have a positive impact on consumer trust in online shopping. Perceived benevolence refers to the perception that an online seller has the customer's best interests at heart, and is genuinely concerned with providing quality products or services and satisfying the customer's needs. When consumers perceive an online seller as benevolent, they are more likely to trust the seller and feel more comfortable engaging in transactions with them. This is because they believe that the seller is trustworthy and reliable, and that they are more likely to provide high-quality products or services. Moreover, studies have shown that perceived benevolence can also increase customer satisfaction and loyalty, which can ultimately lead to increased sales and revenue for online sellers (Degli Esposti et al., 2021). In summary, perceived benevolence is an important factor in building consumer trust in online shopping, and online sellers who are perceived as benevolent are more likely to attract and retain loyal customers.

H1 Perceived benevolence has positive impact on Consumer trust in online shopping.

Risk is a word, which is used at different places with different meanings. Perceived risk refers to the degree of uncertainty or potential negative consequences associated with a purchase decision. It reflects the level of concern a consumer has about the potential outcomes of a purchase, including financial, functional, physical, social, and psychological risks. In electronic commerce, perceived risk can be influenced by a variety of factors, including the nature of the product, the reputation of the seller, the security of the payment process, and the quality of the website. For example, consumers may perceive higher risk when buying expensive products, products with unknown or unproven brands, or products that require a significant investment of time or effort to use. Perceived risk can have a significant impact on consumer behavior, leading consumers to delay or avoid purchase decisions, switch to a different retailer or product, or seek more information before making a purchase (Ahmed et al., 2021). As such, online retailers should make efforts to reduce perceived risk by providing detailed information about their products, offering secure payment methods, providing clear and transparent policies, and building trust with their customers through positive reviews and ratings. According to XU and CHENG (2021) economic times the risk is the uncertain result of future outcome, or the expectation with fear in future. In economics, every investment has a risk of its own type, which is related to its uncertain realization (Lăzăroiu, Neguriţă, Grecu, Grecu, &

Mitran, 2020). Risk is the uncertainty of a certain mind, of thinking human being, having desire to achieve a goal or attain a motto. perceived risk can have a negative impact on consumer trust in online shopping. Perceived risk refers to the perception that an online purchase carries a certain level of uncertainty or potential negative consequences, such as receiving a faulty product or having personal information stolen. When consumers perceive a high level of risk associated with online shopping, they are less likely to trust online sellers and may be hesitant to engage in transactions with them. This is because they believe that the risk of a negative outcome outweighs the potential benefits of the transaction. Moreover, studies have shown that perceived risk can also decrease customer satisfaction and loyalty, which can ultimately lead to decreased sales and revenue for online sellers (Ahmed et al., 2021; Drew & Farrell, 2018; Lăzăroiu et al., 2020). In summary, perceived risk is an important factor in undermining consumer trust in online shopping, and online sellers who are able to mitigate perceived risk and provide a sense of security and safety to their customers are more likely to attract and retain loyal customers.

H2 Perceived Risk has negative impact on Consumer trust in online shopping

Perceived ability in electronic commerce refers to the extent to which consumers believe they have the knowledge and skills necessary to successfully navigate and complete a transaction on an online platform. It reflects the level of confidence a consumer has in their ability to use the technology and tools required to make a purchase or engage in other online activities. In electronic commerce, perceived ability can be influenced by a variety of factors, including the design and usability of the website, the availability of customer support, and the consumer's prior experience with online shopping (Yuniarto et al., 2018). A website that is easy to navigate and provides clear instructions on how to complete a purchase can increase consumers' perceived ability. Perceived ability is an important factor in driving consumer engagement and loyalty in electronic commerce. Consumers who perceive themselves as competent and confident in their online shopping skills are more likely to engage in a wider range of online activities, make more frequent purchases, and provide positive feedback and reviews. As such, online retailers should strive to create user-friendly and accessible websites and provide support and guidance to consumers as needed to increase their perceived ability and overall satisfaction (Raykov & Grayson, 2003). Trust beliefs are positively attached to the internet merchant with trust intentions to focus when purchasing online or offline. In traditional shopping style, trust on the merchant is the first approach of the consumer, and when the consumer feels satisfied with the merchant, then a relationship is built between consumer and

the merchant, which is based on the level of trust. This level of trust has ability standards of the merchant (M. K. Lee & Turban, 2001). Perceived ability can have a positive impact on consumer trust in online shopping. Perceived ability refers to the perception that an online seller has the ability to deliver on their promises, and is competent in providing quality products or services. When consumers perceive an online seller as having the ability to deliver on their promises, they are more likely to trust the seller and feel more confident in engaging in transactions with them. This is because they believe that the seller is reliable and competent, and that they are more likely to provide high-quality products or services. Moreover, studies have shown that perceived ability can also increase customer satisfaction and loyalty, which can ultimately lead to increased sales and revenue for online sellers (Guo et al., 2021; Jung & Kang, 2021; R. A. Peterson & Kim, 2013; Yuniarto et al., 2018). In summary, perceived ability is an important factor in building consumer trust in online shopping, and online sellers who are perceived as competent and reliable are more likely to attract and retain loyal customers.

H3 Perceived ability has positive impact on Consumer trust in online shopping

Perceived integrity in electronic commerce refers to the extent to which consumers believe that online retailers are honest, ethical, and trustworthy in their business practices. It reflects the level of confidence a consumer has in the reliability and fairness of the online platform and the retailers that operate on it. In electronic commerce, perceived integrity can be influenced by a variety of factors, including the accuracy and transparency of product information, the security and privacy of customer data, the fairness and consistency of pricing and promotions, and the responsiveness and accountability of customer service (X. Li et al., 2009). A retailer that provides detailed and accurate product descriptions, has a clear and consistent pricing policy, and responds promptly and effectively to customer inquiries and complaints is likely to be perceived as more trustworthy. Perceived integrity is an important factor in building and maintaining trust and loyalty in electronic commerce. Consumers who perceive online retailers as honest and ethical are more likely to make purchases, recommend the platform to others, and provide positive feedback and reviews. As such, online retailers should prioritize transparency and honesty in their business practices, ensure the security and privacy of customer data, and provide responsive and effective customer service to enhance their perceived integrity and overall reputation. Integrity is attached to the moral obligation of a person to fulfill a duty, but the perception of integrity changes with cultures and traditions. Also, the institute differentiate the word 'integrity' according to its nature. In practical terms, the process of differentiation isn't considered valuable, but philosophically each term has its

limit and scope (Guo et al., 2021; Jung & Kang, 2021). Perceived integrity refers to the perception that an online seller is honest and transparent in their business practices, and that they are committed to ethical and moral principles. When consumers perceive an online seller as having integrity, they are more likely to trust the seller and feel more comfortable engaging in transactions with them. This is because they believe that the seller is honest and transparent, and that they are more likely to provide accurate information about their products or services. Moreover, studies have shown that perceived integrity can also increase customer satisfaction and loyalty, which can ultimately lead to increased sales and revenue for online sellers (X. Li et al., 2009; Parry & Proctor-Thomson, 2002; D. Peterson, 2004). In summary, perceived integrity is an important factor in building consumer trust in online shopping, and online sellers who are perceived as honest and transparent are more likely to attract and retain loyal customers.

H4 Perceived integrity has negative impact on Consumer trust in online shopping

Perceived service reliability in e-commerce refers to the extent to which consumers believe that online retailers are dependable and consistent in providing high-quality products and services. It reflects the level of confidence a consumer has in the reliability and consistency of the online platform and the retailers that operate on it. Perceived service reliability is one amongst important elements of trust in online shopping. According to Obeidat et al. (2019) perceived quality is the assumption and expectation of the consumer about the service's, assurance of product's quality, on time responsiveness and empathy of the merchant. If the quality of a product on the online store is not up to the mark, there is a section of review from the consumer behind the product description on every online platform. The buyer can review the product, and rate the product quality (X. Li et al., 2009). Perceived reliability can have a positive impact on consumer trust in online shopping. Perceived reliability refers to the perception that an online seller is dependable and trustworthy, and is able to deliver products or services as promised. When consumers perceive an online seller as reliable, they are more likely to trust the seller and feel more comfortable engaging in transactions with them. This is because they believe that the seller is dependable and trustworthy, and that they are more likely to provide high-quality products or services. Moreover, studies have shown that perceived reliability can also increase customer satisfaction and loyalty, which can ultimately lead to increased sales and revenue for online sellers (R. A. Peterson & Kim, 2013; Raykov & Grayson, 2003). In summary, perceived reliability is an important factor in building consumer

trust in online shopping, and online sellers who are perceived as dependable and trustworthy are more likely to attract and retain loyal customers.

H5 Perceived reliability has positive impact on Consumer trust in online shopping

Three main components of online platforms are the marketplace, virtual wallet and the registration portal to log in or log up the services. The registration portal is a place to store data relating to the basic information demanded from the consumer (Raykov & Grayson, 2003). Perceived technical competence in e-commerce refers to the perception that an online seller has the technical knowledge and expertise to provide high-quality products or services in the online environment. This includes aspects such as website functionality, security, user interface design, and online payment systems. When consumers perceive an online seller as technically competent in e-commerce, they are more likely to trust the seller and feel more confident in engaging in transactions with them. This is because they believe that the seller has the necessary technical knowledge and expertise to provide a seamless and secure online shopping experience. Perceived technical competence can have a positive impact on consumer trust in online shopping. Perceived technical competence refers to the perception that an online seller has the technical knowledge and expertise to provide high-quality products or services. When consumers perceive an online seller as technically competent, they are more likely to trust the seller and feel more confident in engaging in transactions with them. This is because they believe that the seller has the necessary technical knowledge and expertise to provide high-quality products or services. Moreover, studies have shown that perceived technical competence in e-commerce can also increase customer satisfaction and loyalty, which can ultimately lead to increased sales and revenue for online sellers (Axman & Kročová, 2019; Tallman, 2021). In summary, perceived technical competence is an important factor in building consumer trust in e-commerce, and online sellers who are perceived as technically competent in the online environment are more likely to attract and retain loyal customers.

H6 Perceived technical competence has positive impact on Consumer trust in online shopping

A challenge each E-commerce industry is facing; the increasing development in the fake products. Production of fake products has dramatically reduced the trust of E-commerce consumers. Consumers are suffering more from fake products, but traders also face severe consequences. The innovation of a product, when faked with a little change, not only ruins the worth of the patent company, but also it makes the product worthless (Dong et al., 2009). Internet capability or internet literacy can have a positive impact on consumer trust in online

shopping. When consumers have a high level of internet capability, they are more likely to feel comfortable and confident navigating online shopping platforms and making purchases online. This includes having the ability to find the products they are looking for, compare prices, and complete the purchase process without any difficulties. Moreover, studies have shown that internet capability can also increase consumer satisfaction and loyalty, as it can lead to a more positive online shopping experience (Buxton & Walton, 2014; Han, 2021; Junior & Kamienski, 2021; M. K. Lee & Turban, 2001). In summary, internet capability is an important factor in building consumer trust in online shopping, and consumers who are perceived as having a high level of internet literacy are more likely to feel confident and comfortable engaging in transactions online.

H7 Internet Capability has positive impact on Consumer trust in online shopping.

Perceived certification is also known as 'authentication' which links the internet merchant with the third-party, that guarantee the genuine form of the e-commerce business, also it assures that internet merchant isn't fake (Han, 2021). In some cases, the third-parties are the reliable source to assure that internet merchant is, what he claims. Third party certification is the independent organization in every sector to assure that the company or organization is properly functional and the product of the company is up to the quality standards regarding performance, safety and quality (Buxton & Walton, 2014). Perceived certification can have a positive impact on consumer trust in online shopping. Perceived certification refers to the perception that an online seller has received some form of certification or accreditation that verifies their quality, safety, or reliability. When consumers perceive an online seller as being certified, they are more likely to trust the seller and feel more comfortable engaging in transactions with them. This is because they believe that the seller has been verified by a third-party authority, which can increase their confidence in the quality, safety, and reliability of the seller's products or services. Moreover, studies have shown that perceived certification can also increase customer satisfaction and loyalty, which can ultimately lead to increased sales and revenue for online sellers (Hatanaka et al., 2005; Jiang et al., 2008; Stafford & Wallnau, 2001). In summary, perceived certification is an important factor in building consumer trust in online shopping, and online sellers who are perceived as being certified are more likely to attract and retain loyal customers. However, it is important to note that not all certifications are created equal, and consumers may have different perceptions and attitudes towards different types of certifications.

H8 Perceived Certification has positive impact on Consumer trust in online shopping

Trust is a value shared by two parties to build a relationship, which is based on some beliefs that E-commerce is a system of integrity and ability (McKnight & Chervany, 2001). Trust is defined in negative. In positive terms, trust cannot be understood. When there is a trust deficit, or trust is broken, then it comes to the mind that trust is something which binds the relationship between consumer and the producer. In that case, the buying and selling of products and services is based on trust. Trust propensity has a significant positive impact on consumer trust in online shopping. Trust propensity refers to a consumer's general willingness to trust others, including online sellers. When consumers have a high level of trust propensity, they are more likely to trust online sellers and feel more comfortable engaging in transactions with them. This is because they are generally more willing to trust others and assume that the seller is acting in their best interest. Moreover, studies have shown that trust propensity can also increase customer satisfaction and loyalty, as it can lead to a more positive online shopping experience and increased willingness to return to the same seller in the future (Ahmed et al., 2021; Diputra & Yasa, 2021; Hammouri et al., 2021; Junior & Kamienski, 2021). In summary, trust propensity is an important factor in building consumer trust in online shopping, and online sellers who are able to build trust with consumers who have a high level of trust propensity are more likely to attract and retain loyal customers. However, it is important to note that trust propensity is not the only factor that influences consumer trust in online shopping, and other factors such as perceived risk and perceived benefit also play important roles.

H9 Trust propensity has significant positive impact on Consumer's Trust in Online shopping

3.5. Conceptual Framework

Technology Acceptance Model was introduced by Silva (2015), which is based on the theory of reasoned action (TRA) (Y. Lee, Kozar, & Larsen, 2003). In previous studies, TRA has been applied successfully in several studies relating to consumer behavior. The technology acceptance model has changed the direction of TRA through PU (perceived usefulness) and PEOU (perceived ease of use), because both have connections with computer related technology acceptance behavior (Amin, Rezaei, & Abolghasemi, 2014). Perceived usefulness (PU) is defined by Davis as; It enables a system or technology to be perceived by a user as useful or beneficial for the job or activity. Perceived ease of use (PEOU) refers to the degree to which a consumer believes that the use of a particular technology will be easy to use and user-friendly. In the Technology Acceptance Model, Perceived ease of use has a positive effect

on Perceived usefulness (Jahangir & Begum, 2008). It creates the attitude either positive or negative. According to Davis, PU and PEOU have a strong positive effect on the attitude of the user. It further leads to accepting the process as beneficial for actual usage. The technology acceptance model proposed by Davis is based on the external variable, which leads towards (1) Perceived usefulness, and (2) Perceived ease of use. Perceived usefulness and perceived ease of use directly affects the attitude of the consumer, which further builds the intention of the consumer and it leads to the actual usage of the product or service (Fig. 8.).

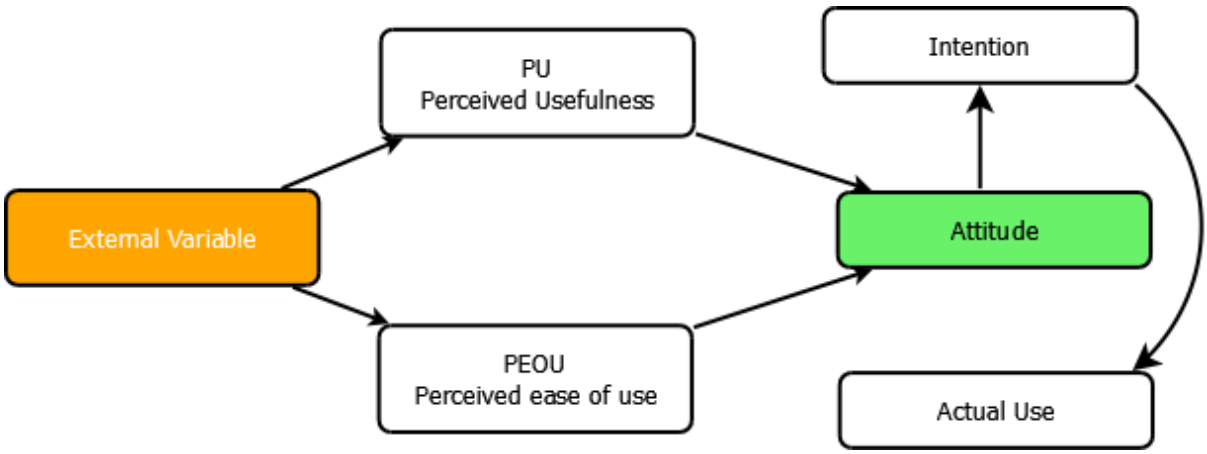

Figure 8. Technology Acceptance Model, own summary based on (Silva, 2015)

This study aims to develop a business model based on Trust in E-commerce security to inspect fraudulent activities in business to consumer and consumer to consumer businesses. To achieve this goal, a conceptual framework was developed based on a trust model for business to Consumer and Consumer to consumer E-commerce with integrated trust from Technology acceptance Model (TAM) (XU & CHENG, 2021). Modern web developments enabled the system with innovative E-commerce business models, based on consumer-oriented approaches. This business model assures us that we have developed better consumer-oriented models. This model assures the consumer trust on E-commerce adoption. Trust is used in the E-Commerce business as multidimensional from B2C and C2C, business to consumer and Consumer to business side or vendor's side. The first factor is the consumer's factor, to secure the consumer's trust. This trust is based on the data shared by the consumer in the form of national identification number, mobile number, credit card details and home address. This data is stored in the web-based vendor's online system. This system also stores the consumer's interest-based searches of the products, online experience, trust and self-efficacy to establish the trust of the consumer in the online shopping (Aggarwal & Aakash, 2018). The interaction between the consumer and the vendor is developed through website and smartphone-based

applications. A user login from a website portal can also login from a smartphone application. It is mandatory to assure the quality of the web site, which has a profound impact on the consumer's intention to online shopping. Also, the security framework in the web site is appealing to the learned consumers (Zheng, Chen, Zhang, & Wang, 2020).

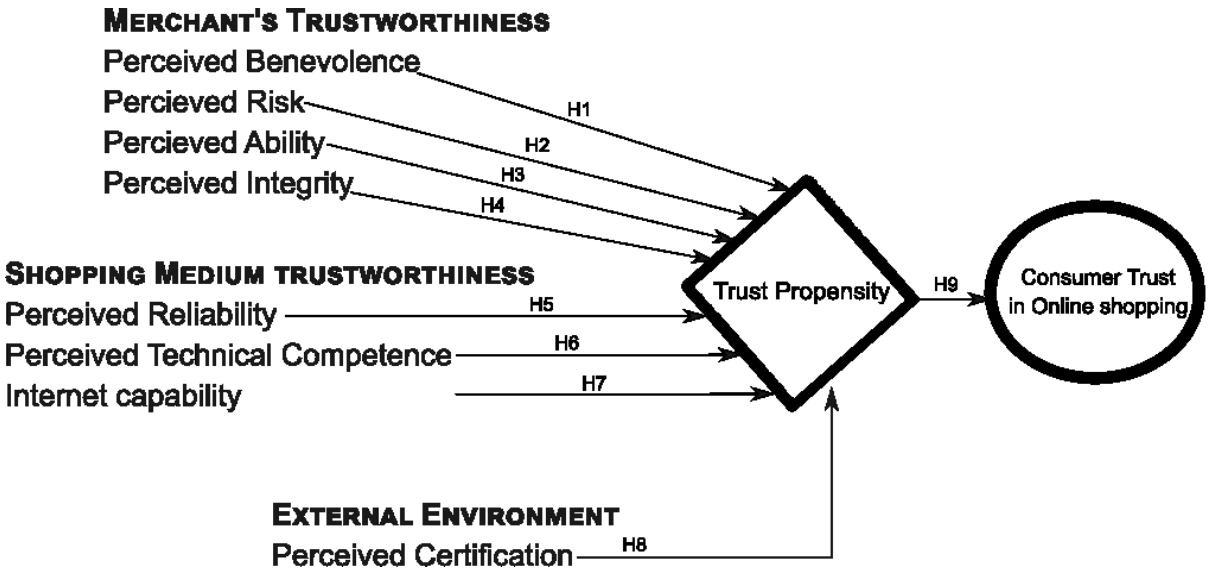

Figure 9. Conceptual Framework of the Study (Source: Own compilation)

The Technology Acceptance Model is used in the prediction of consumer's interest in E-commerce, however additional variables are needed in this framework to assure the fraudulent activity. To observe the fraudulent activity and to secure the consumer's sensitive data, (1) security, (2) privacy and (3) Website contents are new constructs to this model. PU and PEOU (Rahman, 2018) It is missing from the References constructs by technology acceptance model (TAM) are included in this model as well (Al-Emran, Mezhuyev, & Kamaludin, 2018). Consumer's purchase intention is attached to the website quality. New customers to e-vendor's website are impressed by the design and product placement catalog. In the model, the trustee's characteristics come next after the first interaction between the vendor's website, which further represents the integrity, ability and Quality assurance of the vendor (Suki, 2011). Vendor's ability, integrity is included to satisfy the purpose in the model. Quality of service is included to inspect the satisfaction level of the consumer from e-vendor's website. Thus, Quality of services is included in the model. According to Zulkarnain, Misbah, Ramli, and Hamid (2021), the Internet consists of structural components including the security and safety of the consumer through safe browsing. Better safety and security have a positive impact on the consumer to direct oneself to specific e-vendor. Internet, as a mode of communication between vendor and

consumer is included in the model to observe the web security assurance from Vendor's side, and positive interaction with the vendor from consumer's side (Kaiser et al., 2021).

3.6. Theoretical Framework

Trust is the basic value in every human, which can't be neglected in any case. Trust has been defined as the rational decision to attach oneself to another party. Trust in E-Commerce has been defined by Pavlou (2003) as; a system of belief to show acceptance to the internet for vulnerability purposes on ethical grounds.

The theoretical model of the research is developed based on the literature review to examine the trust in e-commerce shopping. The inspection of fraudulent merchant is an example of a latent variable which is hard to observe directly. Measuring a variable, if not possible to observe directly, can be in-directed to satisfy the task. In that case, the other variables are necessary to attach with the latent variable. Latent is an unobserved variable which cannot be observed directly. For example, health is a latent variable and it cannot be observed independently. To observe health, other related factors are necessary to measure. In case of 'consumer trust on online shopping', variables related to trust and shopping are related to measure. There are two type of variables, Independent and Dependent. Independent variable and dependent variable are cause and effect in the research process. Independent variable is the cause, dependent variable is the effect. Independent variable in not dependent on other variables.

Independent variables of the study are divided into these categories;

(1) Internet Merchant's Trustworthiness, which includes the Perceived ability, Perceived integrity, Perceived Benevolence and Perceived Risk. (2) Shopping medium trustworthiness includes Perceived technical competence, Perceived Reliability and Internet Capability. (3) External environment includes the Perceived certification (Third Party).

The dependent variable of the research is Consumer's trust on Internet Shopping (CTIS).

The independent variables of the study are moderated by Propensity of Trust (POT) of the consumer. Trust propensity is the value to trust something, or willing decision to trust others. It involving willingness to rely on others. The trust of the consumer varies with age and experience. In our case, the level of trust of the consumer is considered stable, which is further measured in the results. The Propensity of Trust (POT) is the mediator variable between independent and dependent variables of the research. There is a difference between mediator

and moderating variables. The researcher used mediating variable as POT, which explains the process through which independent and dependent variables are attached.

A consumer is willingly participating in the internet shopping, considering it reliable and worthwhile for shopping transactions. This intention of the consumer is based on the previous experience, or based on the expectation that an online shopping merchant is worth trusting and follows the rules and regulations presented by the Government of Bangladesh for e-commerce.

This model enables the consumer to inspect the online shopping merchant, as well as the internet linking to the online shopping store, which in most cases is the third party. The third party provides security protocols to ensure the safe transaction, also the third party ensures the data privacy of the consumer.

Based on our literature review, the questionnaire of the study is developed. The main headings in the questionnaire are; (1) Internet Merchant Trustworthiness, (2) Shopping Medium Trustworthiness, and (3) External Environment (Table 4).

Table 4. Survey Scale development

	Data Source	References
INTERNET MERCHANT'S TRUSTWORTHINESS		
1. Perceived Benevolence	Literature Review	(Degli Esposti et al., 2021; Guo et al., 2021; Khan, 2016)
I believer, internet merchants will do their best for me.		
If I need help regarding a product, an internet merchant will find it for me.		
If I return a product, the internet merchant will not hesitate to take it back.		
Internet Merchants take care not only of themselves, but also of my kindness.		
2. Perceived Risk	Literature Review	(Ahmed et al., 2021; Drew & Farrell, 2018; Kim et al., 2008; Lăzăroiu et al., 2020; Qalati et al., 2021)
I was afraid that online shopping websites might steal my personal information.		
I was afraid that an online shopping website might steal my credit card number.		
I was afraid that online shopping websites might misuse my private information and data.		
I suddenly got suspicious from an online shopping website.		
The online shopping website didn't promise secure transactions.		
The online shopping website didn't provide a Cashback guarantee.		

Table 4.a

3. Perceived Ability	Literature Review	(R. A. Peterson & Kim, 2013; Raykov & Grayson, 2003; Yuniarto et al., 2018)
Internet merchants will not charge more for internet shopping.		
Internet merchants are honest to their customers.		
Internet merchant's act justly when dealing with customers.		
Internet merchants provide sales every six month on reasonable prices.		
Internet merchants update product catalogs routinely.		
Internet merchants provided product descriptions based on truth.		
Reviews on the products are real and valuable on shopping websites.		
4. Perceived Integrity	Literature Review	(Fatima et al., 2019; Hasan & Islam, 2013; Pai & Chary, 2016)
Internet merchants always keep their promises by delivering products on time.		
Internet merchants provide quality products in their stores.		
Internet merchants preserve my security and privacy.		
I feel satisfied sharing credit card details with internet merchants.		
I feel satisfied sharing personal information (phone, home address) with internet merchants.		
SHOPPING MEDIUM TRUSTWORTHINESS		
1. Perceived Reliability	Literature Review	(Chen & Dhillon, 2003; Diputra & Yasa, 2021; Hammouri et al., 2021; Junior & Kamienski, 2021)
Internet shopping is not reliable anymore.		
I cannot trust internet shopping because it has many uncertainties.		
I can't trust the promises internet shopping vendors make.		
Internet shopping fails to deliver my requested product on time.		
Internet shopping sometimes fails to provide the product I requested, instead I receive a different product.		
2. Perceived technical competence	Literature Review	(Ahmed et al., 2021; Amin et al., 2014; Bojang et al., 2017)
Online shopping stores have a proper understanding of technical processes.		
Online shopping stores are good at building and fixing things.		
Online shopping stores manage website security routinely.		
Online shopping stores resolve my conflict whenever I report.		
Online shopping stores cannot compromise my information.		
Online shopping stores have a shared privacy policy on their website.		

Table 4.b

3. Internet Capability	Literature Review	(Ahmed et al., 2021; Georgiadou et al., 2021; Qalati et al., 2021; Tendai & Crispen, 2009)
Online shopping websites are easy to understand.		
Online shopping websites are not complicated to place orders.		
I can easily find the desired product on Internet shopping websites		
I understand how to use shopping websites and smartphone applications.		
I understand how to search for products on internet stores.		
I can easily pay for a product of my choice in online shopping.		
EXTERNAL ENVIRONMENT		
1. Perceived Certification (Third-party)	Literature Review	(Hatanaka et al., 2005; Jiang et al., 2008; Stafford & Wallnau, 2001; XU & CHENG, 2021)
To assure the trustworthiness of internet merchants, there are many third-party certification companies in Bangladesh.		
I think I feel safe over shopping applications due to third-party certification.		
Third-party certification is helpful to maintain healthy relationship shopping interest.		
Consumer Trust on Internet Shopping (CTIS)	Literature Review	(Ahmed et al., 2021; Liu & Ding, 2007; Suki, 2011; C.-C. Wang et al., 2009)
Internet Shopping in Bangladesh is not reliable.		
Internet shopping can't be trusted anymore in Bangladesh.		
Anyone interested in Internet shopping is in trouble.		
Trust Propensity	Literature Review	(Quoquab et al., 2019; Suki, 2011; Willis et al., 2021; Xia et al., 2019)
Trusting a person or a thing is easy for me.		
I have a high tendency to trust a person or a thing		
With a little knowledge, I can trust a person or a thing.		
Trusting someone is not difficult.		

Source: own compilation

In this chapter, the researcher has discussed the theoretical and conceptual framework of the research, technique and method of questionnaire designing, scale content validity, data collection and data analysis method. This chapter begins with the introduction about the topic along with a philosophical approach carried out by the researcher to complete the research. The philosophical approach to carry out the discussion, development of research framework and justification is discussed in the later section. Research population selection, sample collection method and data collection procedure has been discussed in the end.

4. DATA ANALYSIS – RESEARCH RESULTS

4.1. Overview

This chapter presents the results of analysis on PLS-SEM. PLS analysis is widely accepted and the previous researches as approved it as compulsory standard for data analysis (Zeng, Liu, Gong, Hertogh, & König, 2021). In the first phase reliability and consistency of the data has been observed by the researcher. To fulfill the task, Composite reliability measures were selected as appropriate for analysis. The convergent validity is observed through (1) Cross loading, (2) Average variance Extracted. Discriminant validity of the construct is observed with (1) Cross loading criterion, (2) Fornell Larcker Criterion, (3) The Heterotrait-monotrait ratio (HTMT). Since, this research has a mediating role of 'Trust Propensity', which further observed through post-hoc analysis.

4.2. Measurement Model Assessment

The second generation of multivariate data analysis is the partial least square equation modeling, known as PLS-SEM. This method is useful in the research relating to marketing, business and other approaches to examine the theoretically supported linear models (StatSoft, 2013). PLS-SEM is useful in visualizing the relationship between the variables of interest to examine the consumer's satisfaction level. In this research the PLS-SEM is used to examine the role of consumer's trust in online shopping and their concerns regarding the merchant e-commerce fraudulent policies in Bangladesh. This method is adopted by the researcher because directly examining the dependent variable seems impossible. PLS has helped in measuring the sub-domains of data with latent variables.

In SEM, two prominent models are adopted to specify the relationship between the dependent and independent variables. The inner model and outer model. Inner model is used to examine the relationship between independent and dependent variables. The outer model is used to observe the latent variable with their indicators. Variables in SEM are either exogenous or endogenous. In the first place the researcher evaluates the path model to inspect the reliability and validity of the construct measures. The proper evaluation of the SEM begins once the quality evidence is established (Joe F Hair Jr, Matthews, Matthews, & Sarstedt, 2017).

In Smart-PLS to determine the measurement model as reflective or formative is not easy for every researcher. It has been a challenging situation for the researchers to find the latent variables are formative or reflective. In e-Commerce and marketing research, finding the latent variable direction is necessary. In the reflective measurement model, the smart-PLS shows arrows moving from circular to rectangular shape indicators. To find the latent variable direction, Confirmatory Tetrad Analysis technique (CTA-PLS) is used (Gudergan, Ringle, Wende, & Will, 2008). In this research, the latent variables have at least four indicators, which fulfills the requirement to check the latent variable direction. In the reflective measurement model each tetrad is expected to be zero.

$$H_a: \pi \neq 0$$

$$H_0: \pi = 0$$

The above hypothesis is tested in CTA-PLS. Through the PLS-Algorithm technique, base data correlation indictors were observed. Indicators showed difference values in comparison to zero.

Consumer Trust Online Shopping

Zoom (100%) Copy to Excel Copy to R

	O/STDEV|)	P values	Bias	CI low	CI up	Alpha adj.	z(1-alpha)	CI low adj.	CI up adj.
1: CTI1,CTI2,CTI3,CTI4	0.983	0.326	-0.000	-0.025	0.100	0.004	2.903	-0.073	0.147
2: CTI1,CTI2,CTI4,CTI3	1.156	0.248	0.000	-0.176	0.031	0.004	2.903	-0.255	0.110

Figure 10. Cl Low Adj, Cl Up Adj, Latent variables reflective (Source: Own Research)

In the CTA results (Fig 10.) each variables' CL low adj and Cl up adj has been comparatively check to find either of them have zero. The results showed that, zero falls between two variables, which further leads to the conclusion that latent variables direction is reflective. Through this technique other variables were also check, which shows that measurement model in Smart-PLS is reflective, and there is no need to change the direction of arrow in our model, because smart-PLS by default set to reflective measurement model.

In Pls-SEM the relationship between the variables; in the circular shape the numbers show the explanation of one latent variable on another. The number on the line between the circles shows the 'how strong the effect of one variable on another', is known as path coefficient.

In the first place, the researcher will explain the variance of target endogenous variable, inner model path coefficient size and its significance, outer model loading and its significance, the reliability of the indicators, the internal consistency of the reliability, the convergent validity,

the discriminant validity, structural path significance in Bootstrapping technique, multicollinearity assessment, model's f2 effect size, predictive relevance Q2 values, and total effect size.

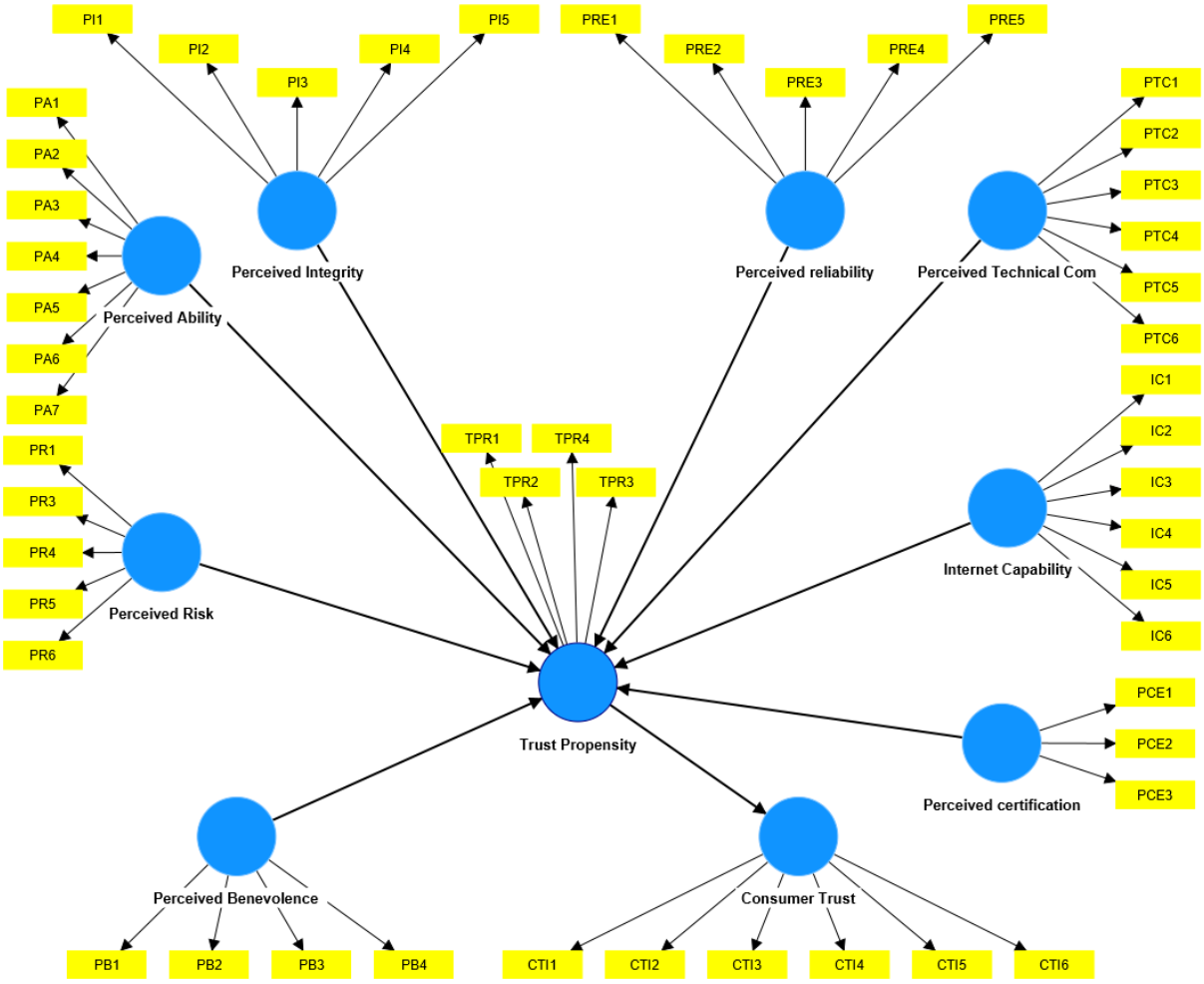

Figure 11. Measurement Model of the research (Source: Own Research)

4.2.1 Internal Consistency and Reliability

Traditionally in the research, to examine the reliability of internal measures, 'Cronbach's Alpha' is used in statistical software's. In PLS-SEM the Cronbach's alpha isn't a fit to measure the internal reliability. Previous researches have suggested to use the "Composite reliability" as a replacement of Cronbach's alpha in PLS-SEM (Joseph F Hair Jr et al., 2021). Composite reliability has become a new norm to test the scale's reliability. The Cronbach's alpha is the average measure, which is considered not-reliable for the SEM-PLS analysis.

Composite reliability is a measure of scale's internal consistency (R. A. Peterson & Kim, 2013). It is considered as the equal values of 'total amount of score' with respect to 'total scale score

variance' in the composite of related indicators of the construct, and its sum is divided with the total variance in the composite (R. A. Peterson & Kim, 2013).

Cronbach's alpha and Composite reliability measures between 0 to 1. The construct having higher value has high level of reliability. In the composite reliability, the values vary between 0.6 to 0.7, considered acceptable and the values fall between 0.7 to 0.9 are considered satisfactory (Raykov & Grayson, 2003). If a construct having value lower than 0.6 is considered 'lack of internal consistency reliability' (Table 5).

Table 5. Composite Reliability and Consistency

	Composite reliability (rho_a)	Composite reliability (rho_c)
Consumer Trust Online Shopping	0.878	0.834
Perceived Ability	0.818	0.854
Perceived Benevolence	0.805	0.853
Perceived Integrity	0.801	0.862
Perceived Risk	0.792	0.831
Perceived Technical Com	0.806	0.854
Perceived certification	0.731	0.845
Perceived reliability	0.879	0.855
Internet capability	0.857	0.88
Trust Propensity	0.803	0.868

(Source: Own Research)

The values of Composite reliability are shown above 0.6 as reliable to consider for the measurement model. Another view regarding the reliability; instead of using the Cronbach's alpha or composite reliability in SEM-PLS, the researcher should consider the "rho_a" coefficient to examine the reliability of PLS constructs (Dijkstra & Henseler, 2015). The values of "rho_a" above or equal to 0.7 are considered equal to composite reliability. The internal consistency of nine variables starts from Consumer trust online shopping to Trust propensity is above 0.7 in "rho_a", which shows the composite reliability of the internal constructs.

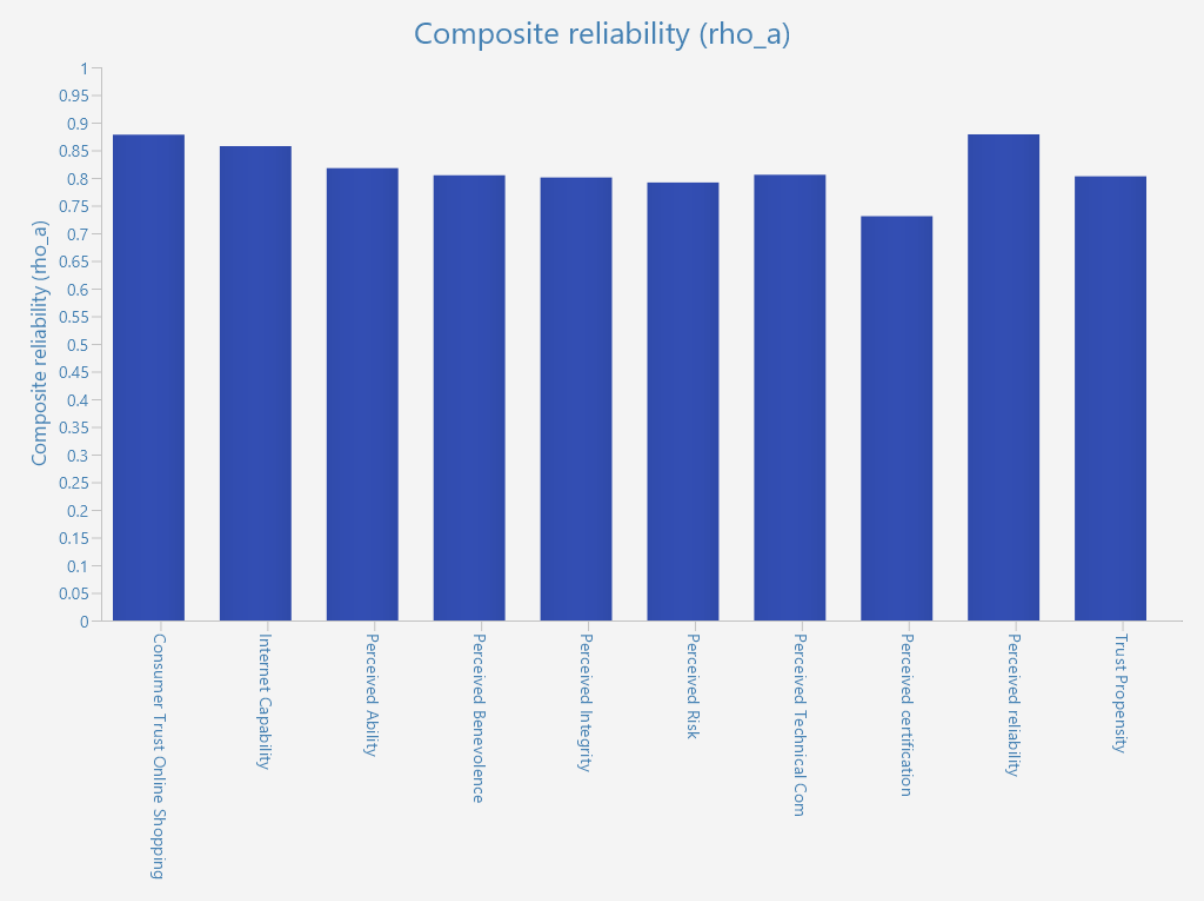

Figure 12. Graphical representation of composite reliability (rho_a) (Source: Own Research)

The graphical representation of composite reliability (rho_a) (Fig. 12.) shows the highest level of 'Consumer trust in online shopping', 'Perceived ability', 'Perceived risk', and 'Internet Capability'. The common minimum threshold lies between 0.75 to 0.9. The vertical lines in shows the composite reliability (rho_a) of each construct. The bars are firm and green which shows the confirming reliability is above 0.7. If the composite reliability is below 0.7, the bar color changes to red. In this case, we can say that composite reliability of CTIS (0.913), PA (0.818), PB (0.805), PI (0.801), PR (0.828), PTC (0.806), PC (0.731), PRE (0.742), IC (0.858), and TPR (0.801), reflect the higher level of internal consistency of all the constructs.

4.3. Convergent Validity

Convergent validity of a construct is established through two patterns of analysis, (1) Indicator's outer loading, and (2) average variance explained (AVE).

4.3.1 Outer Loading

The basic criteria for outer loading are, each construct should explain at least 50% of the indicator's variance. To examine the variance explained by the construct, the square of each construct shows the standardized outer loading which should be greater than 0.70 (Table 6).

Table 6. Outer loading of constructs

	CTI	PA	PB	PI	PR	PTC	PC	PRE	IC	TP
CTI1	0.705									
CTI2	0.652									
CTI3	0.636									
CTI4	0.712									
CTI5	0.616									
CTI9	0.723									
PA1		0.65								
PA2		0.738								
PA3		0.757								
PA4		0.676								
PA5		0.578								
PA6		0.715								
PA7		0.599								
PB1			0.758							
PB2			0.636							
PB3			0.832							
PB4			0.842							
PCE1							0.869			
PCE2							0.824			
PCE3							0.712			
PI1				0.676						
PI2				0.802						
PI3				0.712						
PI4				0.785						
PI5				0.751						
PR1					0.656					
PR3					0.617					
PR4					0.712					
PR5					0.806					
PR6					0.723					
PRE1								0.811		

PRE2		0.861		
PRE3		0.699		
PRE4		0.665		
PRE5		0.626		
PTC1	0.758			
PTC2	0.721			
PTC3	0.795			
PTC4	0.687			
PTC5	0.68			
PTC6	0.563			
IC1			0.801	
IC2			0.735	
IC3			0.73	
IC4			0.692	
IC5			0.784	
IC6			0.703	
TPR1				0.829
TPR2				0.741
TPR3				0.818
TPR4				0.765

(Source: Own Research)

The outer loading table of construct shows the values of all the constructs explaining 50% of the indicator's variance. The consumer trust in online shopping (CTI) has average of 0.674 which explains 67% of the indicator, Perceived Ability (PA) has an average of 0.673 which explains 67% of the indicator variance, Perceived benevolence (PB) has average outer loading of 0.801 which explains 80% of the indicator variance, Perceived integrity (PI) has an average outer loading of 0.745 which explains 74% of the indicator's variance, Perceived risk (PR) has an average outer loading of 0.702 which explains 70% of the indicator's variance, Perceived reliability (PRE) has an average of 0.732 which explains 73% of the indicator's variance, Perceived technical competence (PTC) has an average of 0.700 which explains 70% of the indicator variance, Internet Capability (IC) has an average of 0.740 which explain 74% of the indicator's variance, and Trust Propensity (TPR) has an average of 0.788 which explain 78% of the indicator's variance.

The outer loading shows that all the indicators have explained above 50% of the construct variance. Rule of thumb for the outer loading is, if any indicator falls between 0.4 to 0.7 It should be removed in case it has a positive impact on the Average Variance AVE values. In this research, there is no need to remove the indicator because it has no profound impact on

AVE. The outer loading is weaker in some indicators, which shows the value > 0.7. In that case, the reliability impact will be carefully noticed in the AVE.

4.3.2. Average Variance Extracted

The average variance extracted AVE is the grand mean of the indicator's squared loading, which is associated with the constructs. An established rule is, if the AVE value is above 0.5, it indicates the 50% of the variance is explained which is considered reliable among the indicators (Table 7).

Table 7. Average Variance Extracted AVE

		Average variance extracted (AVE)
CTI	Consumer Trust Online Shopping	0.556
PA	Perceived Ability	0.557
PB	Perceived Benevolence	0.595
PI	Perceived Integrity	0.557
PR	Perceived Risk	0.598
PTC	Perceived Technical Competence	0.596
PC	Perceived certification	0.647
PRE	Perceived reliability	0.544
IC	Internet Capability	0.55
TPR	Trust Propensity	0.623

(Source: Own Research)

The AVE values of all the indicators are given in the table. It has been observed that each indicator has AVE value above 0.5, which shows that 50% of the variance is explained by the indicators, which proves the convergent validity of the construct for further analysis.

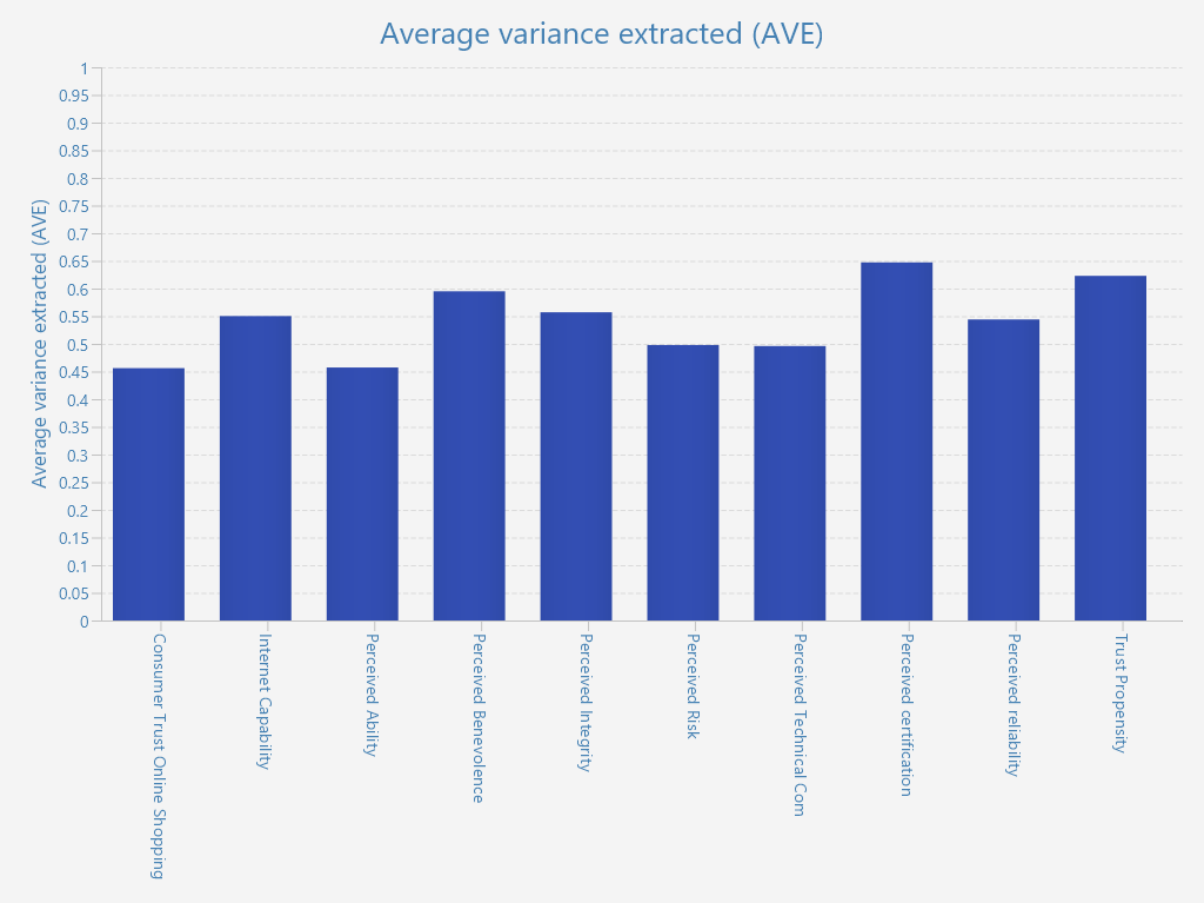

Figure 13. Average Value Extracted AVE of the construct (Source: Own Research)

The graphical representation of the AVE values is given in Figure 13. It has been observed that AVE values of Consumer trust in online shopping (CTI) is 0.556, Perceived benevolence (PB) has 0.557, Perceived benevolence (PB) has AVE value of 0.595, Perceived integrity (PI) has AVE value of 0.557, Perceived risk (PR) has 0.598, Perceived technical Competence (PTC) 0.596, Perceived certification (PC) 0.647, Perceived reliability (PRE) 0.544, Internet Capability (IC) 0.55, and Trust propensity (TP) has AVE value of 0.623. The results shows that all the indicators have AVE value above 0.5, thus the measures of nine relevant constructs have higher level of convergent validity.

4.4. Discriminant Validity

To observe either the construct is different from the other construct is examined through the discriminant validity technique. To examine the discriminant validity of a construct, three prominent methods are used in PLS-SEM. The first method is; Cross loading criterion, second is; Fornell-Larcker criterion, and third method is; HTMT. In this research the researcher will use all three methods to examine the discriminant validity of all the indicators.

The assessment of the discriminant validity has an utmost importance in the research. It is attached to the latent variables along with other indicators to represent the contract. Discriminant validity is observed before the further analysis to assure the construct is reliable to work on. Discriminant validity assures that the construct has significant difference from values and the causal relationship is based on the distinct variables in the construct.

In simple words, the discriminant validity assures that construct indicators are all different from each other and that no similarity is there between them, or not all indicators are same and measuring the same construct. To create the separative measure, discriminant validity is used. If the researcher conducts his research analysis without exploring the discriminant validity or goes for testing of hypothesis without measuring and passing the discriminant validity test, then results of the study maybe be misleading. To avoid the misleading phase, the researcher has established a criterion of Fornell and Larcker. Although, this criterion has been disapproved by (Dijkstra & Henseler, 2015). According to Dijkstra and Henseler (2015) the Fornell and Larcker criterion still lacks investigation to find the distinctiveness among variables.

4.4.1. Cross Loading Criterion

In the cross-loading criterion, it has been observed that one indicator's loading on adjacent factor is greater than the other. The outer loading of an indicator with its associated construct is greater than any of the similar construct on the same outer loading, which fulfills the criterion of outer loading (Table 8).

Table 8. Cross Loading

	CTI	PA	PB	PI	PR	PTC	PCE	PRE	IC	TPR
CTI1	**0.705**	0.027	0.016	0.048	0.325	0.048	0.055	0.437	0.083	0.299
CTI2	**0.652**	0.213	0.219	0.179	0.394	0.2	0.221	0.428	0.128	0.313
CTI3	**0.636**	0.048	0	0.074	0.497	0.132	0.191	0.438	0.038	0.216
CTI4	**0.712**	0.088	0.036	0.095	0.37	0.182	0.244	0.47	0.165	0.384
CTI5	**0.616**	0.009	-0.015	0.066	0.448	0.022	0.175	0.487	0.063	0.182
CTI6	**0.723**	0.317	0.331	0.3	0.302	0.361	0.403	0.297	0.221	0.729
PA1	0.119	**0.650**	0.426	0.423	0.159	0.419	0.267	0.088	0.338	0.286
PA2	0.121	**0.738**	0.515	0.541	0.17	0.499	0.272	0.054	0.232	0.258
PA3	0.23	**0.757**	0.52	0.586	0.311	0.51	0.366	0.247	0.304	0.322
PA4	0.231	**0.676**	0.456	0.402	0.234	0.413	0.431	0.209	0.259	0.426
PA5	0.089	**0.578**	0.398	0.368	0.213	0.395	0.124	0.136	0.343	0.234
PA6	0.148	**0.715**	0.463	0.661	0.154	0.457	0.294	0.111	0.349	0.256
PA7	0.133	**0.599**	0.385	0.478	0.178	0.338	0.337	0.215	0.276	0.235
PB1	0.108	0.528	**0.758**	0.681	0.147	0.615	0.459	0.05	0.417	0.285

PB2	0.121	0.45	**0.636**	0.459	0.227	0.522	0.416	0.15	0.348	0.287
PB3	0.212	0.496	**0.832**	0.559	0.156	0.519	0.428	0.197	0.31	0.432
PB4	0.213	0.602	**0.842**	0.678	0.236	0.568	0.431	0.107	0.358	0.429
PCE1	0.326	0.389	0.425	0.409	0.205	0.471	**0.869**	0.277	0.474	0.45
PCE2	0.294	0.385	0.508	0.447	0.191	0.48	**0.824**	0.246	0.52	0.441
PCE3	0.277	0.338	0.401	0.51	0.156	0.519	**0.712**	0.091	0.419	0.398
PI1	0.173	0.656	0.57	**0.676**	0.228	0.558	0.335	0.145	0.4	0.379
PI2	0.138	0.645	0.587	**0.802**	0.183	0.557	0.457	0.155	0.404	0.326
PI3	0.189	0.452	0.514	**0.712**	0.122	0.514	0.375	0.09	0.377	0.312
PI4	0.217	0.514	0.625	**0.785**	0.19	0.555	0.448	0.158	0.285	0.375
PI5	0.176	0.407	0.547	**0.751**	0.035	0.523	0.484	0.052	0.372	0.338
PR1	0.357	0.259	0.185	0.138	**0.656**	0.211	0.13	0.403	0.075	0.124
PR3	0.369	0.161	0.116	0.077	**0.617**	0.126	0.039	0.471	0.014	0.125
PR4	0.336	0.296	0.178	0.193	**0.712**	0.325	0.16	0.398	-0.014	0.246
PR5	0.384	0.249	0.24	0.189	**0.806**	0.217	0.199	0.485	-0.05	0.335
PR6	0.435	0.146	0.136	0.11	**0.723**	0.312	0.207	0.404	0.078	0.298
PRE1	0.565	0.291	0.284	0.216	0.586	0.288	0.298	**0.811**	0.127	0.402
PRE2	0.455	0.21	0.113	0.114	0.437	0.115	0.174	**0.861**	0.111	0.275
PRE3	0.318	0.028	0.005	0.033	0.358	0.084	0.15	**0.699**	0.104	0.136
PRE4	0.347	0.089	0.027	0.097	0.397	0.136	0.118	**0.665**	-0.005	0.244
PRE5	0.302	0.069	-0.015	-0.002	0.284	0.018	0.132	**0.626**	0.095	0.121
PTC1	0.2	0.46	0.52	0.502	0.231	**0.758**	0.464	0.036	0.488	0.383
PTC2	0.229	0.433	0.566	0.561	0.371	**0.721**	0.421	0.147	0.371	0.365
PTC3	0.16	0.507	0.519	0.624	0.222	**0.795**	0.473	0.128	0.476	0.34
PTC4	0.119	0.521	0.632	0.614	0.134	**0.687**	0.412	0.11	0.388	0.325
PTC5	0.303	0.411	0.44	0.462	0.233	**0.680**	0.446	0.296	0.357	0.435
PTC6	0.254	0.389	0.281	0.28	0.31	**0.563**	0.32	0.185	0.369	0.24
IC1	0.141	0.308	0.352	0.369	-0.017	0.441	0.466	0.143	**0.801**	0.337
IC2	0.187	0.368	0.341	0.407	0.03	0.405	0.417	0.063	**0.735**	0.268
IC3	0.021	0.284	0.284	0.244	-0.067	0.356	0.332	-0.015	**0.730**	0.115
IC4	0.061	0.169	0.185	0.155	-0.064	0.283	0.29	-0.027	**0.692**	0.097
IC5	0.161	0.374	0.36	0.379	-0.05	0.415	0.437	0.059	**0.784**	0.254
IC6	0.238	0.349	0.381	0.449	0.147	0.552	0.531	0.156	**0.703**	0.286
TPR1	0.658	0.338	0.335	0.326	0.343	0.344	0.365	0.323	0.233	**0.829**
TPR2	0.383	0.362	0.469	0.45	0.188	0.455	0.505	0.302	0.351	**0.741**
TPR3	0.516	0.292	0.332	0.299	0.379	0.371	0.352	0.29	0.23	**0.818**
TPR4	0.456	0.419	0.384	0.412	0.206	0.442	0.481	0.245	0.295	**0.765**

(Source: Own Research)

The values of outer loading CTI1, CTI2, CTI3, CTI4, CTI5, CTI6 on the CTI are (0.705), (0.652), (0.636), (0.712), (0.616), and (0.723) which is greater than the cross loading of CTI1, CTI2, CTI3, CTI4, CTI5, CTI6 on PA construct which is (0.027), (0.213), (0.048), (0.088), (0.009), and (0.723). It shows that CTI indicator's cross loading is observed greater on CTI than any other construct. Similar cross loading is observed on other constructs, PA, PB, PCE,

PI, PR, PRE, PTC, IC, TPR. The results of the table shows that all the constructs have higher cross loading on the adjacent indicator. To further examine the discriminant validity of the construct, the Fornell Larcker Criterion is observed.

4.4.2. Fornell Larcker Criterion

The criterion of Fornell Larcker was established by Fornell and Larcker (1981) to access the 'shared variance degree between the latent variables' of the observed model. According to FL criterion, the observed convergent validity of any construct or measure is assessed though AVE and Composite reliability (CR), in which the composite reliability has been observed by the research in the table given above. The selection of composite reliability is adopted as a choice, because it is considered less biased than any other reliability checking technique. The Cronbach's alpha is considered biased in PLS-SEM.

The assessment of the discriminant validity has an utmost importance in the research. It is attached to the latent variables along with other indicators to represent the contract. Discriminant validity is observed before the further analysis to assure the construct is reliable to work on. Discriminant validity assures that the construct has significant difference from values and the causal relationship is based on the distinct variables in the construct. In simple words, the discriminant validity assures that construct indicators are all different from each other and that no similarity is there between them, or not all indicators are same and measuring the same construct. To create the separative measure, discriminant validity is used. If the researcher conducts his research analysis without exploring the discriminant validity or goes for testing of hypothesis without measuring and passing the discriminant validity test, then results of the study maybe be misleading. To avoided the misleading phase, the researcher has established a criterion of Fornell and Lacker. Although, this criterion has been disapproved by Henseler (2015). According to Henseler, (2015) the Fornell and Lacker criterion still lacks investigation to find the distinctiveness among variables. According to recent researches published earlier claiming about the Fornell and Larker’s criterion metric is not suitable for the discriminant validity. The problem is; when the indicator's loading on the construct changes from the other indicator, it remains same. Hence, it is observed that Fornell and Lacker criterion fails in predicting the validity of the data. However, the researcher has included it in this research because the researcher believes, may experts still relay on it.

The comparison of correlations between the latent variable with Average Variance extracted square root of the construct is known as Fornell Larcker Criterion. In this criterion, it has been established that AVE value of each construct and its square root will be greater than the correlation with adjacent value (Table 9).

Table 9. Discriminant validity; Fornell Larcker Criterion

	CTI	PA	PB	PI	PR	PTC	PC	PRE	IC	TP
Consumer Trust Online Shopping	0.675									
Perceived Ability	0.24	0.676								
Perceived Benevolence	0.222	0.672	0.771							
Perceived Integrity	0.241	0.723	0.767	0.746						
Perceived Risk	0.527	0.307	0.247	0.208	0.706					
Perceived Technical Competence	0.302	0.642	0.709	0.729	0.351	0.704				
Perceived certification	0.373	0.462	0.554	0.563	0.23	0.607	0.805			
Perceived reliability	0.577	0.233	0.168	0.163	0.598	0.217	0.26	0.738		
Internet Capability	0.211	0.438	0.453	0.492	0.017	0.578	0.587	0.118	0.742	
Trust Propensity	0.646	0.446	0.477	0.468	0.357	0.506	0.535	0.369	0.348	0.789

(Source: Own Research)

4.4.3. The Heterotrait-monotrait ratio HTMT

The Heterotrait-monotrait ratio commonly known as HTMT is considered more reliable in predicting the discriminant validity of the indicator's relationship between constructs. HTMT is defined as; Indicator correlation's mean value among constructs, which is relative to the mean of the average correlation of the same construct. If the value of HTMT is high, it shows the discriminant validity problem persists. According to Henseler et al., (2015) the threshold value is 0.90. If the value of the construct is greater than 0.9, it shows the discriminant validity is not present (Table 10).

Table 10. HTMT Values

	CTI	PA	PB	PI	PR	PTC	PC	PRE	IC	TP
Consumer Trust Online Shopping	0.675									
Perceived Ability	0.24	0.676								
Perceived Benevolence	0.222	0.672	0.771							
Perceived Integrity	0.241	0.723	0.767	0.746						
Perceived Risk	0.527	0.307	0.247	0.208	0.706					
Perceived Technical Com	0.302	0.642	0.709	0.729	0.351	0.704				
Perceived certification	0.373	0.462	0.554	0.563	0.23	0.607	0.805			
Perceived reliability	0.577	0.233	0.168	0.163	0.598	0.217	0.26	0.738		
Internet Capability	0.211	0.438	0.453	0.492	0.017	0.578	0.587	0.118	0.742	
Trust Propensity	0.646	0.446	0.477	0.468	0.357	0.506	0.535	0.369	0.348	0.789

(Source: Own Research)

As it is observed in the table of HTMT, the values are lower than the threshold value of 0.9. Further, the research will test either the HTMT ratio is significantly different from 1. Bootstrap report will show either there is a difference in the values (Fig 14).

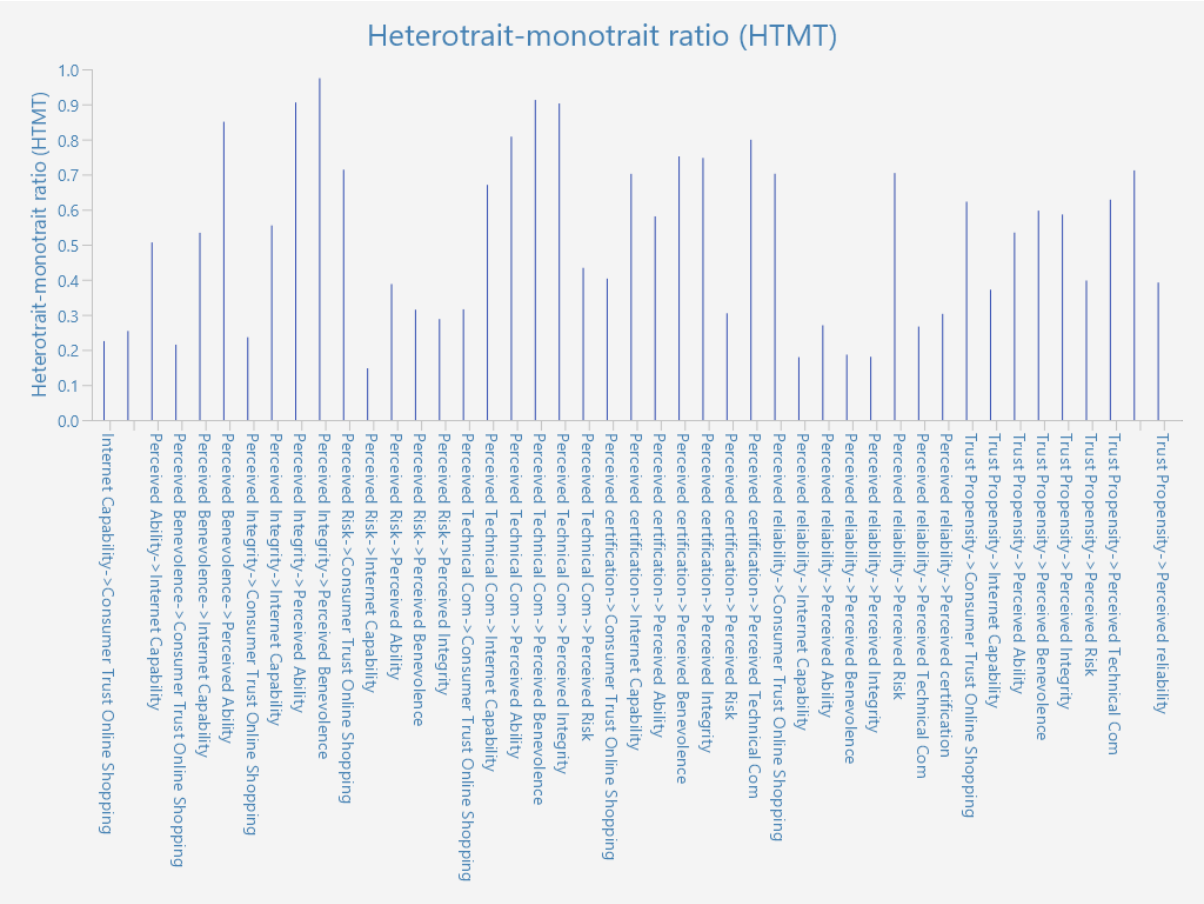

Figure 14. Graphical representation of HTMT (Source: Own Research)

Graphical representation of HTMT shows in detail the values are lower than 0.9, Hence this is no discriminant validity problem persist in the data for further analysis. The values of Consumer trust in online shopping (CTI) is 0.675, Perceived Ability (PA) is 0.676, Perceived benevolence (PB) is 0.771, Perceived integrity (PI) is 0.746, Perceived risk value is lower than 0.9 which is 0.706, Perceived technical competence (PTC) is 0.704, Perceived certification (PC) is 0.805, Perceived reliability (PR) is 0.738, Internet Capability (IC) is 0.742, and Trust Propensity (TP) value is 0.789.

4.4.4. HTMT Bootstrapping

In the bootstrapping technique, it is observed that upper bound 95% confidence interval is lower in value to the threshold which is considered 0.90. The researcher has selected 0.90 as threshold value, which maybe different in other cases, as some researches uses 0.85 as recommended threshold value. The researcher has conducted one-sided bootstrapping (Table 11).

Table 11. HTMT Bootstrapping

Original sample (O)	Lower Bound 2.5%	Upper Bound 97.5%
Perceived Ability -> Trust Propensity	0.003	-0.018
Perceived Benevolence -> Trust Propensity	0.002	-0.004
Perceived Integrity -> Trust Propensity	-0.001	-0.054
Perceived Risk -> Trust Propensity	0.004	0.009
Perceived Technical Com -> Trust Propensity	-0.002	0.017
Perceived certification -> Trust Propensity	-0.005	0.216
Perceived reliability -> Trust Propensity	0.001	0.109
Internet Capability -> Trust Propensity	0.003	-0.091
Trust Propensity -> Consumer Trust Online Shopping	0.004	0.615

(Source: Own Research)

The columns of 2.5% and 97.5% are considered lower and upper bounds with bias correction of 95% in HTMT bootstrapping. The table, if includes the value of 1, shows the discriminant validity problem. As can be observed in the table, there is no value of 1 in the intervals, which shows there is no discriminant validity issue. If there were any issues relating to HTMT values, then it can be eliminated by eliminating items to lower the value of correlation. The discriminant validity has been proved in HTMT bootstrapping technique. The researcher has fulfilled all three criteria to observe the discriminant validity. Although, it was not necessary to examine all three techniques to reach the conclusion, but it was considered appropriate that future researchers may benefit from the results.

4.4.5. Variance Inflation Factor (VIF)

To access the structural model coefficient and to examine the relationship between the derived constructs, it is necessary to establish a case of collinearity to examine either there is no bias in the regression results. The collinearity assessment is completed through VIF values examination. In this case, the value of VIF >5 shows probable issue of collinearity (Joseph F Hair Jr et al., 2021). If the value of VIF remains low <5 or > 3.3, it indicates a potential risk of collinearity (Table 12).

Table 12. VIF

		VIF
CTI	Consumer Trust Online Shopping	
PA	Perceived Ability	2.421
PB	Perceived Benevolence	2.917
PI	Perceived Integrity	3.458
PR	Perceived Risk	1.892
PTC	Perceived Technical Com	3.198
PC	Perceived certification	2.003
PRE	Perceived reliability	1.633
IC	Internet Capability	1.913
TP	Trust Propensity	1

(Source: Own Research)

The researcher assessed the CTI, PA, PB, PI, PR, PTC, PC, PRE, and IC as predictor of TP. In the table above, it can be observed all the values are below 5. Therefore, there is no issue of collinearity between the variables in the structural model. According to Joe F Hair Jr et al. (2017) the collinearity values must be close to 3 or lower than 3, which is considered ideal. If

there is a problem of collinearity, then there must be a need to create a higher order model to support the theory. In our case, there none collinearity issue.

4.5. Assessing Structural Model

The assessment of the structural model comes after the assessment of the measurement model. In this case, the measurement model assessment remained successful and satisfactory. The next step in PLS-SEM is to access the Structural model. The criteria used to assess the structural model are the coefficient of determination assessment (R2), blindfold-based cross-validated redundancy measure (Q2), statistical significance, and Relevance of Path Coefficients.

4.5.1. Model Estimation

The model estimation is carried out with PLS-SEM algorithm technique observed by (X.-R. Li & Bar-Shalom, 1996). In this technique the maximum iterations selected are 300, the stopping criteria of iteration is 0.00000001. It has been observed that after running the algorithm, it converged to the less than expected iterations (Fig. 15).

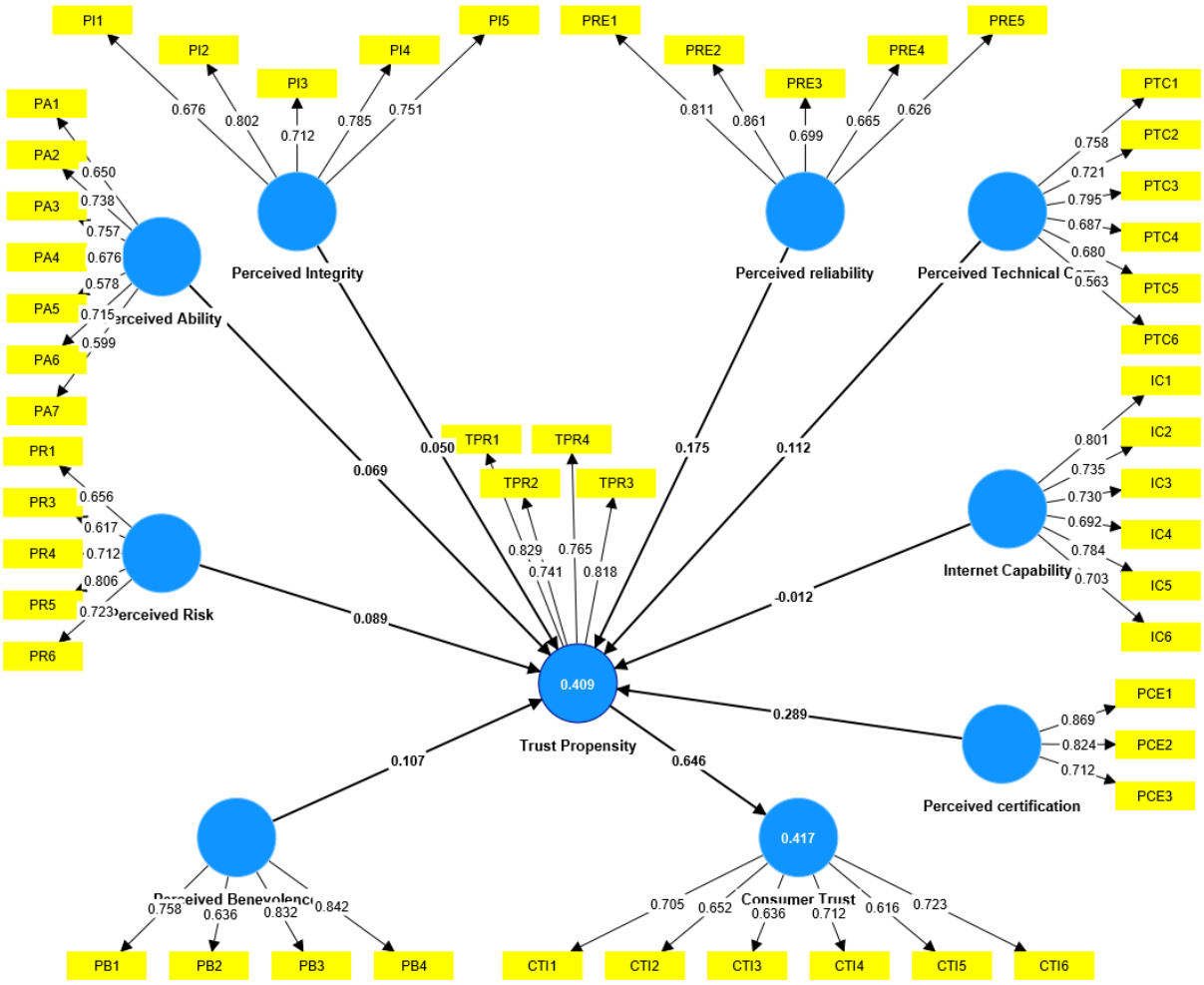

Figure 15. Partial least square Algorithm[1] (Source: Own Research)

The results of the algorithm are given in the figure which shows the path relationships as regression coefficients. The number in the circles are the value of R2. In the initial assessment, it has been observed that Trust propensity has strongest impact on Consumer trust in online shopping (0.646) which explains 64% of the total variance, followed by Perceived certification has strong impact on Trust propensity (0.289) which explains 28% of the total variance, Perceived Reliability (0.175) which explains 17% of the total variance, and Perceived technical competence (0.112) which explains 11% of the total variance.

In the similar case we can observed the relationship of independent variables relationship with dependent variable, which shows the weak impact of Perceived Risk on Trust propensity (0.089) which explains 08% of the total variance, Perceived benevolence (0.107) which explains 10% of the total variance, Perceived ability (0.069) which explains 06% of the total

[1] PA= Perceived ability, PR= Perceived risk, PI=Perceived integrity, PB= perceived benevolence, PCE= Perceived certification, PTC=Perceived technical competence, PR=Perceived reliability, TP=Trust propensity, CST=Consumer Trust propensity

variance and Internet Capability (-0.012) which explains 01% of the total variance, and perceived integrity (0.050) which explains 05% of the total variance.

4.6. Mediating variable Model

A mediator variable, is the variable that mediates between the independent and the dependent variable. This variable is the cause to connect two variables together. According to Joseph F Hair Jr et al. (2021) mediator variable is the cause to link independent and dependent variables. The purpose of creating a 'mediating variable' is to examine the theoretical indirect relationship between paths and constructs (Crandall, Preacher, Bovaird, Card, & Little, 2012). The direct path in this research is the hypothesis, which establish the relationship, and mediating analysis determines the degree to which a path effects the other. The researcher has linked paths with its adjacent constructs to examine the role of 'Trust Propensity' as a mediator variable between independent and dependent variable (Consumer trust in online shopping). Mediating variable's direct results examines the role of each independent variable and its direct effect on the dependent variable. However, it is necessary to examine each independent variable's effect on the mediating variable. In previous researches, the case has been observed either the mediating variable reduces the dependent variable. As indicated by (Joe F Hair Jr et al., 2017), direct effect is the first criterion to examine the independent and dependent variable. To access the role of mediating variable, bootstrapping technique in Smart-PLS is performed over full model observation with effect to path coefficient and its significant level.

4.6.1. Indirect effect

The indirect effect is observed through PLS-SEM bootstrapping procedure. The indirect effect is the product of path coefficient of PA, PB, PR, PTC, PC, PRE, IC to CTI. Where CTI is the consumer trust on online shopping, which is the dependent variable, and others are independent variables (Table 13).

Table 13. Indirect effect, M, STD, T and P

Indirect effect	Original sample	Sample mean	Standard deviation (STDEV)	T	P
PA -> CTI	0.045	0.047	0.029	1.546	0.122
PB -> CTI	0.069	0.071	0.036	1.945	**0.052**
PI -> CTI	0.033	0.032	0.034	0.957	0.339
PR -> CTI	0.057	0.061	0.025	2.309	**0.021**
PTC -> CTI	0.072	0.071	0.032	2.251	**0.024**
PC -> CTI	0.187	0.185	0.027	6.941	**0.000**
PRE -> CTI	0.113	0.114	0.023	4.922	**0.000**
IC -> CTI	-0.008	-0.006	0.025	0.321	0.748

(Source: Own Research)

The results of the table to find the indirect effect shows Perceived Benevolence (PB) has significant effect on Consumer Trust in Online shopping (CTI) path coefficient (0.045), t value (1.54), p value (0.052), follows by Perceived Risk (PR) path coefficient (0.057), t value (2.30), p value (0.021), Perceived technical competence (PTC) path coefficient (0.072), t value (2.251), p value (0.024), Perceived Compatibility (PC) path coefficient (0.187), t value (6.94), p value (0.000), and Perceived reliability (PRE) path coefficient (0.113), t value (4.92), p value (0.000) (Table 14).

Table 14. Confidence Interval Bias corrected

Confidence Interval Bias corrected	Original sample (O)	Sample mean (M)	95%
PA -> TP	0.069	0.073	**0.173**
PB -> TP	0.107	0.109	**0.214**
PI -> TP	0.05	0.05	**0.207**
PR -> TP	0.089	0.093	**0.15**
PTC -> TP	0.112	0.11	**0.194**
PC -> TP	0.289	0.284	**0.158**
PRE -> TP	0.175	0.176	**0.138**
IC -> TP	-0.012	-0.009	**0.147**
TP -> CTI	0.646	0.649	**0.055**

(Source: Own Research)

The Confidence interval bias corrected of indirect effect is observed through bootstrapping in PLS-SEM. It has been observed that there is no zero in 95% confidence interval.

4.6.2. Direct effect

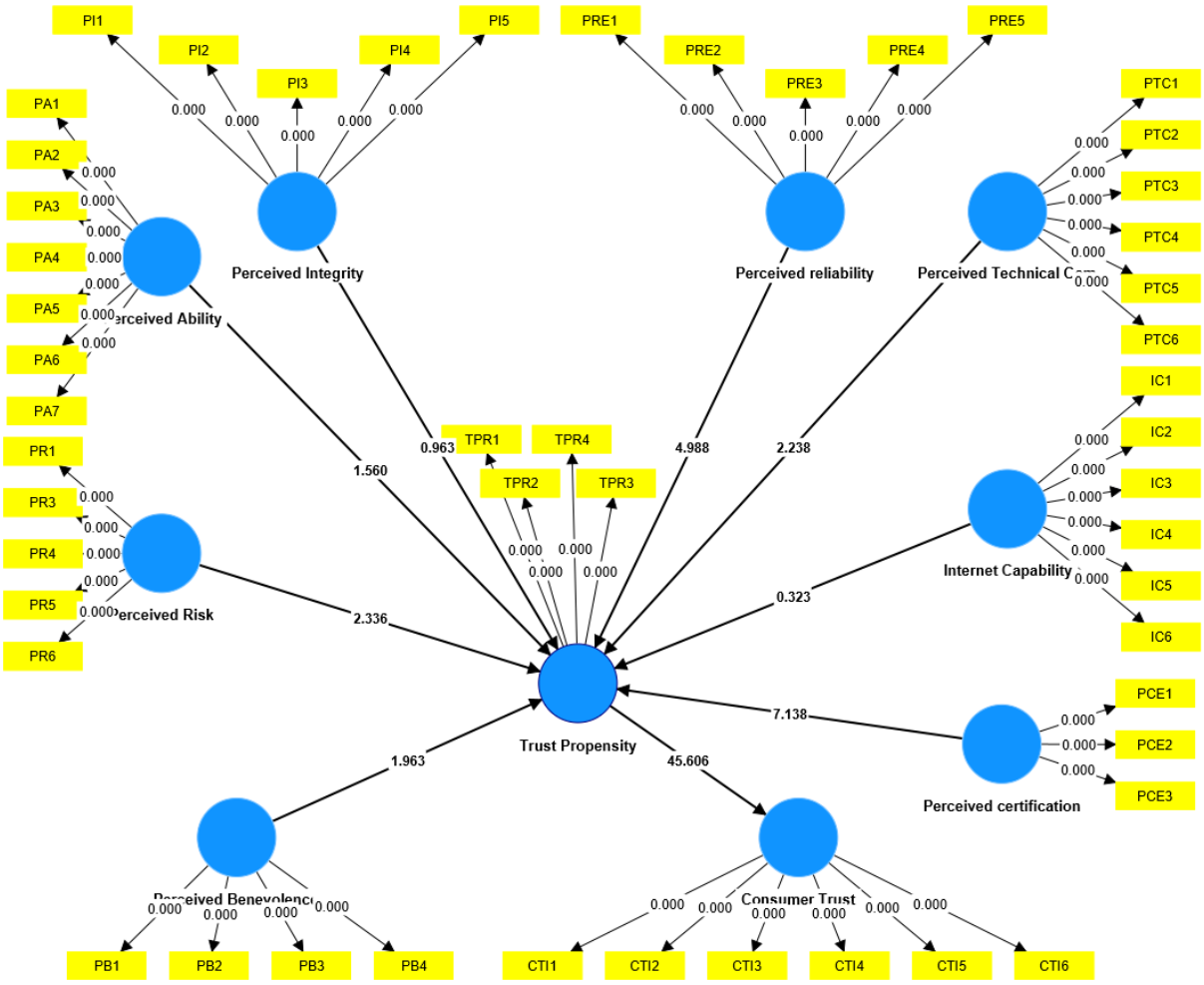

Figure 16. Direct effect Path coefficient of model[2] (Source: Own Research)

[2] PA= Perceived ability, PR= Perceived risk, PI=Perceived integrity, PB= perceived benevolence, PCE= Perceived certification, PTC=Perceived technical competence, PR=Perceived reliability, TP=Trust propensity, CST=Consumer Trust propensity

Graphical representation of the direct effect via bootstrapping in PLS-SEM in Path coefficient values (Fig. 16).

Table 15. Indirect effect, M, STD, T and P

	Original sample	Sample mean	Standard deviation	T	P
PA -> CTI	0.045	0.047	0.029	1.546	0.122
PA -> TP	0.069	0.073	0.044	1.56	0.119
PB -> CTI	0.069	0.071	0.036	1.945	**0.052**
PB -> TP	0.107	0.109	0.055	1.963	**0.050**
PI -> CTI	0.033	0.032	0.034	0.957	0.339
PI -> TP	0.05	0.05	0.052	0.963	0.336
PR -> CTI	0.057	0.061	0.025	2.309	**0.021**
PR -> TP	0.089	0.093	0.038	2.336	**0.020**
PTC -> CTI	0.072	0.071	0.032	2.251	**0.024**
PTC -> TP	0.112	0.11	0.05	2.238	**0.025**
PC -> CTI	0.187	0.185	0.027	6.941	**0.000**
PC -> TP	0.289	0.284	0.04	7.138	**0.000**
PRE -> CTI	0.113	0.114	0.023	4.922	**0.000**
PRE -> TP	0.175	0.176	0.035	4.988	**0.000**
IC -> CTI	-0.008	-0.006	0.025	0.321	0.748
IC -> TP	-0.012	-0.009	0.038	0.323	0.747
TP -> CTI	0.646	0.649	0.014	45.606	**0.000**

(Source: Own Research)

Table 15 of direct effect shows insignificant weak relationship of Perceived ability (PA) with Consumer trust online shopping (CTI) path coefficient 0.045, t value (1.54), p value (0.112), follows by Perceived benevolence (PB) path coefficient (0.069), t value (1.94), p value (0.052), Perceived Integrity (PI) path coefficient (0.033), t value (0.95), p value (0.339) and Internet Capability (IC) path coefficient (-0.008), t value (0.321), p value (0.748). The significant relationship of Perceived Benevolence (PB) with Trust Propensity (TP), path coefficient (0.107), t value (1.96), p value (0.50) follows by Perceived risk (PR) path coefficient (0.089), t value (2.33), p value (0.020), Perceived technical competence (PTC) path coefficient (0.112), t value (2.238), p value (0.025), Perceived certification (PC) path coefficient (0.289), t value (7.13) and p value (0.000), Perceived reliability (PRE) path coefficient (0.175), t value (4.98), p value (0.000). There is a significant strong relationship between Trust Propensity (TP) which

is mediating variable, with Consumer trust in online shopping (CTI) which is dependent variable path coefficient (0.646), t value (45.6), p value (0.000).

Table 16. Confidence Interval Bias corrected

	Original sample	Sample mean	Bias	95%
PA -> CTI	0.045	0.047	0.002	0.112
PA -> TP	0.069	0.073	0.003	0.173
PB -> CTI	0.069	0.071	0.002	0.138
PB -> TP	0.107	0.109	0.002	0.213
PI -> CTI	0.033	0.032	0	0.134
PI -> TP	0.05	0.05	-0.001	0.205
PR -> CTI	0.057	0.061	0.003	0.097
PR -> TP	0.089	0.093	0.004	0.15
PTC -> CTI	0.072	0.071	-0.001	0.125
PTC -> TP	0.112	0.11	-0.002	0.194
PC -> CTI	0.187	0.185	-0.002	0.105
PC -> TP	0.289	0.284	-0.005	0.156
PRE -> CTI	0.113	0.114	0.001	0.09
PRE -> TP	0.175	0.176	0.001	0.138
IC -> CTI	-0.008	-0.006	0.002	0.096
IC -> TP	-0.012	-0.009	0.003	0.148
TP -> CTI	0.646	0.649	0.004	0.056

(Source: Own Research)

We conclude that Trust Propensity (TP) has strong significant effect on Consumer trust online shopping (CTI) which explains 64% of Trust Propensity.

4.6.3. Total effect

VAF is the moderating effect which is divided with indirect and total effect. The total effect is the sum of direct and indirect effect (Table 17).

Table 17. Total effect, VAF

Direct effect					Indirect effect						
	Path coef.	t	p	95%	Path coef.	t	p	95%		Total effect	VAF
PA -> CTI	0.045	1.546	0.122	0.112	0.045	1.546	0.122	0.173	Mediating type, Indirect (full mediation)	0.157	1.40
PB -> CTI	0.069	1.945	0.052	0.138	0.069	1.945	0.052	0.214		0.207	1.50
PI -> CTI	0.033	0.957	0.339	0.134	0.033	0.957	0.339	0.207		0.167	1.25
PR -> CTI	0.057	2.309	0.021	0.097	0.057	2.309	0.021	0.15		0.154	1.59
PTC -> CTI	0.072	2.251	0.024	0.125	0.072	2.251	0.024	0.194		0.197	1.58
PC -> CTI	0.187	6.941	0.000	0.105	0.187	6.941	0.000	0.158		0.292	2.78
PRE -> CTI	0.113	4.922	0.000	0.09	0.113	4.922	0.000	0.138		0.203	2.26
IC -> CTI	-0.008	0.321	0.748	0.096	-0.008	0.321	0.748	0.147		0.088	0.92
TP -> CTI	0.646	45.60	0.000	0.056	0.646			0.055		0.702	12.54

(Source: Own Research)

We observed that Trust Propensity (TP) as mediating variable has strong direct effect on consumer trust in online shopping (CTI), VAF value 12.5. Hence, the results shows that TP →CTI explains the 12% of the effect on the dependent variable.

4.6.4. Coefficient of Determination (R^2)

To determine the coefficient of determination (R^2) to represent the amount of variance in the endogenous construct, which is explained by exogenous constructs (independent) in the model. The value of R^2 ranges from 0 to 1. This is the technique of 'prediction', if the value of R^2 is higher, it shows high level of predictability, if the value of R^2 is low, it shows lower level of predictability. We have examined the direct and indirect effect of the mediating variable TP on CTI. If the value of R2 is 0.75, it indicates the substantial, if 0.50 indicates moderate, and if 0.25 indicates the weak (Joseph F Hair Jr et al., 2021) (Table 18).

Table 18. Coefficient of Determination R Square

		R-square	R-square adjusted
CTI	Consumer Trust Online Shopping	0.591	0.591
TP	Trust Propensity	0.605	0.601

(Source: Own Research)

The results show, the Consumer trust online shopping (CTI) is explained by the mediating variable 'Trust propensity' to 59%, and the mediating variable is explained by the exogenous variables to 60%.

4.6.5. Q square Predictive relevance

Q square is the predictive relevance, which predicts either the model has relevance or not. In case of good relevance, Q square should be greater than zero. If the model has greater value than zero, it shows greater predictive relevance. Q square establishes the predictive relevance of the endogenous constructs not the exogenous construct. If the value of Q Square is 0.02, it shows weak predictive relevance, if 0.15 shows moderate predictive relevance, if it is 0.35 shows strong degree of predictive relevance (Joseph F Hair Jr et al., 2021). In the older version 3 of Smart-PLS blindfolding procedure can determine the Q square results, but in the Smart-PLS version 4, the change is observed as there is none blindfolding procedure. It has been changed with PLS-Predict. In the PLS-predict, the Latent variable predictive summary shows the Q square predict (Table 19).

Table 19. Q square predictive relevance

		Q^2predict	RMSE	MAE
CTI	Consumer Trust Online Shopping	0.261	0.861	0.704
TP	Trust Propensity	0.391	0.783	0.586

(Source: Own Research)

As observed in the table, the Q2 predictive values are above zero, hence predictive relevance is established. The Q2 relevance of Consumer trust online shopping (CTI) is Q^2=0.26, and Trust Propensity (TP) is Q^2=0.39.

Table 20 Hypothesis Testing

The hypothesis results of the research are given below, showing the statement of the hypothesis, direction of variable, and VF value which is the resulting value to examine the hypothesis.

	Statement	Direction	VF
H1	Perceived benevolence has positive impact on Consumer trust in online shopping.	PB -> CTI	1.50
H2	Perceived Risk has negative impact on Consumer trust in online shopping	**PR -> CTI**	-1.59
H3	Perceived ability has positive impact on Consumer trust in online shopping	PA -> CTI	1.40
H4	Perceived integrity has negative impact on Consumer trust in online shopping	**PI -> CTI**	-1.25
H5	Perceived reliability has positive impact on Consumer trust in online shopping	PRE -> CTI	2.26
H6	Perceived technical competence has positive impact on Consumer trust in online shopping	PTC -> CTI	1.58
H7	Internet Capability has positive impact on Consumer trust in online shopping.	**IC -> CTI**	-0.92
H8	Perceived Certification has positive impact on Consumer trust in online shopping	PC -> CTI	2.78
H9	Trust propensity has significant positive impact on Consumer's Trust in Online shopping	TP -> CTI	12.54

(Source: Own Research)

This chapter presented the analysis of data collected by the researcher through a questionnaire. The results of the study examined the hypothesis as accepted or rejected based on the regression results of PLS-SEM.

5. CONCLUSION

It has been observed that developed countries have the same ratio of transactional fraud, card not present fraud but merchant fraud isn't part of studies in developed countries because of their strict rules and regulations. Also, government support for e-commerce in developed countries not only protect the rights of consumers but also ensures the stable progress and transactional inspection of internet merchant. The Internet market goes on changes continuously, with improved applications, and better website security. However, the fraudulent patterns also go on continuously change. In Bangladesh, discount offers are common in online stores. These offers not only attract the customer but also assure him/her to get genuine products at cheap rates. In the past few years, several e-commerce platforms have performed fraudulent activities in the name of 'discounted product', and 'pre-delivery purchase'. The case of EValy is highlighted in research and newspapers, which assures the consumer to get discounted products. However, the role of government is limited in assuring the safety of internet consumers. Also, the government has implemented new laws relating to e-commerce, however, no progress has been observed in Bangladesh. This chapter presents several factors that have a pivotal impact in measuring the trust of the consumer in online shopping, also it assures, what is the impact of trust of the consumer on the consumer's online shopping behavior.

In the previous chapter, I observed and explained the role of numerous endogenous variables concerning their target variance, inner model path coefficients, their size and significance, and outer model loading and significance. The reliability and validity of the construct are of the first and foremost importance, which is considered reliable and internally consistent. Also, the researcher has observed that the construct has discriminant validity. The researcher has observed the structural path significance through the bootstrapping procedure in PLS-SEM. The discussion of the analysis is;

To examine the construct's reliability and consistency, it is important to examine the construct's Cronbach’s alpha value. But it has been learned by the researcher that Cronbach's alpha value has little importance in PLS-SEM. Cronbach's measurement isn't a good fit to observe the reliability of the construct. In constrict, I have used 'composite reliability' in replacement of Cronbach’s reliability to ensure that scale has reliability. The internal consistency of the construct is observed through the same measure. To observe the convergent validity of the construct, I have used two measures of the indicator's outer loading and average variance examined, which proves the convergent validity of the construct. Moreover, the discriminant

validity of the construct is established through cross loading criterion which proves that the construct has valid discriminant validity, also I strongly ensure to examine the discriminant validity of the construct through the Fornell Larcker criterion, which proves that the construct has discriminant validity. It has been learned that the Fornell Larcker criterion failed to observe the discriminant validity in previous studies. To remove the gap and to assure the discriminant validity, I have established a third measure of the Heterotrait-monotrait ratio (HTMT), which is acceptable as per modern standards. It has been observed that through bootstrapping technique, the HTMT criterion has established the discriminant validity of the construct.

Table 21 Summary of Hypotheses

	Statement	Direction	Status
H1	Perceived benevolence has a positive impact on Consumer trust in online shopping.	PB -> CTI	Accepted
H2	Perceived Risk has a negative impact on Consumer trust in online shopping	PR -> CTI	Accepted
H3	The perceived ability has a positive impact on Consumer trust in online shopping	PA -> CTI	Accepted
H4	Perceived integrity has a negative impact on Consumer trust in online shopping	PI -> CTI	Accepted
H5	Perceived reliability has a positive impact on Consumer trust in online shopping	PRE -> CTI	Accepted
H6	Perceived technical competence has a positive impact on Consumer trust in online shopping	PTC -> CTI	Accepted
H7	Internet Capability has a positive impact on Consumer trust in online shopping.	IC -> CTI	Rejected
H8	Perceived Certification has a positive impact on Consumer trust in online shopping	PC -> CTI	Accepted
H9	Trust propensity has a significant positive impact on Consumer's Trust in Online shopping	TP -> CTI	Accepted

According to hypothesis results (Table 21), (Hypothesis H1) perceived benevolence of the online merchant has a positive impact on shaping a consumer's trust in online shopping. However, similar results have been drawn in (hypothesis H2), where the perceived risk has a strong positive impact in building a consumer's trust in online shopping. The effect of perceived risk is negative to the consumer trust, which shows in case of risk there won't be any trust in the online merchant and shopping platform. Online shopping medium involves the perceived ability (Hypothesis H3) which shows the positive impact on consumer's trust in online shopping ***therefore H3 is accepted***. However, (hypothesis H4) perceived integrity has a negative impact on consumer trust. Integrity plays an important role, and in case of non-availability of integrity, there are lesser chances of trust ***therefore H4 is accepted***. If there is

no internet (hypothesis H7), there is no connection between the consumer and the merchant. The result shows that internet capability, which motivates the consumer's intention to buy a product has a negative effect on building a consumer's trust in online shopping, therefore ***H7 is rejected***. This study established a case (Hypothesis H9), that trust propensity factors have a strong impact on the consumer's trust in online shopping, ***therefore H9 is accepted***.

In recent years the e-commerce industry has remained a leader in electronic business, especially after the covid-19 pandemic, the role of e-commerce emerged as an 'everlasting business', which facilitated consumers in hard times. The e-commerce industry has introduced new modes of transaction, changing the old mode of 'currency payment' and making a way to the groundbreaking transactional setup. Also, the e-commerce shopping industry has introduced a mechanism of brand introduction through different techniques. In the upcoming years, the meta-universe of the internet will be exposed to artificial intelligence, through which a consumer can interact with a thing available in the store. This technique will revolutionize electronic commerce. In Bangladesh, the e-commerce industry has been flourishing for the past few years, and its impact on traditional business has been observed deeply. It has introduced a strong setup of change in the lives of common consumers. This change has facilitated the consumers with a bunch of facilities, by sitting at the location and placing an order for a product. No, physical visit to the shopping store and no extra cost on travel, or shipment charges. All these facilities have made the consumer happy and satisfied.

On one side, e-commerce has given benefits to the consumer, and on the other side, e-commerce is exposed to greater risk. The mode of payment on online shopping platforms is not safe for consumers. Transactional details shared by the consumer on the website or smartphone application record the private information of the client. In that case, merchant fraud has prevailed in Bangladesh. The perceived ability of the internet merchant has an insignificant impact on the 'consumer's trust in online shopping'. Yuniarto et al. (2018) have observed the same case of perceived ability, which has a place in other factors but not in building a relationship between consumers and internet merchants. Moreover, the perceived benevolence of the internet merchant has an insignificant impact on the consumer's trust in online shopping. It has been observed that the perceived ability and perceived benevolence of the internet merchant have a small impact on the trust of the consumers. According to Degli Esposti et al. (2021), perceived benevolence has little impact on trust-building between internet merchants and consumers. Hence, these variables have less propensity level in determining trust. The

consumer has no intention to examine the benevolence of the merchant or to inspect the ability of the merchant. Internet merchants either charge more for internet shopping, but it has no impact on the consumer's trust. If an internet merchant is honest or not has nothing to do with the consumer, or the just act of the merchant has no impact on the consumer's trust level. If internet merchant provides sales in every six months, it has strong impact on the consumer's trust in online shopping. As, the belief in the internet merchant regarding the 'he will do his best for the client', has no impact to shape a consumer's trust. Similar is the case with internet merchant's ability to find a right product for the consumer. These qualities have no place to shape and build a strong positive trust in the client.

Perceived risk has a strong significant impact on consumers' trust in online shopping. The consumer is afraid of sharing personal detail on their shopping website. The consumer is afraid that his credit card details may be stolen by the internet merchant, or the shopping website or smartphone application might misuse the private information of the client. The consumer feels unsatisfied and got suspicious of online shopping websites. Consumer in Bangladesh believes that shopping websites did not promise secure transaction, and there is no cashback guaranteed to the consumer in case of risk. Ahmed et al. (2021); Lăzăroiu et al. (2020) have observed the impact of perceived risk on the trust of the consumer on online shopping platforms. A similar case has been observed by (Drew & Farrell, 2018; Pavlou, 2003; Qalati et al., 2021) in their studies.

However, Internet Capability trustworthiness has a strong impact on building the strong trust of the consumer with online shopping. It has been believed by the consumer that shopping websites have a proper understanding of the technology in use. Shopping websites are good at fixing problems with the online store. In case of any technical issue, the consumer feels satisfied with the staff. The consumer got quick to resolve the conflict and believes that online shopping stores with a great understanding of the technical processes cannot compromise their credit card information, because they don't have lop holes in their system to steal the private information of the client.

6. NEW AND NOVEL SCIENTIFIC RESULTS

Human being creates and generates liabilities and assets. The liabilities are the need of people to survive in the world, and assets provide a backbone of survival for the communities. To buy a liability, the consumer has to go shopping. In the modern world, the shopping mechanism has been transformed from the classic pattern of shopping to online shopping. In classic shopping, the consumer relies on the merchant, and in online shopping, consumer trust in online shopping has several dimensions. This study explored these dimensions to examine, which factor is prominent in maintaining consumer trust in an online shopping environment. This study has focused on the Bangladeshi online markets. The prominent platforms in the country serve to deliver products to consumers. However, there has been ongoing fraud in the online shopping world, which makes it harder for consumer to shift their standards of 'trust in online shopping'. This study explored, which new factors are being trusted by consumers, and which factors are not necessary to make a consumer's trust in online shopping.

1. This study has a unique perspective to play in the exploration of 'trust' in online shopping in Bangladesh because few studies have been published and no prominent study has explored the key factors to deal with trust mechanisms in the online shopping world of Bangladesh. Based on several factors this study has explored the merchant's benevolence factor, which is hidden in online shopping as the consumer has no direct relationship with the merchant, but the factors that motivate a consumer to stay in the online market to buy from a particular merchant have some unique perspectives. In the first place, the consumer trusts a merchant who offers less price than others. Although this trust factor has no moral ground, greed is the neglected factor in the study of 'trust'. Consumer needs lead to buying a product and consumer greed helps to build trust in the online merchant. Although there is a risk in buying a product online. This risk factor has several dimensions and these dimensions have been studied earlier in the studies.

2. It has been observed that technical competence is the backbone of a business. In Bangladesh, the industrial hub of the region, the technical competence level is high. But, in the case of technical competence dealing with online fraudulent activities over websites, social media, and online shopping platforms needs the involvement of the Government sector's technical staff on one side, and the shopping platform's technical competence at another level. This study is unique in exploring the technical competence of online shopping platforms. In Bangladesh, there is no certification required to join the shopping platform as a technical staff

member. It has been harder for people to trust online shopping platforms because of their shared accounts over websites with incompetent staff dealing with consumer online data. To that data, credit card information has been a gigantic hit in the last decade. However, the results show that third-party certification standards as promoted 'technical competence' to the next level with updated certification standards to follow for the security protocols.

3. This study contributed empirical knowledge relating to trust propensity. The propensity to trust in the online shopping medium is affected not by the availability of the internet, which is a unique factor. Although the world of online business stood on the availability of the internet, the consumer has the availability of the internet, which is not a problem to go for online shopping. However, the perceived ability of the shopping medium, which is the internet, the shopping website, and shopping application on smartphone, either Android application or iPhone store application have equal importance for the consumers. It has been observed in the study that consumers have a grave concern when using an online tool (smartphone application) to buy a product, because of their shared accounts with the online platforms.

7. SUMMARY

The purpose of this dissertation is to examine the factors that establish a unique relationship between consumers and online shopping mediums which includes the Trustworthiness of the internet merchant as well. In the trust-building mechanism, several factors are important and these factors further lead to establishing the trust of the consumer. After an intensive study of the relevant literature study on the topic of fraudulent activities in online shopping, preventive measures for security protocols, and the current scenario of Bangladesh's online shopping platforms cheating consumers. It has been observed that little attention is paid to online shopping fraudulent activities by the government.

To carry out the in-depth analysis, six objectives of the study were devised based on the literature review. The objectives of the study are closely related to the types of e-commerce frauds, that have been discussed in the literature review section under the title of historical background, which further shapes the problem statement of the study. What are the common techniques to deal with fraud in e-commerce, in particular online shopping frauds? This study also established nine hypotheses based on the literature review of the previous studies. The hypothesis of the study includes the mediator variable, which has an indirect and direct effect on the dependent variable.

In the in-depth analysis of philosophical theories used in the process of data management, the methodology section has elaborated the vivid philosophical stances along with their empirical basis and implications. The theoretical analysis of the scale development has been elaborated in detail, such as how the constructs were devised by the researcher and how the pilot study was conducted. This study consulted several models under the conceptual framework. The dependent variable of the study is the 'consumer trust on internet shopping'. However, direct access to the 'trust' is not possible. In that case, the indirect effect is observed through the 'trust propensity' with eight factors. The sample of this research is seven hundred respondents from the universities of Bangladesh and from the corporate job sector in the cities of Bangladesh where the internet is available. These universities are located in Dhaka, the capital of Bangladesh, and Ghazipur. The universities consulted for data collection are; Bangladesh Open University, National University Bangladesh located in Gazipur, University of Dhaka, and Bangladesh University of Engineering and technology in Dhaka. The respondents have aged above eighteen years (18) and below sixty (60) years. The limit is applied to the age because the aged respondents have limited knowledge of online shopping.

The result of the study showed unique points; the merchant's trustworthiness is dependent on the ability of the merchant to utilize the internet shopping platform, the benevolence of the internet merchant, and in case of merchant's integrity is compromised, the consumer trust is lost. Also, the trust propensity factor is dependent on the technical competence of the internet shopping medium, and its reliability, but not dependent on the internet capability, which is the user dimension.

Interestingly, this study has examined whether the government has an interest in dealing the fraudulent activities and preventing consumers from falling into the trap of internet merchant's fake businesses. There is no solid mechanism as per the latest observation. However, the revised policy of e-commerce has highlighted several factors to protect the consumer by delivering the product in 10 days period.

7.1. Recommendations

Support from the Government sector

There is a dire need to develop the e-commerce industry in Bangladesh to modern standards. As the e-commerce industry relies on the usage of the internet and is linked with technological infrastructure, the government must facilitate e-commerce related businesses with better rules and regulations.

- Tax duty on e-commerce related technologies, computers must be lifted to empower the businesses.
- Delivery of product to abroad needs updated rules with ease and comfort for the vendor.
- Availability of the uninterrupted internet on e-commerce locations.
- Availability of the internet for consumers.
- Reducing prices on product delivery.

For internet merchant and online shopping platforms

- It is necessary to follow the rules and regulations of the government relating to e-commerce businesses. In case, where the product delivery charges are concerned, the internet merchant can;
- Localize a business to cities to reduce delivery costs.
- Outlets can be introduced to several cities.
- Product return facility on local cities with international standards machines.

- Investigation and elimination of fake reviews on online shopping websites.

For researchers and companies

It is necessary for the future research to observe the warehouses of online shopping platforms to get insight about the mechanism. It is also necessary for the researcher to; devise a consumer-based satisfaction scale for online shopping.

This chapter presents the discussion and conclusion of the research. the e-commerce frauds in online shopping have remained common in Bangladesh. The involvement of 'internet merchant' in online shopping fraud is reviewed in previous studies but no particular study is being found by the research relating to 'e-commerce internet merchant's fraud of online shopping'.

Appendix 1

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APPENDIX 2:

QUESTIONNAIRE OF THE STUDY

My name is Md Billal Hossain and I am a Ph.D. student working on my dissertation at the Hungarian University of Agriculture and Life Sciences, Hungary. I am conducting a research study concerning the e-commerce adoption transactional fraudulent perspectives. The purpose of this questionnaire is to clarify some issues related to value of trust impacts on e-commerce transactions.
Answers to this questionnaire do not take more than 10 minutes. Please read every word and answer each question very carefully. Your participation will be highly appreciated.

Title of Research: "VALUE OF TRUST AND E-COMMERCE TRANSACTIONAL FRAUDS IN BANGLADESH"

We are hereby to confirm that this survey only conducts for the academic research purpose.

- Contact: mobile (+3620-269-9040), e-mail (shohan_bd13@yahoo.com)
- Supervisor: Dr. Csaba Balint Illes (Professor) Institute of Economic Sciences, Hungarian University of Agriculture and Life Sciences, Godollo, Hungary.

Section 1: Demographic information

1. Gender [1] Male [2] Female
2. Age [1] 18-28 [2] 29-39 [3] 40-50 [4] 51+
3. Designation [1] Student [2] Faculty [3] others

Section 2: Questionnaire

1=strongly disagree. 5= strongly agree.

INTERNET MERCHANT'S TRUSTWORTHINESS					
1. Perceived Benevolence					
I believer, internet merchants will do their best for me.	1	2	3	4	5
If I need help regarding a product, an internet merchant will find it for me.	1	2	3	4	5
If I return a product, the internet merchant will not hesitate to take it back.	1	2	3	4	5
Internet Merchants take care not only of themselves, but also of my kindness.	1	2	3	4	5
2. Perceived Risk					
I was afraid that online shopping websites might steal my personal information.	1	2	3	4	5
I was afraid that an online shopping website might steal my credit card number.	1	2	3	4	5
I was afraid that online shopping websites might misuse my private information and data.	1	2	3	4	5
I suddenly got suspicious from an online shopping website.	1	2	3	4	5
The online shopping website didn't promise secure transactions.	1	2	3	4	5
The online shopping website didn't provide a Cashback guarantee.	1	2	3	4	5
3. Perceived Ability					
Internet merchants will not charge more for internet shopping.	1	2	3	4	5

Internet merchants are honest to their customers.	1	2	3	4	5
Internet merchant's act justly when dealing with customers.	1	2	3	4	5
Internet merchants provide sales every six month on reasonable prices.	1	2	3	4	5
Internet merchants update product catalogs routinely.	1	2	3	4	5
Internet merchants provided product descriptions based on truth.	1	2	3	4	5
Reviews on the products are real and valuable on shopping websites.	1	2	3	4	5
4. Perceived Integrity					
Internet merchants always keep their promises by delivering products on time.	1	2	3	4	5
Internet merchants provide quality products in their stores.	1	2	3	4	5
Internet merchants preserve my security and privacy.	1	2	3	4	5
I feel satisfied sharing credit card details with internet merchants.	1	2	3	4	5
I feel satisfied sharing personal information (phone, home address) with internet merchants.	1	2	3	4	5
SHOPPING MEDIUM TRUSTWORTHINESS					
1. **Perceived Reliability**					
Internet shopping is not reliable anymore.	1	2	3	4	5
I cannot trust internet shopping because it has many uncertainties.	1	2	3	4	5
I can't trust the promises internet shopping vendors make.	1	2	3	4	5
Internet shopping fails to deliver my requested product on time.	1	2	3	4	5
Internet shopping sometimes fails to provide the product I requested, instead I receive a different product.	1	2	3	4	5
2. Perceived technical competence					
Online shopping stores have a proper understanding of technical processes.	1	2	3	4	5
Online shopping stores are good at building and fixing things.	1	2	3	4	5
Online shopping stores manage website security routinely.	1	2	3	4	5
Online shopping stores resolve my conflict whenever I report.	1	2	3	4	5
Online shopping stores cannot compromise my information.	1	2	3	4	5
Online shopping stores have a shared privacy policy on their website.	1	2	3	4	5
3. Internet Capability					
Online shopping websites are easy to understand.	1	2	3	4	5
Online shopping websites are not complicated to place orders.	1	2	3	4	5
I can easily find the desired product on Internet shopping websites	1	2	3	4	5
I understand how to use shopping websites and smartphone applications.	1	2	3	4	5
I understand how to search for products on internet stores.	1	2	3	4	5
I can easily pay for a product of my choice in online shopping.	1	2	3	4	5
EXTERNAL ENVIRONMENT					
4. **Perceived Certification (Third-party)**					
To assure the trustworthiness of internet merchants, there are many third-party certification companies in Bangladesh.	1	2	3	4	5
I think I feel safe over shopping applications due to third-party certification.	1	2	3	4	5
Third-party certification is helpful to maintain healthy relationship shopping interest.	1	2	3	4	5
Consumer Trust on Internet Shopping (CTIS)					
Internet Shopping in Bangladesh is not reliable.	1	2	3	4	5
Internet shopping can’t be trusted anymore in Bangladesh.	1	2	3	4	5
Anyone interested in Internet shopping is in trouble.	1	2	3	4	5
Trust Propensity					
Trusting a person or a thing is easy for me.	1	2	3	4	5
I have a high tendency to trust a person or a thing	1	2	3	4	5
With a little knowledge, I can trust a person or a thing.	1	2	3	4	5
Trusting someone is not difficult.	1	2	3	4	5