DETERMINANTS OF TRUST IN B2C E-COMMERCE AND THEIR RELATIONSHIP WITH CONSUMER ONLINE TRUST: A CASE OF EKATERINBURG, RUSSIAN FEDERATION

ISMAILA BOJANG*

School of Economics and Management, Ural Federal University, Ekaterinburg, Sverdlovskaya, Oblast, Russian Federation

Tel: +79638552600;

Email: **bojissbo@gmail.com**

Abstract

Previous research has established that online shopping is the function of a series of consumer evaluation and assessment of e-commerce sites. However, building and maintaining trust in the virtual environment is indeed a complex process and by extension takes time to fully achieve it. This takes the form of assessing the technology as well as the trustworthiness of the vendor in delivering its promises to the customers The aim of this research was to investigate specific determinants or factors that influence consumer online trust in the B2C e-commerce with a focus on Ekaterinburg, Russian Federation consumers. In other words, constructs such as perceived security, perceived privacy, perceived third party assurance, perceived reputation, perceived familiarity and perceived website quality and their relationship with online trust in the B2C context were studied. In conducting the research, a convenience sampling technique was adopted in carrying out the survey. Questionnaires were distributed to the target respondents and the data was analyzed using SPSS version 24.

A Pearson's correlation was used to test the six hypotheses identified in this study. Meanwhile, the results showed that five of the hypotheses were statistically significant with p<0.05 thereby giving us evidence to support them. However, one of the hypothesis for the construct perceived familiarity had a p>0.05, making us to reject the hypothesis as it was not statistically significant. Furthermore, a multiple regression analysis was also conducted in order to ascertain which of the constructs have a major influence with reference to consumer online trust. The results provided evidence that perceived security has the greatest influence on online trust for Ekaterinburg's consumer. This was followed closely by perceived reputation and finally perceived privacy. This clearly shows that Ekaterinburg's e-commerce consumer population considers these factors to be very imperative in engendering their trust in the virtual B2C e-commerce environment. These findings complement previous research findings in the domain of e-commerce trust.

Keywords: **E-commerce Trust; B2C e-Commerce; Perceived Security; Perceived Reputation; Perceived Privacy**

© Ismaila Bojang, 2017

INTRODUCTION

Trust has been a complex and multidimensional concept that is difficult to define and measure [1]. This had led to a diversity of trust conceptualizations and operationalization in literature across disciplines, including e-commerce [2]. The development of information and communication technology has brought about this opportunity for Institutions to carry out their commercial activities quickly. Despite continued proliferation of commercial websites, many consumers perceive electronic commerce transactions to be riskier than traditional real world purchases [3]. E-commerce has emerged as one of the most important developments in business over the past decade [4] and has been subjected to numerous studies both in the past and recent times. While E-commerce has very successfully replaced conventional selling and brick and mortar stores, there are still some little differences that influences the way consumers perceive and behave towards the offerings of e-tailers [5], and to this effect certain differences in the nature of services and products are fundamentally changed. Furthermore, Liu et al. [5] suggested how an element of uncertainty is added to the buying process of products as there is a delay between the purchasing, as well as the arrival and consumption of the product. In comparison with traditional commerce, E-commerce is more impersonal, automated, provides fewer direct interactions, has less immediate gratification, involves more legal uncertainties and provides more avenues for the practice of fraud and abuse [6-8] hence this makes trust more difficult to build in an online environment.

However, trust is one of the elements or factors that pose a threat to the establishment as well as the successful operation of E-commerce. Trust can be defined as "the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a specific action significant to the trustor,

regardless of the ability to monitor or control that other party" [9]. In the meantime, notable heavy weights within the E-commerce academic domain found out that a lack of trust is still one of the biggest concerns for Internet consumers [10] and hence without trust, development of E-commerce cannot reach its full potential [11]. According to Shankar et al. [12], much literature has been devoted to the investigation of antecedents of online trust; however, much of this discussion has been oriented towards the consumer perspective.

However, it has been noted in the literature that while trust is usually considered to be the opposite of distruster simply resulting from a severe lack of trust, and by extension, it has been found that trust and distrust are independent elements with differing constructs, results, responses, and even neurological origins. Meanwhile, trust and distrust have been studied extensively across many disciplines [13]. Trust is very difficult to establish not only in non-online stores but as well as in virtual environments such as E-commerce. According to Gatautis and Kaplan et al. [14], trust in online markets is sensitive as it can lead to a significant decrease in operational costs, by saving time of browsing, comparison and screening.

Ramzy argued that the system of conducting business online has been known under the names of e-commerce, e-tailing and e-business. These involve the processing of transaction information, processing purchases, digital marketing, inventory management, accounting software etc. Today e-commerce exists in many forms. Meanwhile, Ramzy and Vaithianathan [15] maintained that three of the most common types of e-commerce are found in business-to-business transactions (B2B), intra-business e-commerce and business-to-consumer (B2C) transactions. The B2B acronym was developed recently to represent a situation where the exchange of products, services or information between or among businesses, instead of the usual route i.e. from businesses-to-consumers.

Despite its advantages, E-commerce is still a challenge for many Russian businesses and consumers as enormous issues arise. Meanwhile, Bradach and Eccles [16] previously argued that variables such as uncertainty, dependability and vulnerability create barriers to trust. As online shopping is different from traditional brick and mortar shops, this makes it imperative for online vendors and marketers to acquaint themselves with the real determinants of consumer online trusting beliefs. Meanwhile, as online shopping is associated with numerous risks one of which according to Ramzy, is that the product that is ordered may be in good condition at the time of purchasing, but it could sustain damage or defects during its delivery process. Buttner et al. [17] posited that trustworthiness promotes both intention to buy and actual financial risk taking. As web shopping is perceived to be more risky and therefore trust and risk play prominent roles in online transactions [18].

Despite the huge amount of theoretical literature in the area of e-commerce trust, there is little empirical research or investigation that shows how all the dominant factors influence consumer trust. Hence it goes to say that this study intends to develop an instrument to measure consumer perceptions of e-commerce trust with emphasis on the

relationship between the customers and vendors. My own analysis after reviewing the extant literature shows that the area needs further empirical investigation specifically on the determinants of customer online trust between the customers and the vendors. In order to bridge the gap, this research seeks to answer the research question- i) What are the dominant determinants of Russian consumer online trust? The goal of the research is to evaluate the influence of specific trust factors on the consumers, with a focus on Russian consumers.

However, this empirical study will be presented in parts, with the first part featuring a theoretical review of relevant literature on the theories in the Business-to-Consumer (B2C) e-commerce environment. This review will pave the way for the proposition of the research model. To this effect, the researcher would formulate a hypothesis to show the relationship between trust determinants and how they influence consumer trusting beliefs. The second part of the study would consist of the research methodology used in eliciting primary data through the administration of survey questionnaires to respondents, specifically Russian consumers in Ekaterinburg. Meanwhile, the third part would feature the analysis of data using SPSS software technology, a discussion of the findings, managerial implications/limitations of the research as well as a conclusion to give a synopsis or summary of the empirical study.

Problem Statement

Conventional shopping is characterized by physical contact such as seeing, touching the product and also a direct face to face interaction with sales persons and agents. This enhances and promotes consumer trust as the buyer feels more comfortable with the buying process or transaction. Meanwhile, the lack of physical clues in the online market environment makes it difficult for potential customers to feel comfortable as they are constantly faced with situations where they have to establish the credibility and trustworthiness of the vendor, before they can make any buying decision. There are various problems associated with online shopping and the main ones includes; customers fear that their personal information will not be passed on to thirds parties, or that their credit card information may not be safe from hackers [19]. Every buyer is assumed to be rational in his/her purchase decisions, hence the need to be extra cautious when online purchases are involved. However, this atmosphere of uncertainty poses a serious challenge for online vendors as they need to acquaint themselves with the factors that establish and promote consumer trust in E-commerce.

Research Objectives

Meanwhile, in order to address the research problems, the following objectives are identified to guide the empirical studies.
i) To discuss the determinants of consumer trust.
ii) To discuss and analyze the theory of e-commerce.
iii) To discuss consumer trust determinant factors in B2C e-commerce.
iv) To identify and discuss the forms of E-commerce.
v) To analyze the concept of trust and trust building factors.
vi) To identify and discuss some techniques to promote online trust.

vii) To analyze the antecedents of trust building in B2C E-commerce setting.
viii) To discuss the merits of online shopping.
ix) To propose a research model for this study based on the review of relevant literature on determinants of trust in B2C E-commerce environment.
x) To draw a conclusion based on the findings of this study and propose some managerial implications of this study.

THEORETICAL REVIEW

After a critical review of the extant literature on the determinants of e-commerce trust, the theoretical review conducted gives a conceptual analysis and discussion of trust in business-to-customer (B2C) e-commerce environment. Trust is one of the significant elements that determines the success and failure of e-commerce businesses. Similarly, Kaur [20] is of the view that customers perceive risk concerning unsafe products, insecure payment methods, loss of privacy as well as the misuse of personal information when buying goods or services online. Trust being a multidimensional construct literally makes it difficult for researchers to agree based on general consensus as to what constitutes trust? By extension what constitutes the trusting beliefs of various consumers? Meanwhile, what is quite obvious is that all consumers are expected to be rational in their buying behaviors. For that being the case, researchers have been studying behavior of consumers over time, the findings of which in most cases run parallel to each other. To that effect, this research seeks to explore, investigate and identify specific trust factors that are significant to consumers.

With reference to the body of literature on e-commerce trust, it is interesting to know that various studies conducted in the area show divergent views. Many of the findings are consistent with the mainstream literature whereas others demonstrate contrary findings. According to McKnight and Chervany [21], online trust is a significant determinant for websites to succeed in the market place. This view is further held by [22,23]. The researcher's motivation to investigate and conduct a study in this area stems from the ever changing business environment as well as the complex and dynamic nature of consumer trust. According to Kim and Prabhakar [24] consumer trust is the foundation for e-commerce retailers in establishing long-term trust based relationship with their consumers.

This makes it imperative for consumer trust to be established immediately the consumers interact with a vendor's website. Previous studies have shown several factors considered as determinants of customer trust in business-to-customer e-commerce. As businesses change, so will consumer perceptions also as new ways and techniques to do business globally emerge. However, dominant among the numerous factors identified in the literature include; perceived security or risk, perceived privacy, familiarity with the vendor, ease of use, benevolence, integrity, vendor reputation, brand, third party assurance, information policies, customer care, website quality as well as propensity to trust. Besides these factors, there are other minor factors stemming occasionally from other researchers such as the concept of price. A recent study revealed that trust in online shopping may be affected by infrastructure in the context of

security [25], and this notion is further supported by Luhmann who held the view that trust depends on the context of the interacting elements. In light of this, we argue that even if the customer interacts with the same vendor over time, it doesn't necessarily suffice to say that he/she will trust that particular vendor completely. Furthermore, we argue based on the findings of Petrovic et al. [26] who maintained that there are different trust levels in transaction phases. Hence we are of the view that unless there is a complete understanding of the trusting factors that underlies each transaction, and then the issue of trust will continue to be an issue for online transactions.

Meanwhile, all these factors highlighted above have the tendency to influence consumer trust, which further demonstrates their varying degrees of influence on the consumer. However, the question that comes begging is which trust factors indicated above are more imperative from the perspective of the consumers? In other words, to what extent are they perceived by the consumers?

Theory of E-commerce

E-commerce entails business communications and transactions over networks and through computers, the buying and selling of goods and services and by extension the transfer of funds through digital communications [27]. In other words, E-commerce is an avenue where businesses and consumers interact and conduct transactions via computer networks and other online services. The Internet today enhances and strengthens several distribution networks and channels of businesses.

In addition to that, it enables consumers to buy products from online thereby giving them the opportunity to do comparison shopping at the same time, which may not be possible in some cases. However, the basic building blocks of e-commerce are not drastically different from traditional brick and mortar shops. With a "brick and mortar" type of exchange, the initial meeting of buyers and sellers is constrained by the need for the buyer and seller to come to the market simultaneously [28]. Meanwhile, with the advent of electronic commerce, this enables the vendor or seller to be ever present. He further argued that neither time nor space reduces the ability of buyers and sellers to meet in the electronically established market place [28].

E-commerce has transformed the business and transaction landscape in the sense that it is increasingly becoming a practical reality for a myriad of businesses. Jeffrey, argued that combining the functional capabilities of computers and telecommunication systems, companies can now exchange information through electronic means rather than sending and receiving paper documents. In light of this, businesses have registered phenomenal and unparalleled progress in the speed, accuracy and by extension the efficiency of transactions conducted online. Smith [29] argued that the introduction of e-commerce should enable consumers to determine price and product offerings from a large number of potential sellers, thereby resulting to increased price competition [30,31] and by extension decreased price dispersion [29]. Meanwhile, Bakos [30,31] held the view that initial evidence suggests that e-commerce will not have a huge effect on the ability to charge a premium price as forecasted by some researchers. Moreover,

Hutt and Speh [27] stated that e-commerce is an avenue to do business in certain markets and for specific customers, which can increase sales volume, reduce costs or provide more real time information to customers. It is interesting to know that nowadays organizations and businesses can store large volumes of data on their websites. This information is available around-the-clock, which facilitate communicative relationships with users all over the world [32], and the users do not even have to go outside the door [10].

Types of E-commerce

The E-commerce market is rather a very complex and dynamic market as different forms of transactions often take place there. E-commerce today exists in numerous forms. One notable form is information services where some individuals are businesses sell vital consumer information to other businesses for marketing purposes. It can also be advertising found on websites and search engines [10].

Other types of E-commerce practices which exists today include Business-to-Business (B2B), Business-to-Customer (B2C), Customer-to-Customer (C2C), Customer-to-Business (C2B), Business-to-Government (B2G) and by extension Mobile Commerce. Meanwhile, the focus of this research would be on Business-to-Customer (B2C) type of E-commerce. According to Hutt and Speh [27] business-to-customer e-commerce facilitates product information which makes it possible for information on both new and existing products to be available to customers on the firm's website. Furthermore it facilitates sales of products, meaningful customer service, and payment of products online using electronic payment systems as well as facilitates marketing research.

The Notion of Business-to-Customer E-commerce

The worldwide expansion of the internet should be considered an integral part of any country's economy as the world has been transformed by technology and the near future is e-commerce and e-business [33]. The increasing confidence and trust that people have in online transactions will serve as a conduit to facilitate and mobilize support towards the development of the global digital economy. Based on the report of the Interactive Media in Retail Group (IMRG), e-commerce statistics shows the increasing rate at which this industry is developing globally, with the sales of B2C e-commerce accounting for more than USD 1.2 trillion in 2013. However, according to IMRG, the US claims to be the world's single biggest e-commerce market, with United Kingdom and Japan following suit. They went on further to predict growth rates in these countries will be nearly 10-15% annually.

E-commerce networks and organizations provide a mechanism whereby both vendors and consumers interact between or among themselves in order to transact business. Hence this begs for the need to have certain mechanisms that will facilitate and enhance trust between the parties conducting the transaction. In light of this Loshin and Murphy are of the view that the most important aspects of an e-commerce providers which includes reliability. This makes it imperative for the consumer to establish

reliability of the vendor, credit card Company before they feel comfortable to make orders online. They also mentioned security concerns which were vividly expressed since the inception of E-commerce thereby making it necessary for the creation of security solutions to solve both simple and complex security issues. Furthermore, Loshin mentioned the simplicity of the website as a means to attract potential customers, giving them the opportunity to easily navigate the vendor's site, and finally highlighting acceptability as a significant part of e-commerce from the perspective of consumers.

Electronic commerce dates as far back as the 1960's and to this day, it continues to grow at an alarming rate with latest technologies, innovations and thousands of businesses entering the online market platform every year. Studies from Sahal, [33] shows that e-commerce started with the introduction of EDI, which promotes information exchanges and maintains relationships between companies through special designed group networks. The Internet and the World Wide Web have significantly contributed to the development of e-commerce [34]. Sahal [33] suggested that there are two pillars which instigated the progress of e-commerce since its inception such as the advancements in information technology and the global motto of globalized world and trade with market liberalization policies. By extension korkmaz argued that the need and want of economic interdependency among countries contributed to the formation of e-commerce.

E-commerce has undergone rapid development and transformation over the years. The advent of electronic commerce has led to a shifting paradigm in the form and manner in which businesses are conducted globally. In order to understand the impact of e-commerce and the dynamic activities that it constitutes, Figure 1 below exhibits the impact of e-commerce activity over time.

Figure 1: E-commerce level of activity over time.
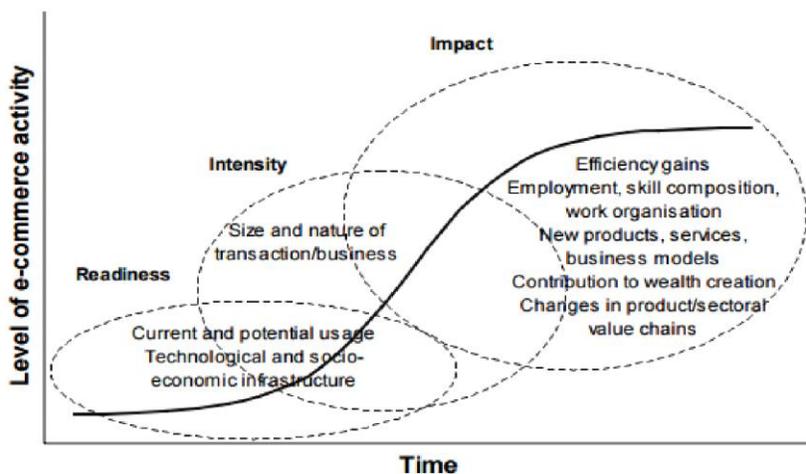
Source: OECD 2000c.

General Overview of Trust

It is a well-established fact that the concept of trust has been under the microscope by researchers for a long time, even well ahead of the emergence of the World Wide Web and by extension e-commerce. Trust in general has been conceptualized in various disciplines. However, majority of the previous studies focus on trust in general (i.e. offline trust) in a bid to create an understanding of the whole concept of trust. These studies have given us the basic foothold that we need to investigate trust in an online environment. To get a better comparison of trust, let's approach it from a multidisciplinary perspective. Below are few examples of trust from the literature reviewed.

Philosophy is one of the ancient subjects that could be traced as far as ancient Greek. According to Bailey [35], most ancient philosophers studied trust in an attempt to draw a picture of human nature. In the Greek society trust was a major concern for many people to the extent that even immediate payment of goods requires trust. The Greeks believed that people trust others only if people are confident that the others fear detection and punishment sufficiently to dissuade them from harming or stealing [36,37]. Modern Philosophers such as Annette Baier [38], focused on interpersonal trust and the morality of trust relationships. However, Baier (1994) defined trust as the "accepted vulnerability to another's possible but not expected ill will toward one". Accepting trust as a three-place predicate (A trusts B with valued thing C), she suggested that trustor A needed good judgment to know how much discretion to give, because trustor B would have had discretionary powers over the entrusted value thing C. Meanwhile the trustor had to take risk if the trustee abused the granted power. Fukuyama, argued in his book that "social capital is a capability that arises from the prevalence of trust in a society or in certain parts of it". Social norms and values are usually shared and uphold among members of the same group.

Literature on psychology greatly focused on interpersonal trust. Meanwhile various approaches have been adopted to study the concept of trust. A great number of psychologists generally agreed that interpersonal trust was a significant concept in psychology as it influences personality development in people [39]. Psychologists mainly focused on studying individual differences in trust and by extension personality characteristics and the consequences of such in human relationships. However, Erik Erikson in his model of human development posited that "basic trust" was a central ingredient in the "healthy personality" and had a major impact on individual traits [39]. One of the frequently cited definitions of interpersonal trust was given by Rotter. He defined trust as "an expectancy held by individuals or groups that the word, promise, verbal, or written statement of another can be relied on" [40].

Kim, however slightly differed from the mainstream researchers in the sense that they proposed that the consumer could perceive trust before, during or after the online transaction. They went on to conclude that different considerable attempts were made to define trust within an organizational context. Research from Mayer et al. [9] suggested that trust can be defined as the "readiness to be exposed to another party

when that party cannot be under control or monitored". They formulated a model which clearly differentiates trust from its antecedents and outcomes. To trust people involves some element of risks as the trustor should be able to accept vulnerability to the actions of the trustee since risk is inherent in vulnerability. The theory further proposes that perceived trustworthiness is comprised of three factors: ability, benevolence and integrity. Furthermore, Driscoll [41] considered trust and participation as predictors of satisfaction in organizational decision making. He defined trust as "the belief that the decision makers will produce outcomes favorable to the person's interests without any influence by the person". Another role of trust according to Uzzi [42] was to reduce the cost of both intra and inter-organizational transactions.

Research in marketing has been conducted in the area of distribution channels such as (Producer-Retailer-Consumer) as well as seller-buyer relationships. Some researchers focus on how to maintain long term customer relationships with regard to distribution channels bearing in mind the high switching cost involved. However, other researchers including Kumar [43] posited that trust, rather than power, helped manufacturers or retailers receive more tangible benefits and realize their full potential, thus facilitating long-term commitments. Long-term relationships are built over a long period of time and that makes it imperative for marketers to promote or enhance relationship management. Meanwhile, some researchers in this field focused on two areas of trust such as suppliers and sales people. A notable perspective was given by Dooney and Canon [44] and they held the view that customers can trust the supplier firm, its salesperson or both.

Online Consumer Trust

The concept of trust has been widely conceptualized by numerous researchers in the past. This study will focus on the concept of trust in e-commerce with emphasis on online transactions. As trust is studied in different disciplines such as psychology, sociology and marketing and in different contexts like organizations as in Mayer [9], buyer-seller relationships [45], a multitude of definition of trust exist. Meanwhile Rotter [40] defined trust as the generalized expectation that the verbal statements of others can be relied upon. Furthermore he argued based on the two dimensional construct he used in his studies that trust also has a religious element. He posited that religious people tend to be more trusting than non-religious people such as Atheist and Agnostics.

Many studies have been conducted in the past in the area of trust in relation to e-commerce. However, a consensus has not been agreed among researchers yet as to the most universally acceptable definition of trust. However, most scholars agree that trust has three major constituents: (a) uncertainty about the outcomes of an interaction, (b) personal harm as a possible outcome of the interaction and (c) lack of influence on the outcomes [46]. Some define trust as beliefs regarding various attributes of the other party such as fairness, goodness, strength, ability, benevolence, honesty and predictability [47]. Gefen [48,49] surveyed 217 potential e-commerce users to study their attitude towards Amazon.com. His data shows that familiarity with an internet

vendor increases trust which subsequently influences consumers' intention to purchase. Furthermore, he posited that specific beliefs such as integrity, ability and benevolence were seen as antecedents to overall trust. According to Wang et al. [36,37] in reference to e-commerce, integrity was the belief that the online vendor adhered to specific rules or kept promises; ability concerns the perception about the skills and competence of the online vendor to provide good quality products and services and benevolence was the belief that the online, aside from wanting to make legitimate profits, wanted to do good to the customer without regard to making a sale. However, Ang who held a similar view proposed that three dimensions of trust are very imperative for enhancing the perception of trust on the internet. These dimensions include the ability of the online merchant to offer a product or service that meets customer expectations as promised, the readiness of the online vendor to make rectifications suppose the purchase does not meet the customer's satisfaction, and the presence of a privacy policy or statement on the website. Meanwhile it is quite obvious that people tend to be very skeptical and cautious in terms of giving personal information to online vendors and agencies. Studies from [8], shows that online transactions are more impersonal, unknown and automated in comparison with offline transactions.

Meanwhile Kim, Song, Braynov and Rao studied and divided the determinants of consumer trust that were associated with different stages of the transaction. In as much as consumers want to purchase products online, their familiarity with the vendor plays a vital role in shaping their purchase decisions. However, Brand trust and the reputation of a vendor are also key determinants of consumer trust. Brand trust concept deals with the trust a particular consumer have towards a specific brand. Meanwhile, there are two basic approaches in defining a brand. The first one is the product-plus approach, according to which the brand is an extra quality and identifies the product, the second being a more holistic and considers the brand to be the sum of all the elements of the marketing mix. Report from the Marketing Association of America a brand can be 'a name, term sign, symbol, design, as well as a combination of them, with the purpose of distinguishing the goods or services of one vendor or group of vendors and by extension to distinguish them from those of competitors' [50]. The brand represents various perceptions the consumer has concerning a particular product which is literally stored in the memory of consumers, whereas the reputation is a socially shared evaluation of a company. Petrovic [26] maintained that it is important to foster and strengthen an existing brand image with trusting beliefs that are relevant for the online environment. By extension Windham [51] argued that if a brand is unfamiliar, it can be difficult for the customers to see the credibility of the company behind the brand. Hence online vendors need to work on the reputation and strengthen their brand awareness to create more trusting relationships between them and the consumers. The e-commerce environment is perceived to be risky and impersonal, so it can be helpful to bring about human-like associations to foster trust [26]. However, Hansen argued that the average online buyer does not pay much attention to the brand, thereby focusing more on the appearance of the websites and how it functions.

Trust has been conceptualized as both a state and a trait. A classic example of this is found in Rotter's work [40] Interpersonal trust, which describes a generalized

expectancy about the behavior of others. Meanwhile, previous empirical studies suggest that in a certain circumstance, the influence of trust as a trait is limited compared to the attributes of the trustee [52]. As for trust being a state concept, two different perceptions have evolved [2,9,53,]. Initially trust has been understood as a willingness to take risks in a relationship [9,52,54]. This notion was addressed by Mayer [9] when they define trust as 'the readiness to be exposed to the actions of another party bearing in mind the expectation that the other party will perform an action imperative to the trustor, regardless of the capacity to monitor or control that other party'. Online shopping requires a great magnitude of trust as it is rather more complex than traditional brick and mortar shopping. If online shopping could be understood and given the much needed attention by trustworthy online merchants, this would increase the number of electronic commerce participants.

However, a particular group of researchers [26] held the view that online transactions and other exchange relationships are not only marred by anonymity, but also by uncertainty, a lack of monitoring or control and potential exploitation, thereby making risk and trust critical components of electronic commerce". Trust is perceived as a mental construct that consumers' use to mitigate the level of uncertainty, anonymity and the complexity associated with transactions and relationships in electronic markets. One of the most notable reasons that make consumers develop second thoughts about buying from online vendors is the lack of trust [26]. Trust with all the connotations have been studied in various disciplines and it unveils significant research opportunities and by extension applications that could be applicable to an online environment.

It is a quite an obvious fact that the future development of e-commerce greatly hinges on trust. According to Evans et al. [55], trustees are more likely to repeat when they feel trusted and trustors are also more inclined to trust when they possess evidence that a particular partner is trustworthy. The willingness to accept vulnerability is a very imperative factor in the situation of trust. If we consider two situations where there are only possible outcomes of trust such as betrayal and reciprocity. In this situation, vulnerability can be defined as the proportion of costs and benefits associated with trusting. Moreover the benefits are the profits obtained when the trustee reciprocates, while costs are the losses incurred from betrayal [55]. Empirical evidence further demonstrates that players or stakeholders in the investment game are sensitive to this ratio [56].

Merits of Purchasing Online

E-commerce offers a wide range of merits to those who partake in it such as customers and vendors. Meanwhile, notable among the merits according to Shivendra [57] include; global market possibilities. However one of the biggest strength of e-commerce is its non-subjectivity to geographical borders, in other words no physical structure is mandatory to do business or no specific boundary is required, thereby laying the foundation for the development of global retailers. Another merit identified by Shivendra [57] include the timely nature of online transactions, thereby mitigating the impact of physical movement and by extension a twenty hour round the clock service thereby

enabling online transactions to be executed anywhere at any time, thereby eliminating time constrains.

Price/Product comparison: E-commerce provides the platform for consumers to compare prices and products effectively and efficiently. This allows the consumers to buy the best product from the vendor who offers the best value for his/her money.

However, in addition to the ones highlighted above, Windham et al. [51] posited that purchasing online saves time and also empowers people as a result of better product information as well as the possibility to make comparisons between different vendors' offerings.

Cost Effective: the elimination of a long chain of middlemen, decreasing the need of having brick infrastructure and outsourcing logistics goes a long way to help small businesses to compete with giants.

Online Trust and its Characteristics

It is quite evident that online trust shares similar or closely related characteristics with an offline shopping environment traditionally referred to as brick and mortar shopping. However, there are significant differences between the two modes of shopping. In comparison with traditional commerce, e-commerce is more impersonal, more automated, provides less direct sensory cues, has fewer immediate gratification, involves more legal issues and provides more avenues for the practice of fraud and abuse [6,7,58]. These differences could serve as stepping stones towards a better understanding of trust in the context of online transactions.

The following are the main characteristics of online trust adopted from [55]. According to them, online trust has four main characteristics which include:
Trustor and Trustee: the two parties i.e. trustor and trustee, are still vital for establishing a trusting relationship in the online environment, but they imply specific entities. In the traditional Offline environment, the customer and vendor positions could be filled by many different entities. In online trust, the trustor is usually a customer who surfs an e-commerce website while the trustee refers to the e-commerce website. In some cases, the technology (mainly the Internet) itself serves as an object of trust.

Vulnerability: considering the high complexity and uncertainty associated with e-commerce, vendors' behavior may be unpredictable on the internet. Meanwhile, consumers are often uncertain about the risks at present and their full consequences when transacting online. Gefen [48,49] argued that " when online consumers only examine a website without purchasing from it, data may be automatically collected on their browsing activities and later misused or distributed without their consent or knowledge". Finally in online commercial transactions, consumers are exposed to some trust violations in addition to loss of money and loss of privacy [59].

Produced actions: consumer trust in online vendors leads to two specific forms of

actions from the consumer such as (i) purchasing online from the retailer, which may involve providing credit card details and other personal information in the transaction and (ii) window shopping or surfing in the vendor's website. Either of these actions brings positive outcomes to online merchants which include actual or potential sales. In order for consumers to partake in such activities they must be confident to gain than to lose.

Subjective matter: just like offline trust is associated with individual differences and situational factors; online trust is inherently a personal choice [60]. This translates that the level of trust necessary to conduct online transactions differs from one individual to another.

Trust Levels in Transaction Phases

It is a well-established fact that trusts in online transactions is very imperative not only for the e-commerce vendors but also the consumers. Trust in online transactions is fast becoming a crucial factor for evaluating the success as well as the failure of internet activities [61,62]. Many studies such as [29,63] revealed a variety of tools that help to signal trust in an online environment. Meanwhile, Kollock [63] suggests the implementation of online communities including reputation systems. Other studies revealed the establishment of trust building and promoting elements that help to induce trust in online transactions. Meanwhile, Milne and Boza [64] also found out that consumer trust levels are different in terms of the industry they operate, depending on how much information is collected or shared. By extension Simmons [65] is of the view that what is regarded as private varies across organizations, cultures and even individuals.

The buying process of goods and services from one single transaction to another involves series of phases which consists of the information, agreement and settlement phase. In the online environment, the information phase can be viewed as a stage where the potential consumer browses through an online website. In the agreement phase, the customers demonstrate their willingness and acceptance in choosing the products or services offered by the vendor and by extension accept to buy at a specific given price or prices. Finally on the settlement phase, the customer places an order online, gives out his credit card information in order to settle the transaction. From these transaction phases, we can assume that these phases could be applicable to the buying process in the online environment.

Hence the transaction phases could be linked with different levels of trust based on individual differences. However, Petrovic et al. [26] stated that different phases of trust can be promoted with the assistance of seals as well as insurance solutions, approval seals, money back guarantees and conflict resolution systems. In doing so, this will go the extra mile to induce and promote online trust from the perspective of e-commerce consumers (Figure 2).

Figure 2: Trust levels during transaction phases.
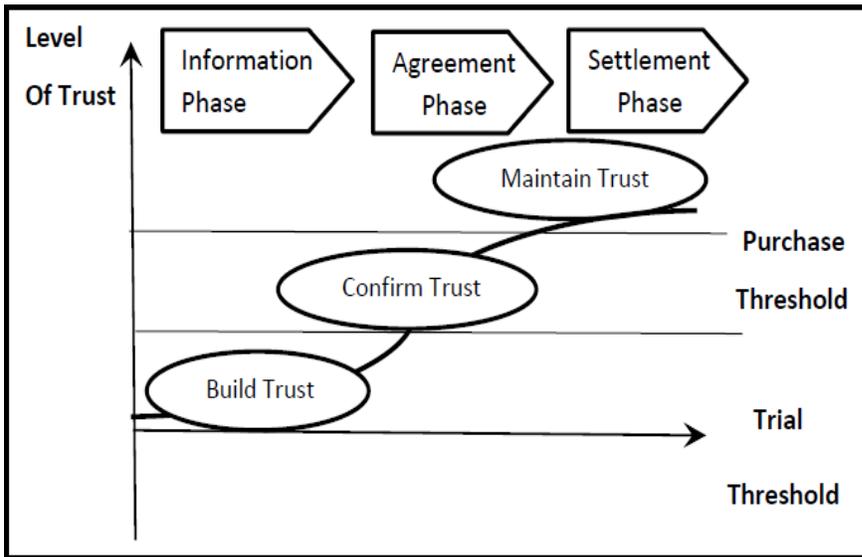
Source: Petrovic et al. (2003)

A Model to Understand E-Commerce Trust

Trust in the e-commerce environment is very critical to the continuous relationship between online merchants and consumers. Merchants need to envisage the factors that influence consumer trust. In B2C e-commerce environment, there are three main players that interact to evaluate consumer trust level. These parties include:

Consumers: it is a well-established fact that nobody buys anything from an anonymous vendor without questioning the veracity and trustworthiness of that vendor. As consumers can see products, feel them and in addition interact directly with the sales person in traditional shopping, this does not happen with regard to online shopping. This therefore becomes a recipe for consumers to feel uncomfortable in an online shopping environment. According to Bowlby, [66], individual consumers will differ in their trusting personality characteristics and the speed at which they achieve the trust level required starting transactions with online vendors.

Vendors: vendors on their part attempt to seek avenues where they can establish trust promote and maintain it for a long period of time. These vendors may have both traditional and online experience in selling their products to the customers. Meanwhile, it is obvious that vendors that have traditional mortar shops, well established and recognized product brands have a higher tendency to be more successful in the e-commerce environment. In addition [67] argued that consumers who are familiar with the web storefront as an extension of an established business might assume it to be more genuine, thereby having more trust in the vendor and his store.

Referees: these are third party individuals, groups or agents who give vital unbiased

information about a particular vendor to consumers. They exist in various forms which includes individuals that give their own independent information, privacy and security trust seals as well as media representatives.

Research from [7,68] shows that trust is a change process that may increase or decrease over time, couple with experience. Trusting people is definitely hard especially when you have not met them physically. However, the Cheskin/Sapient [11] study posited that online trust is established, confirmed and maintained over time while consumers move through a lack of trust phase, an extrinsic trust phase as well as an intrinsic trust phase. Meanwhile, Head et al. [8] extended this research by presenting a more detailed four phase life cycle (chaos, establish, enhance and maintain) for developing online consumer trust.

Trust is premised on people's perception of it and on how they experienced it. Trust also deals with vulnerability as trusting people exposes us to series of risk. Head et al. [8] are of the view that if consumers experience a breach or violation of trust, they may easily revert back to the chaos states where trust may be more difficult to re-establish. This position was previously held by Lewicki and Bunker [13]. According to them, violations of trust will have various outcomes in different phases or levels of the trust cycle. A violation or breach is highly likely to disrupt a trust relationship in its early stages. However, in the later phases, there is a possibility for the relationship to continue without disruption, if the trustor (consumer) perceives that the circumstances leading to the violation or breach could have been beyond the control of the trustee (vendor). In the online trust building model, it will show how a breach of trust will most often lead a consumer to a state of chaos. Meanwhile Head et al. [69] held a similar view that if the consumer perceives the vendor to have knowingly executed the violation; this would lead to a chaos. They further stated that, if the relationship between the consumer and the vendor is strong (at the maintain stage) and the violation is not perceived to be intentional, then the trust violation consequences may be less severe, possibly reverting to a previous phase (such as establish or enhance). Trust is definitely central and key to interpersonal relationships. This extends an olive branch to situations of risk, uncertainty or interdependence. As the complexity of transactions increase, this makes situations very uncertain, as in computer-mediated commerce, the demand for trust grows [70].

The Trust Pyramid

Trust building is one of the most complex and crucial elements that businesses have to engage in with a view to maintain their customers. Customers undergo various levels of trust phases as indicated in Figure 3 above in terms of transactions. To this effect business owners need to understand the hidden elements as well as what actually drives consumer characteristics as they approach each phase of the transaction. Meanwhile, Petrovic et al. [26] identified six elements, which when they are combined, forms the trust Pyramid. Meanwhile Petrovic and his colleagues highlighted six elements which are as follows:

Figure 3: The trust pyramid.
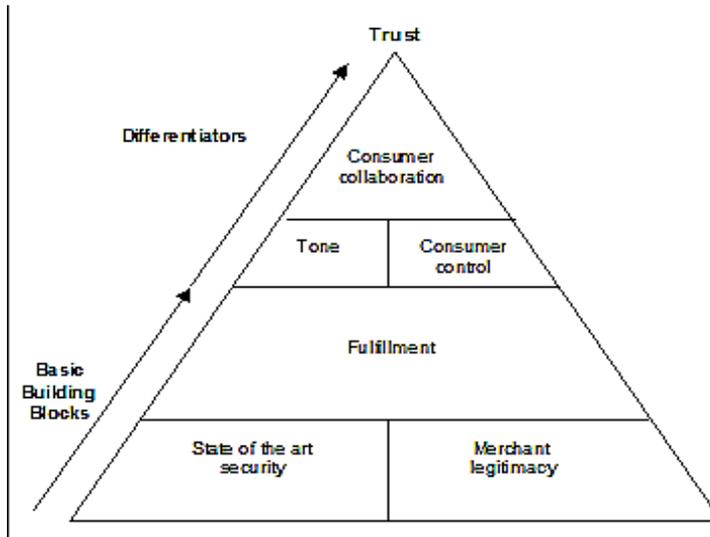
Furthermore, Petrovic et al. [26] indicates that there are three components that consist of the basic building blocks of the trust pyramid. These core elements include state of the art security, merchant legitimacy and robust order fulfillment. The other elements which are a little subtle include tone, customer control and consumer collaboration. These subtle elements can be used by businesses to differentiate their brands from other competing brands operating within the same market or industry. All together, these elements serve as a crucial tool in building and maintaining customer trust in all levels of transaction phases. The following elements below are further discussed by Petrovic et al. [26] and they include:

1. Using secure and reliable technology on your website serves as a recipe for promoting trust. Potential customers can feel secure whenever they engage in online transactions.

2. The superiority of brands is a distinguishing factor as far as online transactions are concerned. Well established and popular brands give potential customers the impetus to make choices albeit they have limited information about a particular brand.

3. Fulfilling and completing an online order is the next requirement that facilitate trust building. Every customer would like to make orders that are free from any form of complication or hassle.

4. Building trust extends beyond the technical features of a website. Meanwhile, consumers desire their personal information be handled with utmost privacy and sensitivity.

5. Allowing consumers' access and control over their personal information can go the extra mile to boost their trust in the vendor.

6. Consumer interactions and collaborations with each other will definitely help to nurture trust in the vendor. Having to inform each other about the transaction nature and experience they undergo will serve as a recipe for building trust.

According to Petrovic and his colleagues, all these six elements do not immediately correspond to deep trusting relationships. This implies that it will take a great deal of effort on the part of the company to work closely with consumers in order to build strong bonds and sustainable trust relationships with them, which will break down all forms of obstacles. In so doing, this will improve consumer experience and enhance their overall satisfaction. Petrovic et al. [26] further maintained the view that the mutual give-and-take process will lead to an advanced trust-based collaboration. When consumers supply their personal information to the vendors, they need to be given assurances that their information will be protected. They need to be aware on how the company intends to use their private information so as to allay any form of fear that may stem from instances of fraud.

Individual Characteristics of the Consumer

Going through the literature on online trust and trust building constructs, it would be interesting to know that quite a number of researchers have identified several trust building factors. Chen and Dhillon [71] held the view that consumers could be a source of trust as "consumer trust in an online vendor can be found in the individual characteristics of consumers, the online vendor, the website and the exchanges of the consumer with the online vendor through his website".

Below are notable individual characteristics that are quite relevant in terms of establishing trust relationships in an online shopping environment, presented by Chen and Dhillon which include:
Disposition to trust apart from the various reactions from the vendors, is well argued in the existing literature that consumer trust is based on personality types. However, other researchers like Bowlby [66] suggested that a person's concept of trust develops during childhood in interactions between the individual and the caregivers/parents. Meanwhile a person demonstrates a disposition to trust to the extent that it becomes a consistent trend such that he/she shows the willingness to depend on others over a broad range of circumstances or people. There are two types of disposition to trust [66] which includes faith in humanity and trusting stance. The former relates to the perception that people are good and they generally mean well as well as being reliable. The latter refers to the belief held by people that they will get better interpersonal reactions when they deal with people with the perception that they actually mean well.

Attitude towards online shopping, subjective norm and behavioral control is quite obvious that the perception a consumer has regarding convenience, reflects his/her attitude towards online shopping. The consumer's behavior towards online shopping mirrors either a positive or negative assessment based on experience and perceived outcomes generated from the said behavior, while subjective norm "deals with consumer's views of the degree to which significant referents approve or disprove a behavior" [71]. Meanwhile, the theory of planned behavior further proposes that the intention to perform a behavior hinges on a very close cause of that behavior. Intentions represent motivational components of a behavior, which is the degree of conscious effort that a person will exert in order to perform a behavior. In addition, another variable

worth noting is perceived behavior, which deals with the perception or views that a particular behavior is either difficult or easy to perform. Perceived behavioral control "is showed by the perception of ease-of-use of the internet as a shopping medium, perceived control in interaction (i.e. the use of personal details), as well as perceived risk in e-commerce (i.e. privacy and security system)" [71].

Past purchase behavior is definitely crucial in determining or evaluating present purchase behavior. Some researchers are of the notion that the inclusion of past purchase behavior would definitely influence the prediction of behavior. This hinges on the perception that behavior is greatly affected by learned predispositions to respond, which are not related to attitude and perceived intention. Meanwhile, a consumer's trust in an internet vendor may be influenced by the consumer's past online and e-store experiences, since knowledge and/or experience can lead to an increased assessment of an internet vendor's trustworthiness [71]. In addition, a similar view by Windham and Orton [51], is that new consumers that are highly experienced become more demanding of the web performance and behave more habitual. It is quite natural that consumers that have previous good user experience have a higher tendency to repeat or make a similar purchase. The adoption of online shopping mechanisms may stem from the consumer's past experiences with non-online shops. Hence in my opinion, a non-store and prior online experience may have a direct influence on a particular consumer's trust in online shopping.

Personal values, gender, age and education are usually incorporated into people's systems as a set of guiding principles prioritized based on relevance that sieves their behavior. A person's value system thus, guides behavior and the interpretation of experience by furnishing criteria that a person can use to evaluate and make sense of events and actions in the surrounding world [71]. Meanwhile, an individual's value system would determine desirable or undesirable forms of behaviors about people, situations or events. Suppose a person's value system is centered on honesty and loyalty, there is greater possibility that the person will strive to maintain these values in the relationships or interactions he/she has with people. These notions are consistent with the body of literature that exists on trust. Barber [72], maintained that trust serves to maintain and express the common values where trust itself originates from, that shared values help to create associations characterized by trust.

Furthermore, other personal characteristic like gender is believed to influence an individual's purchase intention or behavior. Johnson and Swap [73], posited that male and female subjects look for different qualities in another person when assessing his or her trustworthiness. The scale includes factors of reliability, emotional trust and general trust. As for the females, it is similar but not identical as reliability and emotional factors emerge. Other factors that are likely to affect consumer behavior include age and education level.

Consumer Trust Determining Factors in B2C E-commerce

There are various determinants of trust in the business-to-customer online retail

environment as highlighted by previous researchers in the field of e-commerce. Notable among these determinants mentioned in the extant literature are perceived security, perceived privacy, perceived third party assurance, perceived website quality, perceived familiarity, perceived trust and perceived reputation.

Perceived Security

Security has been defined as the protection against the threat that creates "circumstances, condition, or event with the potential to cause economic hardship to data or network resources in the form of destruction, disclosure, modification of data, service denial, fraud, waste as well as abuse".

Security is one of the fundamental factors that influence consumers' willingness to purchase from an online vendor. The security of online systems and technology is definitely a concern for both consumers and vendors alike. If all digital information conveyed on the Web were confidential, there would remain only open secrets [74]. Security issues for e-commerce infrastructure development are concerned with three dimensions; (1) customers involved in the market place; (2) the company and /or the legal entity and (3) systems, governments and multinational entities [74]. In the online environment, there are different payment systems and mechanisms that online vendors use. Notable among them include paying by credit cards online, bank transfers, invoices, cash on delivery and digital wallets. Use of credit cards is the most common means of payment used in many online transactions. Information security consists of three main parts: confidentiality, integrity and availability. A widely used benchmark for the evaluation of information systems security in the e-commerce environment is the CIA [75]. However, the three components of information security could be affected by technical problems, accidental, natural causes, or by extension deliberate human causes [76]. Authentication methods like user IDs and passwords that identify users can help to reach the goal of confidentiality.

However, there are other control mechanisms that support confidentiality, which includes restricting each specific user's access to the database system's resources. In addition, crucial to confidentiality (i.e. integrity and availability) is protection from malware, cyber-attacks as well as spam [76]. Suppose a service does not offer a trustworthy and professional impression, e.g. if the information given is ambiguous concerning the ownership of the company or which company handles the card payment, this might make the customer hesitant. Online payment systems are continuously updated so as to make them more user-friendly as well as improve their security. In order for consumers to feel more secured, vendors need to operate systems with latest security technologies and solutions so as to encourage and build trusting relationships. According to Chao-Jung Hsu, security controls that provide technological and organizational support to e-commerce, ensure timely and accurate completion of transactions, prevents fraud and third-party manipulation, assure smooth transactions, and safeguard transaction authentication to insure against damage. However, some empirical studies revealed that perceived security is positively associated with trust in e-commerce contexts [36,37,77,78].

Consumers have serious issues concerning scam and cyber fraud that inadvertently haunt online transactions. It is the responsibility of the companies to guarantee the safety of information supplied to them by customers and by extension ensuring that the information will be handled within specific regulations. This type of assurances could go a long way to mitigate the concerns and level of insecurity and lack of trust in the online environment.

Meanwhile, various studies conducted such as [36,37,78], showed that perceived security of online transactions will engender greater willingness to buy from an online vendor

Perceived Privacy

According to Becker [74], dealing with confidentiality, secure entities is set upon the Web to start privacy. These entities are connected to all parts of the Web, relayed by cryptographic protocols [79] containing spatially and temporally secrets. If vendors could guarantee that consumer private information would be kept with utmost secrecy, as well as not disclosing it to any third party, this will go the extra mile in building sustainable trusting relationships. In addition, other researchers held the view that it is important for the customer to feel secure about not being exposed to fraud or that their money disappears due to technical problems. Research from Davies indicated that there are four basic categories of privacy such as information, body, and communication as well as territorial privacy. It is quite obvious that internet or online privacy mostly deals with information privacy. Information privacy is concerned with the ability of a person to control his/her information without interference from external bodies or individuals. Interference or invasion in privacy arises when people are unable to hold significant control over their private information. Moreover, people react differently to privacy issues and by extension they held different perceptions concerning privacy issues. Among the different perceptions or reasons may be a cultural perception. According to Jean Camp [80], privacy should be distinguished from confidentiality, which means that only the intended recipient should be able to read the information. By extension, privacy could be referred to as the ability of an individual to control the terms and conditions in which their personal data is obtained and used. Meanwhile, in the context of privacy, trust could refer to customers' expectation that the business will keep the customer's information unbiased or fairly [12]. In addition, the customer control element identified in the 'trust pyramid' model put forth by Dayal as well as the studies conducted by Petrovic et al. [26], stressed the significance of information privacy as a determinant of customer trust in e-commerce environment.

Perceived Third Party Assurance

Guaranty policies combined with independent trusted certificates of third parties will go a long way to develop and maintain consumer trust. However, in a recent study on trust marks, Aiken and Boush revealed that consumers viewed trust marks from independent expert sources more trustworthy than signals of implied investments in advertising or

even consumer reports. Furthermore Pavlou and Chellappa [81] observed that such mechanisms are only effective for customers who are familiar with them and that the seals of approval need to be promoted among the customers to become more effective. According to Ba and Pavlou, in promoting trust in e-commerce markets, studies from researchers suggest offering genuine and credible signals to distinguish between and among vendors. Head et al. [69] argues that while certificate authorities basically verify a vendor's identity, approval seals also aim to assure consumers' that a vendor's website is indeed reliable and credible to conduct business. Furthermore, vendors may convey this information by placing the sign, logo, or seals of a trusted third party (TTP) on their website [69]. Meanwhile it is very imperative for vendors to state standard guarantee policies and make it clear for consumers to see. In addition, online order confirmation should also be instituted by the vendors so as to boost consumer morale and trust in the vendors.

Perceived Reputation

Reputation is conceptualized as the consumer's view of a particular store's reputation, where reputation is defined as the extent at which consumers believe a store is honest and concerned about its consumers. The reputation of a company can go the extra mile to allay the fears as well as mitigate the insecurity faced by customers. Publishing consumer testimonials on the website and maintaining virtual communities where customers can share their experiences are also considered as adequate means to increase the reputation of the online vendor [19,48,82]. Reputation is a precedence of trustworthy behavior and can be a determining factor for people to be willing to engage in exchanges with a vendor. However, one possible way for vendors to increase their reputation among consumers is by creating online forums where consumers can share experiences as well as make suggestions and recommendations. According to McKnight et al. [83] online vendors that have a good reputation as perceived as trustworthy and those with a bad reputation are perceived as untrustworthy. Meanwhile, the reputation of an online vendor is likely to influence a buyer's trust towards that vendor [19,59,84]. That being the case, a good reputation suggests certainty and less risk in conducting business, and so helps foster consumer trust. Similar findings have shown that perceived reputation has a significant effect on consumer trust in the e-commerce context [85].

Perceived Trust

Online trust plays a crucial role in creating satisfied and expected outcomes in e-commerce transactions [1,86] where trust exists it augments consumers' beliefs that online vendors will not engage in opportunistic or exploitative behavior [2]. Moreover, Gefen et al. [2] summarize the conceptualizations of trust from previous research such as: (i) a set of separate beliefs that consists of integrity, benevolence, and ability. (ii) a general belief or trusting intentions that another party could be trusted, or the readiness of one individual to be vulnerable or exposed to the actions of another [9]. (iii) Consisting of actions of confidence and security in the caring behavior or response of the other party and (iv) by extension, a combination of these factors. However, Yoon,

[58] describes the mechanisms of online trust as; "security assurance, reputation, web searching, fulfillment (i.e. readiness to customize), presentation (i.e. web quality), technology, and interactions (e.g. e-forums)". He categorized these mechanisms into three dimensions of online trust which includes: (i) Technical-based such as web searching, technology and presentation. (ii) Uncertainty of transactions and security which includes security assurance and (iii) competency-based: reputation, fulfilment, and interactions.

Perceived Familiarity

Familiarity with the brand of a particular online vendor is an indication of the possibility of trust developing over time. According to Chao-Jung Hsu, trust accumulates over time as the relationship develops with the accumulation of trust. Hence, the development of trust between parties requires time and an interaction history [83]. Developing and nurturing trusting relationships definitely takes a lot of time. Familiarity is experienced with the what, who, how and when of what is happening. Meanwhile, Gefen [48] argued that "familiarity entails an understanding of the current actions or behaviors of people or objects, whereas trust entails beliefs regarding the future actions of people". Furthermore Gefen [48] went on to state that "familiarity provides two approaches in building trust such as: (1) offering a framework for future expectations, and (2) creating substantial ideas of consumers' expectations based on previous interactions".

Familiarity with a trustworthy online vendor should increase consumer trust. In e-commerce, consumer familiarity for example, corresponds to how well a consumer comprehends the website procedures including when and how to enter credit card information [48], which occurs because more familiarity implies an increasing amount of accumulated knowledge derived from experiencing previous successful interactions through the website [49]. Hence being familiar with a particular online vendor and his activities serves to engender trust.

Perceived Website Quality

Studies from Sinha et al. suggested that website quality should be based on the content, structure, navigation and functionality. Good content should be engaging, relevant and appropriate for the consumer. An "About us" page on the site would definitely explain a lot about the vendor and his/her line of business. Number of physical store locations could give a hint about the size of the company. However, larger companies may be generally perceived as more trustworthy. Another significant way is to increase the amount of social presence on the website. Gefen and Straub [2] defined social presence as "the extent to which a medium allows a user to experience others as being psychologically present" Meanwhile, Petrovic et al. [26] also suggests that the website should provide mailing addresses and or toll free telephone numbers of the company, the online customer service and should be easily accessible to the customers. The company can as well include some cues on the site, security policy as well as standard terms concerning purchase agreements. All these will go the extra mile to increase consumer trust in online vendors. A previous study conducted in New

Zealand in Corbitt et al. [87] posited that a perceived website quality has a positive impact on trust from the Internet users in New Zealand. In the same vein, other similar findings in [78], suggested that website quality strongly correlates with trusting beliefs in online banking.

Summary of the Literature

After a thorough review of the literature, we have realized that trust is a multidimensional concept, which hinges on individual perception of people. To establish trust in an environment of uncertainty such as e-commerce, would definitely involve a lot of factors. As more and more people become tech savvy, this has presented numerous opportunities for online vendors as well as other stakeholders in the e-commerce domain. There are various determinants that influence consumer online trust. Some of the major determinants highlighted in the literature include perceived security, perceived privacy, perceived ease of use, benevolence, perceived familiarity with the vendor, perceived third party assurance, perceived website quality, perceived reputation, integrity, propensity to trust etc. All these constructs were investigated in the past. However, there are overlaps in terms of research findings regarding these variables.

# RESEARCH METHODOLOGY

Research Purpose

The purpose of this Research is to investigate and get a better understanding of consumer trust in E-commerce. Furthermore, the researcher wants to investigate the determinants of consumer trust in E-commerce, with a focus on Ekaterinburg, Russia. Studies in understanding consumer trust especially in E-commerce has been ongoing as many researchers continue to investigate determinants of consumer trust and its antecedents associated with E-commerce. As several factors influence consumer trust in purchasing online, there is a need to establish the specific vital factors that engages consumer perceptions of trust in the E-commerce environment. Understanding the determinants of e-commerce trust would enable vendors and firm managers to focus their concentration on key areas in their e-commerce businesses in order to enhance their trust. In light of this, the results of this study would provide relevant insight into the understanding of the factors that relates to e-commerce consumer trust with emphasis on Russian consumers.

Meanwhile, this research will focus on the Business-to-Customer (B2C) component of E-commerce and it aims to gauge the perception of Russian consumers in Ekaterinburg, regarding which specific factors they consider significant to establish their trust in the ever dynamic e-commerce environment. As trust is a multidimensional concept, this makes it rather complex to associate it with one specific factor among various factors. Customers and online vendors continue to struggle with the dynamics of the e-commerce business to customer environment. Therefore, there is a growing demand for more empirical studies to be conducted in this area in order to unveil crucial specific factors that help to establish consumer trust.

Research Model and Hypotheses Development

A comprehensive review of previous studies conducted in the area of E-commerce trust has led to the development of a cumulative construct for this empirical study. The hypothesis put forth in this study is divided into seven groups, which will be subjected to statistical examination to assess the veracity and validity of the constructs, regarding which specific factors engender customer trust in B2C e-commerce. In order to test the hypotheses, a bivariate correlation statistics would be used to test the hypotheses developed for this empirical study. In order to have a better understanding of the determinants of customer trust in the e-commerce environment, as well as seek to address the research questions previously highlighted above, a hypothesized model is developed for this study. This model adopts security, privacy, familiarity, website, guaranty, customer care, control and information as specific factors that determine customer trust. Components of the model and the support for its hypothesized links are shown in Figure 4 below:

Figure 4: Hypothesized models of the determinants of consumer trust in B2C e-commerce environment.
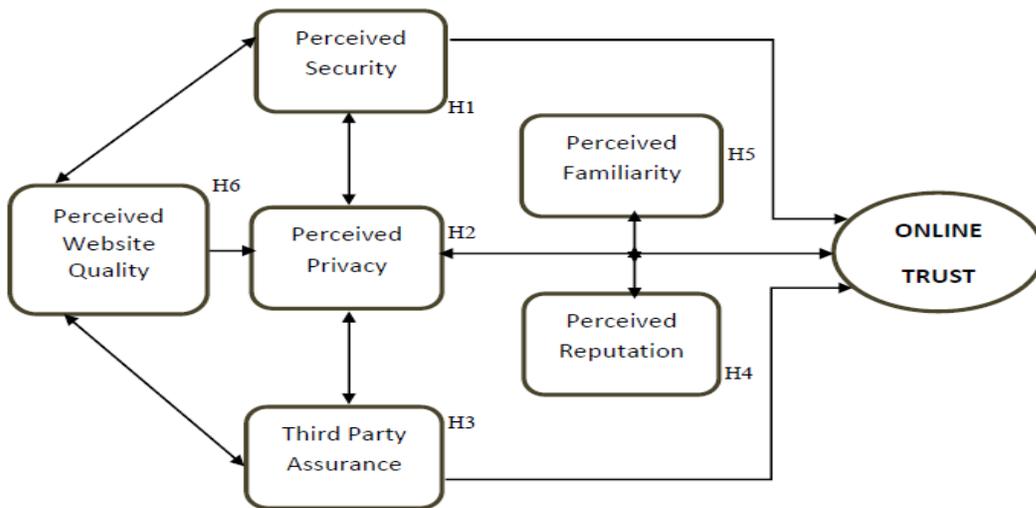
 In formulating our hypotheses, we identified certain factors that would be investigated to determine their impacts on customer trust in a business-to-customer e-commerce environment. In light of this, we selected the following factors below from previous empirical studies to guide our hypotheses formulation for this study. Hence we make assumptions that would later be tested using statistical packages to assess the validity and internal reliability of the constructs.

Security has been defined as the protection against the threat that creates "circumstances, condition, or event with the potential to cause economic hardship to data or network resources in the form of destruction, disclosure, modification of data, denial of service, and /or fraud, waste and abuse". Security is one of the fundamental factors that influence consumers' willingness to purchase from an online vendor. The

security of online systems and technology is definitely a concern for both consumers and vendors alike. If all digital information conveyed on the Web were confidential, there would remain only open secrets [74]. Security issues for e-commerce infrastructure development are concerned with three dimensions; (1) customers involved in the marketplace; (2) the company and /or the legal entity and (3) systems, governments and multinational entities [74]. In the online environment, there are different payment systems and mechanisms that online vendors use. Notable among them include paying by credit cards online, bank transfers, invoices, cash on delivery and digital wallets. There are other desirable payment systems that are currently gaining momentum such as micro payments through SMS and pay phones. Use of credit cards is the most common means of payment used in many online transactions. Information security consists of three main parts: confidentiality, integrity and availability. CIA as an abbreviation is a widely used benchmark for evaluation of information system security also in the e-commerce environment [75]. However, all these three parts of information security may be affected by purely technical issues, natural phenomena, or accidental or deliberate human causes [76]. Authentication methods like user IDs and passwords that identify users can help to reach the goal of confidentiality. Other control methods support confidentiality, such as limiting each identified user's access to the data system's resources. Additionally, critical to confidentiality (also to integrity and availability) are protection against malware, spyware, spam and other attacks [76]. If a service does not give a trustworthy and professional impression, for example if the information provided is unclear about who owns the company or which third party administers the card payment, it might make the customer hesitant.

Online payment systems are continuously updated so as to make them more user-friendly as well as improve their security. In order for consumers to feel more secured, vendors need to operate systems with latest security technologies and solutions so as to encourage and build trusting relationships. According to Chao-Jung Hsu, security controls that provide technological and organizational support to e-commerce, ensure timely and accurate completion of transactions, prevents fraud and third-party manipulation, assure smooth transactions, and safeguard transaction authentication to insure against damage. However, some empirical studies revealed that perceived security is positively associated with trust in e-commerce contexts [36,78]. Consumers have serious issues concerning scam and cyber fraud that inadvertently haunt online transactions. It is the responsibility of the companies to guarantee the safety of information supplied to them by customers and by extension ensuring that the information will be handled within specific regulations. This type of assurances could go a long way to mitigate the concerns and level of insecurity and lack of trust in the online environment. Meanwhile, various studies conducted such as [36,37,78] showed that perceived security of online transactions will engender greater willingness to buy from an online vendor. This led us to hypothesize as follows:
Ho1: The perceived security of online transactions will not influence consumer online trust.
Ha1: The perceived security of online transactions will influence consumer online trust.

According to Becker [74], dealing with confidentiality, secure entities is set upon the

Web to start privacy. These entities are connected to all parts of the Web, relayed by cryptographic protocols [79] containing spatially and temporally secrets. If vendors could guarantee that consumer private information would be kept with utmost secrecy, as well as not disclosing it to any third party, this will go the extra mile in building sustainable trusting relationships. Meanwhile other researchers held the view that it is important for the customer to feel secure about not being exposed to fraud or that their money disappears due to technical problems. Meanwhile, there are four basic categories of privacy: information privacy, bodily privacy, communications privacy and territorial privacy. It is quite obvious that internet or online privacy mostly deals with information privacy. Information privacy is concerned with the ability of a person to control his/her information without interference from external bodies or individuals.

Meanwhile, Zviran [88] argued that if consumers possess a great deal of awareness on the importance of data privacy, then they will be more willing to use the internet as their shopping medium. Interference or invasion in privacy arises when people are unable to hold significant control over their private information. Moreover, people react differently to privacy issues and by extension they held different perceptions concerning privacy issues. Among the different perceptions or reasons may be a cultural perception. According to Jean Camp [80], privacy should be distinguished from confidentiality, which means that only the intended recipient should be able to read the information. By extension, privacy is "the ability of an individual to control the terms under which their personal information is acquired and used". However, in the context of privacy, trust would mean the expectation of the customer that the business will treat the customer information fairly [12]. In addition, the customer control element identified in the 'trust pyramid' model put forth by Dayal as well as the studies conducted by Petrovic [26], stressed the significance of information privacy as a determinant of customer trust in e-commerce environment.

On the contrary, according to Light most online consumers do not trust online vendors as a result of not keeping their personal information even after promising to do so. Hence we formulate the hypothesis below:
Ho2: The perceived privacy of online transactions will not influence consumer online trust.
Ha2: The perceived privacy of online transactions will influence consumer online trust.

Guaranty policies combined with independent trusted certificates of third parties will go a long way to develop and maintain consumer trust. However, in a recent study on trust marks, Aiken and Boush revealed that consumers viewed trust marks from independent expert sources more trustworthy than signals of implied investments in advertising or even consumer reports. Furthermore Pavlou and Chellappa [81] observed that such mechanisms are only effective for customers who are familiar with them and that the seals of approval need to be promoted among the customers to become more effective. According to Ba and Pavlou, to promote trust in electronic markets, researchers suggest providing credible signals to differentiate among vendors. Head et al. [69] stated that "while certificate authorities simply authenticate a vendor's identity, seals of approval aim to assure consumers' that a vendor's site is a reliable and credible place to do

business. Furthermore, vendors may convey this information by placing the sign, logo, or seals of a trusted third party (TTP) on their website [69]. Meanwhile it is very imperative for vendors to state standard guarantee policies and make it clear for consumers to see. In addition, online order confirmation should also be instituted by the vendors so as to boost consumer morale and trust in the vendors. According to Head and Hassanein [69], third party authentication seals are another way for e-commerce sites to demonstrate their trustworthiness. Previously, Cheskin/sapient study [11] revealed that seals of approval from third parties are one of the six primary components that promote e-commerce trust.

However, a contrary finding from the Princeton Survey Research Associates [89] argued that importance of seals-of-approval declines somewhat with experience. Therefore we hypothesize below as follows:
Ho3: Third party assurance/guarantees of online purchases and transactions will not influence consumer online trust.
Ha3: Third party assurance/guarantees of online purchases and transactions will influence consumer online trust.

Reputation is conceptualized as the consumer's view of a particular store's reputation, where reputation is defined as the extent at which consumers believe a store is honest and concerned about its consumers. The reputation of a company can go the extra mile to allay the fears as well as mitigate the insecurity faced by customers. Publishing consumer testimonials on the website and maintaining virtual communities where customers can share their experiences are also considered as adequate means to increase the reputation of the online vendor [48,82]. Reputation is a precedence of trustworthy behavior and can be a determining factor for people to be willing to engage in exchanges with a vendor. However, one possible way for vendors to increase their reputation among consumers is by creating online forums where consumers can share experiences as well as make suggestions and recommendations. According to McKnight et al. [83] online vendors that have a good reputation as perceived as trustworthy and those with a bad reputation are perceived as untrustworthy. Meanwhile, the reputation of an online vendor is likely to influence a buyer's trust towards that vendor [19,59,84]. That being the case, a good reputation suggests certainty and less risk in conducting business, and so helps foster consumer trust. Similar findings have shown that perceived reputation has a significant effect on consumer trust in the e-commerce context [85]. In addition, customers tend to consider company reputation as the essential factor before they put their trust when they are going to purchase a product or service [90]. Furthermore, Doney and Cannon [44] posited that consumer trust can significantly increase when a company is perceived to have a good reputation. Thus we hypothesize as follows:

Ho4: The perceived reputation of an online vendor will not influence consumer online trust in that vendor.
Ha4: The perceived reputation of an online vendor will influence consumer online trust in that vendor.

According to Gefen [48,49] consumer familiarity determines how well a consumer understands the website procedures, such as when and how to enter credit information. Studies from Gefen [48,49] maintained that familiarity with a trustworthy vendor lessons the possibility that the customer may mistakenly perceive that he/she is being treated unfairly. Familiarity with the brand of a particular online vendor is an indication of the possibility of trust developing over time. According to Chao-Jung Hsu, trust accumulates over time as the relationship develops with the accumulation of trust. Hence, the development of trust between parties requires time and an interaction history [83]. Developing and nurturing trusting relationships definitely takes a lot of time. Familiarity is experienced with the what, who, how and when of what is happening. Meanwhile, Gefen [48,49] argued that "familiarity deals with an understanding of the current actions of other people or of objects, while trust deals with beliefs about the future actions of other people". Furthermore Gefen [48,49] went on to state that familiarity provides two approaches to building trust such as: (1) offering a framework for future expectations, and (2) creating substantial ideas of consumers' expectations based on previous interactions.

Familiarity with a trustworthy online vendor should increase consumer trust. In e-commerce, consumer familiarity for example, corresponds to how well a consumer comprehends the website procedures including when and how to enter credit card information [48,49], which occurs because more familiarity implies an increasing amount of accumulated knowledge derived from experiencing previous successful interactions through the website [48,49]. Hence being familiar with a particular online vendor and his activities serves to engender trust. Therefore we hypothesize as follows:

Ho5: The perceived familiarity with an online vendor will not influence customer trust in that vendor.

Ha5: The perceived familiarity with an online vendor will influence customer trust in that vendor.

Low quality of website could impact on customer loss, cost escalation and profit reduction [90] and hence it is very important to know how web quality impact on customer trust of the website, that eventually determines purchasing decision [90]. Studies from Sinha, suggested that website quality should be based on the content, structure, navigation and functionality. Good content should be engaging, relevant and appropriate for the consumer. An "About us" page on the site would definitely explain a lot about the vendor and his/her line of business. Number of physical store locations could give a hint about the size of the company. However, larger companies may be generally perceived as more trustworthy. Another significant way is to increase the amount of social presence on the website. Gefen and Straub [2] defined social presence as "the extent to which a medium allows a user to experience others as being psychologically present" Meanwhile, Petrovic et al. [26] also suggests that the website should provide mailing addresses and or toll free telephone numbers of the company, the online customer service and should be easily accessible to the customers. Previous studies from [86,91,92] showed that there is a direct relationship between trust and consumers' readiness to participate in online shopping using the internet. The company can as well include some cues on the site, security policy as well as standard terms

concerning purchase agreements. All these will go the extra mile to increase consumer trust in online vendors. A previous study conducted in New Zealand in [87] posited that a perceived website quality has a positive impact on trust from the Internet users in New Zealand. In the same vein, other similar findings in ref. [78], suggested that website quality strongly correlates with trusting beliefs in online banking. Lau and Tan [93] argued that consumers are more willing to engage in online shopping after having a pleasant shopping experience at the vendor's site as a result of familiarity and trust. Hence we proposed the hypothesis below:

Ho6: The perceived website quality of an online vendor's site will not influence consumer online trust

Ha6: The perceived website quality of an online vendor's site will influence consumer online trust.

Defining Measurement Scales

The measurement scales are the questions that are used to collect data for this empirical study. Meanwhile, seven constructs are selected to be used specifically for the purpose of this research. The constructs include: perceived security, perceived privacy, perceived website quality, perceived third party assurance, perceived trust and perceived familiarity. These constructs were adopted from reliable previous studies after a thorough review of the current literature existing on the area of business-to-customer (B2C) e-commerce. The constructs were measured using a seven (7) point Likert point scale where (1 represent Strongly disagree; 2 Slightly disagree; 3 Disagree; 4 Neither Agree nor Disagree; 5 Slightly Agree; 6 Agree; and 7 Strongly Agree). Cronbach's alpha was used to test the statistical accuracy of the constructs as well as the internal reliability of the scales used.

Three (3) scale items were used to measure the construct of perceived security which includes: security and reliable payment systems, transaction security in terms of being comfortable in giving credit card details to the online vendors, as well as security in terms of feeling secure or being comfortable in checking account balances online. The scales used to measure this construct were adopted from Montoya-Weiss, Voss and Grewal with a Cronbach's alpha reliability test value of (0.86).

On perceived privacy, five (5) items were used to measure customer perceived privacy which includes knowledge on how their personal information is handled as well as protecting monetary information, unsuitable methods to collect personal data and unauthorized use of personal data. The scales used to measure this construct were derived from Yousafzai et al. with a Cronbach's alpha reliability test value of (0.81).

Three (3) items were used to measure the construct of perceived third party assurance which include protection from third party companies, statement of guarantees as well as perception on credit rating from third party companies. The original scales used in this study were obtained from Gefen et al. [2] registering a Cronbach alpha reliability test score of (0.76).

Accordingly, three (3) scale items were used to measure perceived website quality. The scale items asked questions ranging from accurate and up to date information, sufficient information preceding transactions as well as captivating and convenient website design (i.e. easy navigation and user friendly). The scales used in this study were derived from McKnight et al. [21] with a Cronbach's alpha reliability test value of (0.96).

Meanwhile, three (3) items were used to measure the construct of familiarity. The scale items measure the degree of familiarity with the online vendor through magazines/newspapers or ads. It also measures familiarity with the online vendor in terms of surfing the site and searching for things that the buyer needs such as tickets/books/clothes/electronics, as well as measuring familiarity in terms of prior purchase experience from the vendor's site. The scales used to measure this construct were derived from Gefen et al. [2] with a Cronbach's alpha reliability test value of (0.87).

Accordingly, six items (6) were used to measure the construct of perceived trust. It measures the consumer's' perception concerning the truthfulness, trustworthiness, integrity, faithfulness etc. of the online vendor. The scales used in measuring this construct are adopted from Hui et al., with a Cronbach's alpha reliability test score of (0.86).

Finally, three (3) items were used to measure the construct of perceived reputation. The items measure consumers' perception concerning the reliability of the vendor. It also measures the goodwill and reputation of the vendor in the e-commerce environment, as well as being concerned about customers. The scales used in measuring this construct were adopted from Doney and Cannon [44], with a Cronbach's alpha reliability test score of (0.78).

Table 1: Origin of constructs from previous literature.

Scale Name	Cronbach's Alpha Value	Scale source
Perceived Security	0.87	Montoya-Weiss et al.
Perceived Privacy	0.81	Yousafzai et al. (2007)
		Gefen et al. [2]
Perceived Third Party Assurance	0.76	Cheung et al.
		Hui et al. (2004)
Perceived Trust	0.86	Gefen et al. [2]
		Doney and Cannon
Perceived Reputation	0.78	Jarvenpaa et al. (2000)
		McKnight et al. (2002)
Perceived Website Quality	0.96	Kim and Park (2012)
Perceived Familiarity	0.87	Gefen et al. [2]

Table 1 Illustrates a summary of the Cronbach's alpha obtained for the seven constructs used in this study. The constructs and the scale items for each construct were derived from previous studies conducted in the field of e-commerce and more specifically trust in the online environment.

Reliability Test

A reliability test is quite imperative for the researcher to assess the relevance of the item scales used in the study. If the item scales or questions developed in the questionnaire are not relevant, this implies that the researcher will not have the desired answers to the questions. According to Malhotra et al. [56] a reliability test is used to determine the stability and consistency with which the research instrument measures the construct. Meanwhile, the scale items used in this research were measured and assessed using Cronbach's Alpha reliability, which calculates the average coefficient that is generated for all possible combinations of split halves. Malhotra et al. [56] suggested that the coefficient varies from 0 to 1 and a value of 0.6 or less generally implies unsatisfactory internal consistency reliability. Meanwhile, all the constructs identified in this study had a Cronbach's alpha value above 0.7, thereby meeting the reliability and internal consistency requirements (Table 2).

Table 2: Cronbach's Alpha values obtained from this study.

Construct Name	Number of Items	Cronbach's Alpha Value
Perceived Security	3	0.941
Perceived Privacy	5	0.87
Perceived Third Party Assurance	3	0.943
Perceived Trust	6	0.94
Perceived Reputation	3	0.941
Perceived Website Quality	3	0.882
Perceived Familiarity	3	0.785

The table below shows a summary of the constructs and the scale items used in this empirical study (Table 3).

Table 3: Measurement scales used in this study.

Constructs	Scale Items
Perceived Security	1. I feel secure whenever I buy from an online vendor.
	2. I feel secure when I give my credit card details to an online vendor.
	3. I feel secure when I transfer funds or view my account balance

	online
Perceived Privacy	1. The personal information that I provide to this online vendor is secure. 2. The monetary information I provide to this online vendor is well protected. 3. This online vendor will not use unsuitable methods to collect my personal data. 4. This online vendor does not ask for irrelevant personal information. 5. This online vendor does not use my personal information for other purposes.
Perceived Third Party Assurance	1. I feel safe conducting business with this online vendor because a third party will protect me. 2. I feel safe in buying from this online vendor because of its statements of guarantees. 3. I feel safe in buying from this online vendor as it has a strong credit rating from third party companies.
Perceived Trust	1. The online vendor I buy from can be trusted at times. 2. This online vendor is perfectly honest and truthful. 3. This online vendor can be trusted completely. 4. This online vendor can be counted on to do what is right. 5. This online vendor is always faithful. 6. This online vendor has high integrity.
Perceived Reputation	1. This online vendor is well known and reliable. 2. This online vendor has good reputation in the market. 3. This online vendor is known to be concerned about customers.
Perceived Website quality	1. The online vendor I purchase from provides accurate and up to date information about the product I want to buy. 2. The online vendor I purchase from provides sufficient information for me to make a transaction. 3. The online vendor I buy from has an interesting and convenient website.
Perceived	1. I am familiar with this online vendor through reading magazines/newspapers or ads. 2. I am familiar with this online vendor through visiting the site and searching for things that I want to buy such as tickets/books/clothes/electronics.

Familiarity	3. I am familiar with this online vendor through purchasing things from his/her site.

METHOD

Participants and Sampling

This empirical study investigates the determinants of customer trust in a business-to-customer in the context of e-commerce. The study focused on the users of the internet with more emphasis on the Russian city of Ekaterinburg. Furthermore, this research targets mainly University, College students as well as those that graduated already from the University as the population sample identified for this study. We selected mainly University students as main subjects of this study for the following reasons:
1. Majority of Internet users are generally younger and are more highly educated that conventional consumers, which makes University and College student samples closer to the online consumer population [25].
2. The majority of adult Internet users have a university education and this population represents the fastest growing group of internet users [94].
3. University students are a very good target group for research study in the field of e-commerce, since they have free access to the Internet and have the opportunity to use this medium for communication and commercial transactions.

A convenience sampling was used as a selection method. According to Christensen, convenience sampling means that "you choose only those respondents that are able to participate in the survey, after being asked, thereby the selection process continues until the required sample size is reached [95]. To this effect, only respondents who agreed to participate in the survey were actually selected for the purpose of this survey.

Data Collection Techniques

All the data collected for this study was obtained through a survey administered to measure specific variables that were identified for this study. The constructs under investigation include: Security, privacy, familiarity, Information, customer service, website and guaranty. The constructs were measured using multiple items designed by the researcher for the purpose of this study. The constructs were selected after a review of the previous literature. The items were measured using a seven point Likert scale ranging from (1) strongly disagree to (7) strongly agree. Meanwhile, the researcher uses a combination of two sources of data collection for this research which includes primary and secondary sources. Joseph et al. posited that a multi-method form of data collection ensures the extrapolation of significant population size and enhances generalization of results to a wide range of respondents. The primary source of data was obtained directly from Russian online consumers. The secondary source of data was obtained after a background review of the relevant literature on e-commerce, which enables the researcher to get a thorough understanding of the area as well as the topic.

However, for the purpose of this research, a questionnaire was administered online using Google forms which were later distributed to the respondents via the same source. The questionnaires were developed and administered to some selected respondents using convenience sampling techniques. In this sampling method, the researcher targeted only respondents that are likely to respond to the questionnaire. Prior to sending the questionnaire, an invitation to partake in it was sent to the proposed respondents via email as well as other social media outlets such as Facebook and Vkontakte (A Russian social media platform). Meanwhile, follow up emails were sent as reminders to respondents who did not respond earlier to the invitation as well as the subsequent submission of the questionnaire. Using Google forms serve as a significant resource for this survey as it is a very convenient and cost effective method of generating data from respondents. In some instances, hyperlinks were sent to some respondent's emails which allow them to simply click on the link that automatically redirects them to the form. Meanwhile it is argued by Sekaran and Bourgie [96] that the use of personally administered online questionnaire ensures the following advantages compared to other means:
1. It provides high representation of sampling.
2. It provides convenience for data gathering and analysis.
3. A large number of respondents can be administered at the lowest cost and time;
4. Little or no observer subjectivity can be ensured.
5. It promotes respondents anonymity in responses.

With all its merits, online questionnaire has its own demerits which include wrong responses, unsuitable for controversial issues or for privacy concerns [95].

Questionnaire Design

Various questions were developed and included in the questionnaire (Appendix A). With reference to Saunders et al. [95], there are different types of questions to use, depending on which data you want to collect. The questionnaire is divided into two parts such that the first part does a background data collection. The first two questions collect basic demographic information such as (1) the age and (2) gender of the respondents, which are attribute variables. These questions are category questions in that the respondent's answer will fall into only one category. The next question (3) collects data concerning the frequency of online purchases by the respondents. It is a behavioral multiple choice question where the respondent is at liberty to select any from a list of options. By extension, this question will enable us to answer our second research question. Question (4) collects data on the academic qualification of the respondents which also provides options for the respondents to choose from. Question (5) which is the last one on the first part collect data on the sentiments of the respondents towards online shopping.

However, the second part is the main focus of the questionnaire where we expect to collect data that will enable us to answer our research question. In order to collect data on opinions, we used rating type of questions as we wanted to measure consumer's specific determinant factors, which induce their tendency to trust online vendors.

Meanwhile, we found out that a Likert type rating scale with values ranging from (1-7) to be very useful and applicable to this empirical study. For each question, the respondent is given the same set of alternatives to choose from based on what suits his/her situation. The scales range from 1-7 (i.e. 1-Strongly disagree to 7-Strongly agree). According to Saunders et al. [95], this method encourages respondents to give their opinions and motivations that are relevant to the study. The questions in this questionnaire are closed ended questions which makes the potential answers predetermined by the researcher. By extension, closed ended questions are easier to answer than open ended which may involve some form of thinking before the respondent gives an answer. The questions were pre-coded to make it easier to enter data into SPSS Statistical Package for processing and subsequent analysis (Table 4).

Table 4: Subsequent analysis.

Strongly disagree	Slightly disagree	Disagree	Neutral	Slightly agree	Agree	Strongly agree
1	2	3	4	5	6	7

DATA ANALYSIS

Studies by Cooper and Schindler [97] stated that data analysis is defined as the process of editing and reducing accumulated data to a level or size that is manageable, easy to look for patterns, developing summaries as well as applying statistical techniques. However, in this section, we intend to present, analyze and interpret the results of the research. As indicated in the preceding chapter, questionnaires were developed and sent to the target respondents. The sample population comprised of residents of Ekaterinburg, Russia. Meanwhile, both University graduates and those that are yet to graduate were selected for the study. This sample was specifically selected as they have the tendency to be internet users, online shoppers and by extension more tech savvy than the older generation.

In order to effectively and conveniently analyze the data, the IBM Statistical Package for Social Science (SPSS) software version 24 was used. To analyze the relationship between perceived security, perceived privacy, and perceived reputation, perceived third party assurance, perceived website quality and perceived familiarity, several statistical techniques were used. These techniques include Cronbach's Alpha reliability analysis, descriptive analysis, normality test, multicollinearity analysis, Pearson Correlation, linear regression and one way ANOVA analysis.

In testing the hypotheses, a Pearson Correlation statistics was adopted couple with a bivariate correlation to measure the relationship between the constructs. Out of a total of six main hypotheses identified in this study, five were confirmed to have positive correlation with online consumer trust. The correlation between familiarity and trust was not established, hence the null position was maintained and the alternate hypothesis rejected.

In assessing the internal consistency and reliability of the scale items used in this study, a Cronbach's Alpha reliability test was done. The results of the test indicated an overall score of 0.921 for all the constructs which shows that all of them were internally reliable and consistent.

Descriptive Analysis

Respondent demographic profile: The survey questionnaires were distributed to our target respondents in Ekaterinburg of which we believe would successfully participate in the survey. Furthermore, the younger generation of internet users and tech savvy the bulk of which include current university students, graduates from university as well as high school leavers. The respondents' demographic profile consists of four categories which include age categories of respondents, gender, educational qualification and impression about online shopping. The details of the information are illustrated in Table 4. Based on the survey data, the total sample size consists of 144 respondents of which 63 represent males (43.8% of the total respondents) whereas 81 represent females (56.3% of the total respondents).

The respondents' ages were categorized into groups such as 18-24 which recorded a majority frequency value of 135 (93.8% of the total respondents). This is followed by the age category 25-34 which recorded a frequency of 7 (4.9% of the total respondents) and finally the age group of 35-40 which indicated a frequency of 2 (1.4% of the total respondents). Among the respondents, high school leavers comprised of 32 (22.2%). Those with incomplete higher education (current university students) make up the majority scoring a frequency of 68 (47.2%). Meanwhile Bachelor degree holders comprised of 37 (25.7%) whereas those with Master degree comprised of 7 (4.9%). The survey results also showed the respondents' frequency of online purchases. Out of the total surveyed, 6 of the respondents never purchased online, making up 4.2% of the sample population. Those who purchase 1-3 times per year from online vendors represent the majority with a frequency of 51 (35.4% of the total respondents). This is followed by those who purchase 10+ per year from online represent 39 (27.1%). Respondents' within the category of 4-7 purchases per year comprised of 33 (making up 22.9%) and finally the category of 8-10 purchases per year comprised of 15 (making up 10.4% of the total respondents) (Table 5).

Table 5: Sample population.

Profile	Category	Frequency	Percentage (%)
Gender	Male	63	43.8
	Female	81	56.3
	18 – 24	135	93.8
Age	25 – 34	7	4.9
	35 – 40	2	1.4
	Secondary (High School)	32	22.2

Educational Qualification	Incomplete Higher (CUS)	68	47.2
	Bachelor	37	25.7
	Master	7	4.9
Online Purchases	Never purchased	6	4.2
	1 – 3 times per year	51	35.4
	4 – 7 times per year	33	22.9
	8 – 10 times per year	15	10.4
	Above 10 per year	39	27.1

As the internet has revolutionized the buying and selling of goods and services. Nowadays, more and more goods and services are being offered in the virtual environment, which makes it possible for potential buyers to order goods and services within the confines of their homes. Based on the survey results in Table 4, it shows that more Russian consumers are buying from online vendors.

Descriptive Statistics

In doing the descriptive statistics, measures of central tendency are used which summarizes the data set. For the purpose of this study, means and histograms are used to illustrate the data as they form the basis of most quantitative data analysis. A total number of 144 people successfully completed the survey and by extension answered the questions accordingly.

Based on the SPSS output generated after conducting the analysis, it showed that respondent's perception varied from one construct to the other. Perceived third party assurance scored the highest mean among the constructs, comprising a mean value of (4.82). This is a clear indication that consumers are more willing to trust and buy from online vendors when their transactions are guaranteed by third party companies. This is closely followed by the construct of perceived security which scored a mean value of (4.42). Here the consumers are more inclined to trust online vendors if their transactions are secured and protected. The next dominant construct based on the analysis is perceived website quality, which recorded a mean score of (4.35). This shows that quite a number of the respondents believed that website quality design influences their trust in the vendor. Apart from the three constructs mentioned earlier, the rest of the remaining constructs recorded mean values within the range of 3.20 to 3.98. Perceived reputation scored a mean value of (3.98) which makes it the fourth in rank in terms of consumer online trust. Perceived privacy followed suit with a mean value of (3.92), making it fifth in rank. Meanwhile, perceived trust itself recorded a mean value of (3.85), making it sixth in rank. Finally, perceived familiarity with the vendor scored the lowest mean value of (3.20). This makes it the lowest construct in terms of respondent's perception of online trust. The table below gives a detail representation of the descriptive statistics (Table 6).

Table 6: Descriptive statistics of the constructs.

Descriptive Statistics						
	N	**Minimum**	**Maximum**	**Mean**	**Std. Deviation**	**Variance**
Perceived Security	144	1	7	4.42	1.309	1.713
Perceived Trust	144	1	7	3.85	1.374	1.888
Perceived Reputation	144	1	7	3.98	1.366	1.867
Perceived Privacy	144	1	7	3.92	1.598	2.552
Perceived Third Party Assurance						
	144	1	7	4.82	1.48	2.191
Perceived Familiarity	144	1	7	3.2	1.716	2.945
Perceived Website Quality						
	144	1	7	4.35	1.46	2.13
Valid N (list wise)	144					

Research Findings

Burns and Bush [98] stated that inferential analysis is used to generate conclusions regarding a population's characteristics based on information contained in the data matrix provided by the sample. For the purpose of this research, the following inferential statistics would be observed such as Pearson Correlation Analysis and Regression Analysis. Based on the studies conducted by Hair et al. [99], a Pearson's correlation coefficient is used to assess the degree of linear association between two variables.

Based on the SPSS output, result shows that the respondents had varying perceptions regarding trust in the online virtual environment. As seven constructs were identified to measure the determinants of consumer trust in business-to-customer e-commerce, the outcome of the results after various statistical analysis were in line with previous empirical studies. The following statistical analyses highlighted below were conducted to obtain the results that enable us to answer the research questions.

Pearson's Correlation Analysis

According to Hair, Bush and Ortinau [99], Pearson correlation analysis is used to

assess the magnitude of linear association between two variables. The correlation coefficient of all the constructs tested did not exceed 0.74 which shows that the constructs are disperse and do not overlap with each other.

In order to analyze the relationship between variables, a Pearson Correlation statistics was conducted. The result from the SPSS output showed that there is no statistical significance or correlation between the age of respondents and frequency of online shopping. A correlation coefficient of 0.012 was recorded which indicates a positive correlation. However, the two tailed significance test showed a p- value of 0.885 which is greater than the p-value of 0.05. This clearly demonstrates that there is no statistical significance or correlation between the two variables.

In addition, the results also showed a negative correlation between Educational qualification of respondents and Frequency of online shopping. A correlation coefficient of -0.02 shows a negative relationship between the two variables. Meanwhile, a p-value of (0.815) which is greater than the p-value of (0.05), indicates that there is no significant correlation between educational qualification and frequency of online shopping. This means that the educational qualification does not influence consumers' intention to make more purchases online. The relationships are illustrated in the tables below (Tables 7 and 8).

Table 7: Correlation between age of respondents and online purchase frequency.

		Age of Respondents	**Frequency of Online shopping**
Age	Pearson Correlation	1	0.012
of Respondents	Sig. (2-tailed)		0.885
	N	144	144
Frequency of Online shopping	Pearson Correlation	0.012	1
	Sig. (2-tailed)	0.885	
	N	144	144

Table 8: Correlation between educational qualification and online purchase frequency.

		Educational qualification of Respondents	**Frequency of Online shopping**
Educational qualification of Respondents	Pearson Correlation	1	-0.02
	Sig. (2-tailed)		0.815
	N	144	144

	Pearson Correlation	-0.02	1
Frequency of Online shopping	Sig. (2-tailed)	0.815	
	N	144	144

Test of Significance

First hypothesis

Ho1: The perceived security of online transactions will not influence consumer online trust.
Ha1: The perceived security of online transactions will influence consumer online trust.
In testing our hypotheses, a bivariate correlation technique was used to ascertain the relationship between the independent variables and the dependent variable. The test results for the first hypothesis shows that the correlation between perceived security and consumer online trust was significant at the 0.01 level (2-tailed, $p<0.05$). This indicates that perceived security of online transactions significantly influence Russian consumer online trust, hence the alternative hypothesis Ha1 is supported whereas the null hypothesis is rejected.

Second hypothesis

Ho2: The perceived privacy of online transactions will not influence consumer online trust.
Ha2: The perceived privacy of online transactions will influence consumer online trust.
A bivariate correlation was used to test the degree of association between perceived privacy and consumer online trust. The test results indicated a significant correlation at the level of 0.01(2-tailed, $p<0.05$). This demonstrates that perceived privacy of online transactions significantly influence Russian consumer online trust. Furthermore, this gives us reason to reject the null hypothesis as there is substantial statistical evidence to support the alternative hypothesis Ha2 above.

Third hypothesis

Ho3: Third party assurance/guarantees of online purchases and transactions will not influence consumer online trust.
Ha3: Third party assurance/guarantees of online purchases and transactions will influence consumer online trust.

In testing the third hypothesis, again a bivariate correlation technique was used to test the relationship between perceived third party assurance and consumer online trust. The results generated after the analysis shows that the correlation was significant at a level of 0.01(2-tailed, $p<0.05$). This implies that the perceived third party assurance of online transactions significantly influence Russian consumer online trust. This result avail us the opportunity to dismiss or discard the null hypothesis, thereby confirming the alternative hypothesis Ha3 as it was supported.

Fourth hypothesis

Ho4: The perceived reputation of an online vendor will not influence consumer online trust in that vendor.
Ha4: The perceived reputation of an online vendor will influence consumer online trust in that vendor.
Testing the fourth hypothesis, a Pearson's bivariate correlation was conducted to assess the degree of relation between perceived reputation and consumer online trust. The results indicated that there is significant correlation at a level of 0.01 (2-tailed, $p<0.05$). This means that the perceived reputation of an online vendor significantly influence Russian consumer online trust. Meanwhile, based on this result, we reject the null hypothesis and confirm the alternative hypothesis Ha4 as it is fully supported.

Fifth hypothesis

Ho5: The perceived familiarity with an online vendor will not influence customer trust in that vendor.
Ha5: The perceived familiarity with an online vendor will influence customer trust in that vendor.

After conducting the test to ascertain the degree of relationship between perceived familiarity and consumer online trust, the result showed that the correlation is not significant. A two tailed test score indicated a ($p>0.05$) which implies that there is no statistical significant relationship between perceived familiarity with an online vendor and Russian consumer online trust. Meanwhile, since there is no evidence to suggest a meaningful relationship, we therefore reject the alternative hypothesis and maintain the null hypothesis Ho5.

Sixth hypothesis

Ho6: The perceived website quality of an online vendor's site will not influence consumer online trust.
Ha6: The perceived website quality of an online vendor's site will influence consumer online trust.

After assessing the degree of relationship between perceived website quality and consumer online trust, the results of the correlation analysis showed a significant relationship at a level of 0.01(2-tailed $p<0.05$).This implies that the perceived website quality of an online vendor's site significantly influences Russian consumer online trust. As there is ample evidence based on the result, we therefore confirm the alternative hypothesis Ha6 and subsequently reject the null hypothesis (Tables 9 and 10).

Table 9: Correlation summary of the determinants of consumer online trust.

| Constructs	Statistics	Online Trust
Perceived Security	Correlation	0.746
	Sig. (2-tailed)	0
Perceived Privacy	Correlation	0.657
	Sig. (2-tailed)	0
Perceived Third Party Assurance	Correlation	0.475
	Sig. (2-tailed)	0
Perceived Reputation	Correlation	0.695
	Sig. (2-tailed)	0
Perceived Familiarity	Correlation	0.039
	Sig. (2-tailed)	0.641
Perceived Website Quality	Correlation	0.343
	Sig. (2-tailed)	0

Table 10: Summary of the result of hypothesis test.

| Hypotheses	Values Scored	Determination
H_1: The perceived security of online transactions will influence consumer online trust.	r=0.746	
	p=0.000	Supported
	(p<0.05)	
H_2: The perceived privacy of online transactions will influence consumer online trust.	r=0.657	
	p=0.000	Supported
	(p<0.05)	
H_3: Third party assurance/guarantees of online purchases and transactions will influence consumer online trust.	r=0.475	
	p=0.000	Supported
	(p<0.05)	
H_4: The perceived reputation of an online vendor will influence consumer online trust in that vendor.	r=0.695	
	p=0.000	Supported
	(p<0.05)	
H_5: The perceived familiarity with an online vendor will influence customer trust in that vendor.	r=0.039	
	p=0.641	Rejected
	(p>0.05)	
H_6: The perceived website quality of an online vendor's site will influence consumer online trust.	r=0.343	
	p=0.000	Supported
	(p<0.05)	

Normality Test

For the purpose of this research, a histogram with a normal curve, P-P probability plot

as well as a scatter plot will be used to illustrate the normal distribution of the sample. Furthermore, it will be used to evaluate the possible relationships between variables and by extension indicate possible outliers. The assumptions such as independence, linearity, equal variance and normality were identified (Figures 5 and 6).
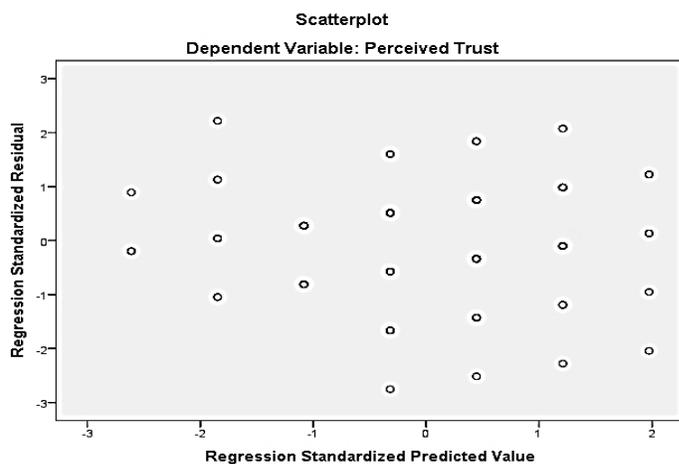
Figure 5: Histogram of consumer online trust.
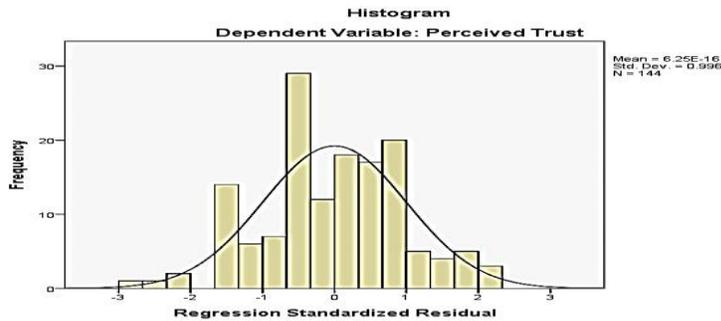
Figure 6: Normal P-P plot of consumer online trust.
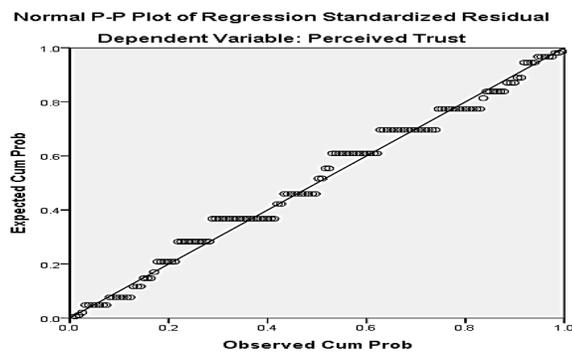
Figure 7: Scatter plot diagram of consumer online trust.

As illustrated in Figure 5, the histogram of the distribution of the residual resembles a bell shape. This shows that the data is reasonably and normally distributed. Figure 6 indicates that the normal probability plot of consumers' online trust lies closely to the imaginary line moving upwards from the lower left corner to the upper right hand corner. This demonstrates that normality and equal variance assumptions were established. By extension the scatter plot in Figure 7 also established the linearity and independence assumptions as the residuals appeared to be randomly distributed thereby showing no patterns when plotted with the predicted value.

Multicollinearity Analysis

According to Hair et al., high levels of collinearity increase the probability that a good predictor of the outcome will be found insignificant and rejected from the model. To this effect, a collinearity analysis was conducted to evaluate the variables by observing the Variance Inflation Factor (VIF) as well as the tolerance level. The maximum acceptable VIF value suggested by Hair et al. was 5.0 and a tolerance level less than 0.10 becomes a concern (Table 11).

Table 11: Multicollinearity analysis.

Construct	Tolerance Value	VIF
Perceived Website Quality	0.74	1.351
Perceived Security	0.644	1.552
Perceived Reputation	0.534	1.874
Perceived Privacy	0.486	2.056
Perceived Third Party Assurance	0.584	1.713
Perceived Familiarity	0.924	1.082

Based on the information in the table above, the Variance Inflation Factor (VIF) for all the constructs were less than 5.0, while the Tolerance level ranges from the lowest 0.486 to the highest 0.924. This result demonstrates that multicollinearity was not a problem for this research as vividly shown in the table above.

Multiple Regression Analysis

Heppner and Heppner stated that the objective of multiple regression analysis is to predict the single dependent variable by a set of independent variables. In addition to a Pearson's correlation analysis, a multiple regression analysis was conducted to further test the six hypotheses identified for this study (Tables 12 and 13).

Table 12: Regression descriptive statistics.

Descriptive Statistics			
	Mean	**Std. Deviation**	**N**
Perceived Trust	3.85	1.374	144
Perceived Website Quality	4.35	1.46	144
Perceived Security	4.42	1.309	144
Perceived Reputation	3.98	1.366	144
Perceived Privacy	3.92	1.598	144
Perceived Third Party Assurance	4.82	1.48	144
Perceived Familiarity	3.2	1.716	144

Table 13: Stepwise multiple regression analysis.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.397	0.27		1.47	0.144
	Perceived Security	0.783	0.059	0.746	13.334	0
2	(Constant)	-0.073	0.241		-2.212	0.832
	Perceived Security	0.587	0.058	0.559	10.201	0
	Perceived Privacy	0.335	0.047	0.39	7.106	0
3	(Constant)	-0.326	0.232		-1.405	0.162
	Perceived Security	0.484	0.058	0.461	8.366	0
	Perceived Privacy	0.232	0.049	0.27	4.729	0
	Perceived Reputation	0.285	0.06	0.283	4.727	0

Dependent variable: Perceived trust**,** N=144.
Based on the SPSS output, the following multiple regression equation was formed:
Online trust=-0.326 + 0.484(PS) + 0.232(PP) + 0.285(PR)
Key:
PS – Perceived Security
PP – Perceived Privacy
PR – Perceived Reputation

The study shows that by reducing online consumer trust by 1 unit, this will subsequently increase perceived security by 0.484 with the other independent variables being constant. An increase in online consumer trust by 1 unit will increase perceived privacy by 0.232, with the other independent variables remaining constant. In addition, increasing online consumer trust by 1 more unit will increase perceived reputation by 0.285 while the rest of the independent variables remain unchanged. Furthermore, the result also indicates that perceived security has a higher influence on consumer online trust with a standardized coefficient β value of 0.461.This is followed by perceived reputation with standardized coefficient β value of 0.283 and finally perceived privacy with a standardized coefficient β value of 0.270.

Table 14: Stepwise regression strength of the relationship.

Model Summaryd (Stepwise method)				
Model	R	R Square	Adjusted R Square	Std. Error of Estimate
1	0.746a	0.556	0.553	0.919
2	0.820b	0.673	0.668	0.791
3	0.847c	0.718	0.712	0.737

Based on the result in Table 14 above, the coefficient of determination (R2) is 0.718 which implies that (71%) of the total variable in online consumer trust in Ekaterinburg, Russia is best explained by a combination of several independent variables such as perceived security, perceived reputation and perceived privacy.

Chapter Summary

To summarize, five out of six hypotheses that were identified specifically for this research, were supported and confirmed. Running a regression analysis shows that perceived security of online transactions have a major influence on Russian's (Ekaterinburg) consumer online trust in B2C e-commerce. This is followed by perceived reputation of the online vendor and finally perceived privacy of online transactions. Meanwhile, perceived familiarity has little or insignificant influence on Russian consumer online trust. Descriptive statistics were conducted to analyze respondent's demographic information. A Pearson's Correlation Analysis was also conducted to test the relationships between the various constructs, as well as a step wise multiple regression analysis to assess the strength of the predicting variables.

SUMMARY AND CONCLUSION

The purpose of this research was to find out the dominant determinants of Russian consumer online trust. Six hypotheses statements were formulated and a Pearson's Bivariate Correlation Analysis was conducted to test them. The results of the Correlation analysis shows that perceived security has a significant positive influence on online trust scoring an α=0.01; p<0.05, which gives us substantial statistical evidence to confirm the

hypothesis. Hence with this result, it is quite evident that the construct perceived security has significant influence on Russian (Ekaterinburg) consumer online trust. This result is quite consistent with previous literature such as [36,77,78] where they argued that perceived security is positively associated with trust in an e-commerce context. Similar findings in Chen and Barnes [92], Lau et al. [93] argued that the perceived security of an online consumer may affect their willingness to engage in online purchase activities. This implies that when online vendors protect consumer information through robust security systems, firewalls as well as non-disclosure of personal information to third parties, then consumers will be more comfortable to purchase online. This will reduce the risk as well as the uncertainties associated with online transactions. In addition, a regression analysis showed that it is the most influential determinant factor that affects consumer online trust as far as Ekaterinburg's online consumers are concerned. Perceived security has a standardized regression coefficient β value of 0.461 which was the highest among the three predicting variables. This further indicates that Ekaterinburg's online consumers value perceived security of online transactions over the rest of the independent variables.

An alpha (α) value of 0.01; p<0.05, was obtained for the variable perceived reputation. This result showed that perceived reputation has a significant positive influence on consumer online trust, enabling us to confirm the hypothesis. It further implies that it has significant impact on Ekaterinburg's consumer online population. This finding is consistent with previous findings in the works of McKnight et al. [83] where they argued that online vendors that possess a good reputation are perceived as trustworthy while those who possess a bad reputation are perceived as untrustworthy. The reputation of an online vendor is likely to influence a buyer's trust towards a vendor [19,59,84]. A well-known online vendor with a good reputation will definitely have a competitive edge over his rivals as consumers will be more inclined to purchase from that vendor. Meanwhile, a multiple regression analysis of the result also showed that perceived reputation is the second most influential factor that impacts on consumer online trust, with a standardized coefficient β value of 0.283. Furthermore, it also meant that Ekaterinburg's online consumers attaches great significance to the reputation of online vendors. However, this tends to increase the trust, confidence and commitment levels of existing customers as well as potential ones.

An alpha (α) value of 0.01; p<0.05 was obtained after conducting a Correlation test for the variable of perceived privacy. The results of the test indicate that perceived privacy has a significant positive influence on consumer online trust. Hence the hypothesis was confirmed. This implies that Russian consumers are concerned with privacy pertaining to their online transactions. This finding is consistent with previous findings in the works of Petrovic et al. [26] and Dayal et al. where they stressed the significance of perceived privacy in inspiring consumer online trust. Similar findings such as [78] are of the views that perceive privacy is positively related to consumer online trust. While we continue to witness the prolific increase and interest in online shopping, the privacy of online transactions continue to be a concern for online shoppers. However, an online vendor that displays privacy policies on his site to protect customer information, as well as non-disclosure of personal details of customers to third parties, stands the chance to

increase consumer trust and confidence in him. Meanwhile, results of further testing through multiple regression analysis also showed that perceived privacy is the third most influential determinant of consumer online trust with a standardize regression coefficient β value of 0.270. This implies that Ekaterinburg's online consumers' consider perceive privacy as a factor that affects their trust in online transactions.

Moreover, a Pearson's correlation significant alpha (α) value of 0.01; p<0.05 was obtained for the variable perceived third party assurance and α=0.01; p<0.05 for perceived website quality. These results indicate that both values were less than the acceptable alpha value of 0.05, thereby giving us ample reason to confirm both hypotheses. Meanwhile, these findings are in concordance with the findings of the Cheskin/sapient study [11], Gefen et al. [2] as well as Kaplan and Nieschwietz for perceived third party assurance. They argued that displaying a web seal on the vendor's site has a positive impact on online trust. On the contrary, Corbitt et al. [87], Yousafzai et al. [78] both posited that perceived website quality positively correlates with online trust. However, the variable perceived familiarity has an alpha (α) value of 0.641; p>0.05, thereby making us to reject the hypothesis since the alpha value is greater than 0.05. This means that the variable perceived familiarity has no statistical significance with regard to consumer online trust. This finding runs parallel to mainstream extant literature on consumer online trust. Hence it is imperative for further research to be conducted on the moderating effect that perceived familiarity has with consumer online trust.

Implications of the Study

Whenever research is conducted and the results published, it comes along with implications for both managers and academics as the results impact on their perception and by extension increase their knowledge base. Meanwhile, both the theoretical and managerial implications of this research would be discussed.

Theoretical Implications

The purpose of this empirical study was to investigate the determinants of consumer online trust with a special focus on Ekaterinburg's online consumers. Trust is a crucial factor in e-commerce as revealed from previous empirical studies such as [2,19].

Going further, the results of this research will go the extra mile to equip researchers within the Russian Federation with information that is relevant to the understanding of consumer online trust. Various determinants of consumer online trust were actually identified in the extent literature in the field of e-commerce. Various theoretical models were developed and tested with the purpose of ascertaining and confirming relevant factors that engender consumer online trust. Results from previous empirical studies found perceived security, perceived privacy, perceived third party assurance, perceived reputation, perceived website design. Meanwhile, this research provides empirical evidence to show that: (1) perceived security has a dominant influence on consumer online trust; (2) perceived reputation has a high influence on consumer online trust; (3)

perceived privacy also has a high influence on consumer online trust. However, there are conflicting findings in the literature concerning perceived familiarity. Some researchers like Gefen et al. [2] were of the view that the main source of perceived familiarity could be obtained through the consumer's interaction with the vendor's site. The results of this research shows that perceived familiarity does not influence or engender online trust as far as Ekaterinburg's online consumers are concerned.

Managerial Implications

The prolific use of technology and technological products has indeed led to a shifting paradigm in the way goods and services are bought and sold all over the world. The surge in internet penetration and usage across the globe is something phenomenal as it totally transformed the e-commerce landscape. As trust is a multidimensional concept and it is difficult to define or measure [1], this makes it imperative for online vendors to have an understanding of the behavior of consumers in relation to trust in the virtual environment. Since it is very difficult to establish and maintain trust in the online environment, online retailers need to engage in activities and programmes that will trigger or engender consumer trust. According to Petrovic et al. [26] there are three main elements of the trust pyramid that serve as predominant elements to build and maintain trust. Meanwhile the findings of this empirical study indicate that perceived security, perceived reputation and perceived privacy are critical factors that significantly influence online trust in B2C e-commerce in Ekaterinburg, Russia. Other factors such as perceived third party assurance, perceived website quality also have a close association with online trust. In light of this online retailers need to initiate and develop strategies that will promote consumer trust and confidence. It is a fact that online shopping is different from traditional brick and mortar shopping where the former involves physical presence which is absent in the latter.

This research has shown that Russia's Ekaterinburg's online consumers accords credence to the security of their online transactions. In light of this online retailers need to develop robust security solutions and strong firewalls to protect consumers' personal information from looming threats of cyber fraud and scam. This further implies that retailers should create websites that model simplicity yet incorporated with strong security mechanisms and slick designs that would engender consumer trust and by extension promote confidence in online transactions. Naturally consumers tend to trust websites with security certificates as well as visible malware protection.

Based on the results, perceived reputation proved to be another dominant factor that significantly affects consumer online trust. The results demonstrate that Ekaterinburg's online consumers value the reputation of online retailers as a critical factor that engenders their trust in online transactions. Reputation is conceptualized as the consumer's view of a particular store's reputation, where reputation is defined as the extent at which consumers believe a store is honest and concerned about its consumers. Hence it becomes paramount for online vendors to exercise honesty and transparency whenever they handle customer transactions. They should work towards an open door policy where all online transactions from the side of the vendor are

disclosed. This will serve as an avenue to dispel any form of ambiguity or suspicion as secret activities undertaken by the vendor could raise some eyebrows. If a situation like that happens, coming from the experience of one or more customers, it can degenerate into lack of distrust and confidence in the vendor. Hence vendors need to be true to their words as well as work hard to promote consumer trusting beliefs.

On website quality, online retailers need to develop user friendly interfaces that will enhance navigation and promote overall user experience. Designing an easy to use website is the responsibility of the vendor. Online vendors should try to fathom the various sequence of activities, functionalities and information that match consumer mental models of typical customary websites. Online retailers can improve design quality through a review of established websites. This could be done through consumer focus groups that will review websites and give feedbacks on their overall experience.

Furthermore, online vendors need to focus their resources and energy on strategies that will enhance privacy in online transactions. Moreover online consumers need to protect consumers' personal details from critical online issues such as cybercrime and identity theft. Consumers are always concerned about the information they supply to online vendors. Hence online retailers should make sure that customer information is kept with utmost secrecy as well as under conditions of anonymity. In addition to that they must not disclose customer information to third parties without prior consent of the customers.

Perceived familiarity based on the results of this research does not influence consumer online trust. There is no significant relationship between perceived familiarity and consumer online trust. As there are various overlapping results concerning perceived familiarity from previous literature. Some research findings have indicated a positive association with online trust whereas some do not report any association with online trust. However, this finding could open up avenues for further research on perceived familiarity. In order to increase familiarity, online vendors need to advertise their products through magazines, articles, as well as through third party websites. Consumer trust in the vendor will be enhanced if online retailers take note of this.

Another way to increase online trust is to incorporate institutional and structural mechanisms to the website. Perceived third party assurance has a positive relationship with online trust. Web seals being displayed in a vendor's site have the potentials to engender consumer online trust. If vendors' give financial assurance guarantees through third party companies, consumers will feel more comfortable and secure enough to engage in transactions. Statements of guarantees as well as contact telephone numbers, emails, must be visible enough on the vendor's website to allay the fears of consumers. The consumers should be convinced that the vendor actually stands to gain nothing if the consumers regard him as untrustworthy. This research has shown that the respondents will be ready to trust a vendor that will keep its promises and obligations throughout the transaction phases. Furthermore, online retailers need to strive to provide adequate information on their websites about products and services they offer. Moreover, good customer service, robust and reliable security system, keep consumer private information safe, would go the extra mile to promote and engender

consumer online trust in the B2C e-commerce environment.

Research Limitations

It is quite obvious that this research has several limitations such as:
1. The sample size is quite small as compared to the sample sizes used in previous studies. A convenient sample was used instead of a random one. Therefore the results of this research may have representation issues as the sample size would not be sufficient enough to represent the population of Ekaterinburg. Furthermore it is limited to only the internet users of Ekaterinburg.
2. The second limitation is that male and female respondents are not fairly represented. A total of 144 respondents of which 83(56.3%) are females. This is far more than their male counterparts. Hence it is gender biased as a fewer proportion of male respondents were involved in this survey.
3. Another limitation is that this study only investigated the effect of six variables (perceived security, perceived privacy, perceived third party assurance, perceived reputation, perceived familiarity and perceived website quality) on consumer online trust. More variables could have been examined to broaden the scope of knowledge in the area of online trust.
4. There are limited empirical studies conducted in the area of consumer online trust as far as Russian consumers are concerned.

RECOMMENDATIONS FOR FUTURE RESEARCH

As highlighted above, this research had some limitations of which some recommendations will be identified for future research.

The first recommendation is for the potential researcher to increase the sample size if he/she is to generate accurate, reliable data and results for generalization purposes. For the purpose of future research, the sample population could be increased to a range of 450-500 respondents. In addition to that, the researcher should try to have a fair and balanced representation of male and female respondents. Moreover, there is a need to extend the research to other regions within the Russian Federation in order to get a comprehensive and an all-inclusive result for reporting purposes.

In conducting future research, other variables should be considered in assessing their level of influence and association with consumer online trust. Variables such as perceived security, perceived privacy, perceived third party assurance, perceived reputation, perceived website quality and perceived familiarity were investigated in this study. However, other trusting beliefs such as loyalty, reliability and openness were also suggested to be further investigated. In addition, customer care/service, information, perceived risk, propensity to trust, perceived ease of use, benevolence, as well as other determinants of consumer online trust, in order to fathom the dynamics of Russian consumer online trust regarding B2C e-commerce.

As mentioned in the literature [100], "the determinants of intended behavior changes

based on user experience". Hence the results of this research will not be used to generalize consumers who have no experience as far as online shopping is concerned. Going further, it will be imperative to adequately assess how determinants of trust and their relationship evolve over time bearing in mind the accumulation of overall consumer experience with time [101-109].

Possible future research could look into the possibility of investigating when and why consumers are ready to buy from online retailers. This would further provide a clear picture concerning the purchase behavior of consumers.

CONCLUSION

To conclude, it is imperative for online retailers to build websites that are easy to use and navigate as well as incorporating robust security systems in order to protect customers' personal information. In addition, vendors also need to interact frequently with consumers so as to establish strong foundations to engender trust. As various determinants of consumer trust were studied in the past, the results of this empirical study would augment the body of knowledge already existing in the area of B2C e-commerce trust.

The results of this research indicated that perceived security, perceived reputation and perceived privacy are the most dominant factors that affect consumer online trust with reference to Ekaterinburg's e-commerce consumers. The other factors such as perceived third party and perceived website quality have statistically significant relationship with online trust. Finally, results provided a lack of evidence to establish a significant association with the independent variable of trust. Hence the hypothesis was rejected suggesting that Ekaterinburg's e-commerce consumers do not consider familiarity with the online vendor to be a factor that engenders their trust in the online environment.

REFERENCES

1. Rousseau D (1998) Not so different after all: a cross-discipline view of trust. Academy of Management Review 23: 393-404.
2. Gefen DR, Tractinsky N (2003) The conceptualization of trust, risk and their relationship in electronic commerce: the need for clarifications. Hawaii international conference on system sciences.
3. Metzger MJ (2006) Effects of site, vendor and consumer characteristics on site trust and disclosure. Communication Research 33: 155-179.
4. Iglesias-Pradas S, Pascual-Miguel F, Hernández-García A, Chaparro-Peláez J (2013) Barriers and drivers for non-shoppers in B2C E-commerce: A latent class exploratory analysis. Computers in Human Behavior 29: 314-322.
5. Liu X, Wei KK (2003) An empirical study of product differences in consumers' E-commerce adoption behavior. Electronic Commerce Research and Application 2: 229-239.
6. Gorsch D (2001) Internet limitations, product types, and the future of electronic

retailing. In: Proceedings of the 1st Nordic Workshop on Electronic Commerce, Halmstad, Sweden.

7. Roy MC, Dewit O, Aubert BA (2001) The impact of interface usability on trust in web retailers. Internet Research: Electronic Networking Applications and Policy 11: 388-398.

8. Head MM, Yuan Y, Archer N (2001) Building trust in E-commerce: a theoretical framework. Proceedings of the Second World Congress on the Management of Electronic Commerce.

9. Mayer RC, Davis JH, Schoorman FD (1995) An integrative model of organizational trust. Academy of Management Review 20: 709-734.

10. Slevin J (2000) The internet and society. Polity Press, Cambridge.

11. Cheskin Research and Studio Archetype/Sapient (1999) E-commerce trust study.

12. Shankar V, Urban GL, Sultan F (2002) Online trust: a stakeholder perspective, concepts, implications and future directions. Journal of Strategic Information Systems 11: 325-344.

13. Lewicki RJ, Bunker BB (1995) Trust in relationships: A model of development and decline. Jossey-Bass, San Francisco.

14. Kaplan AM, Heinlein M (2010) Users of the world, unite. The challenges and opportunities of social media. Business Horizons 53: 59-68.

15. Vaithianathan S (2010) A review of e-commerce literature on india and research agenda for the future. Electronic Commerce Research 10: 83-97.

16. Bradach Jeffrey L, Eccles Robert G (1989) Price, authority and trust: from ideal types to plural forms 15: 97-118.

17. Buttner OB, Goritz AS (2008) Perceived trustworthiness of online shops. Journal of Consumer Behavior.

18. Forsythe SM, Shi B (2003) Consumer patronage and risk perceptions in internet shopping. Journal of Business Research 56: 867-875.

19. Jarvenpaa SI, Tractinsky N, Vitale M (2000) Consumer trust in an internet store. Information Technology and Management 1: 45-71.

20. Kaur K (2005) Consumer protection in E-commerce in Malaysia: An overview UNEAC Asia papers.

21. McKnight DH, Chervany NL (2002) What trust means in e-commerce customer relationships: an interdisciplinary conceptual typology. International Journal of Electronic Commerce 6: 35-39.

22. Grabner-Krauter S, Kaluscha EA (2003) Empirical research in on-line trust: A review and critical assessment. International Journal of Human-Computer Studies 58: 783-812.

23. Koufaris M, Hampton-Sosa W (2004) The development of initial trust in an online company by new customers. Information and Management 41: 377-397.

24. Kim KY, Prabhakar B (2004) Initial trust and adoption of B2C e-commerce: the case of Internet banking. Database for Advances in Information Systems 35: 50-64.

25. McKnight DH, Choudhury V, Kacmar CJ (2002) Developing and validating trust measures for e-Commerce: an integrative typology 13: 334-359.

26. Petrovic O, Ksela M, Fallenbock M, Kittl C (2003) Trust in the network economy. Springer-Verlag Wien New York, Wien.

27. Hutt MD, Speh TW (2004) Business marketing management- a strategic view of industrial and organizational markets. Ohio: Thomson South-Western, Mason.
28. Stephen SS (2001) Reputation and e-commerce: E-Bay auctions and the asymmetrical impact of positive and negative ratings. Journal of Management 27: 279-295.
29. Smith MD, Bailey J, Brynjolfsson E (1999) Understanding the digital economy. MIT Press, Cambridge.
30. Bakos JY (1997) Reducing buyer search costs: Implications for electronic marketplaces. Management science 43: 1676-1679.
31. Bakos JY (1998) The emerging role of electronic marketplaces on the internet. Communications of the ACM.
32. Gustavsson M, Johansson A (2006) Consumer trust in E-commerce.
33. Sahal MS, Basti M (2015) Customer satisfaction in business to consumer (B2C) E-commerce: a comparative study of Turkey and Pakistal. Eurasian Journal of Business and Economics 8: 73-100.
34. Meyer A, Taylor P (2000) E-commerce an introduction. Computing and Control Engineering Journal, 11: 107-108.
35. Bailey T (2002) On trust and philosophy-the philosophy of trust. Open University Reith Lectures 2002.
36. Wang DY, Emurian HH (2004) An overview of online trust: concepts, elements and implications of small online retailers. Journal of Interactive Marketing 18: 53-69.
37. Wang S, Beatty SE, Foxx W (2004) Signaling the trustworthiness of small online retailers. Journal of Interactive Marketing 18: 53-69.
38. Baier AC (1994) Moral prejudices: essays on ethics. Harvard University Press, Cambridge.
39. Erikson EH (1963) Childhood and society.
40. Rotter JB (1967) A new scale of measurement of interpersonal trust. Journal of Personality 35: 651-655.
41. Driscoll JW (1978) Trust and participation in organizational decision making as predictors of satisfaction. Academy of Management Journal, 21(1) 44-56.
42. Uzzi B (1997) Social structure and competition in interfirm networks: The paradox of embeddedness. Administration Science Quarterly 42: 35-67.
43. Kumar N (1996) The power of trust in manufacturer-retailer relationships. Harvard Business Review 74: 92-106.
44. Doney PM, Canon JP (1997) An examination of the nature of trust in buyer-seller relationships. Journal of Marketing 61: 35-51.
45. Ganesan S, Hess R (1997) Dimensions and levels of trust: implications for commitment to a relationship. Marketing Letters 8: 439-448.
46. Petermann F (1996) Psychologie des Vertrauens (The Psychology of Trust). Gottingen, Hogrefe.
47. Menon NM, Konana P, Browne GJ, Balasubramanian S (1999) Understanding trustworthiness beliefs in electronic brokerage usage. Proceedings of the 20th international conference on Information Systems, pp: 552-555.
48. Gefen D, Straub D (2000) The relative importance of perceived ease of use in IS adoption: A study of E-commerce adoption. Journal of the Associations for

Information Systems 1: 1-28.

49. Gefen D (2000) E-commerce: The role of familiarity and trust. Omega 28: 725-737.

50. Kotler P (1997) Marketing management "analysis, planning, implementation and control" (9th Edn.). Prentice Hall International, Inc. Kotler, Phillip, New Jersey.

51. Windham L, Orton K (2000) The soul of the new consumer-the attitudes, behaviors and preferences of e-customers. Allworth Press, New York.

52. Schlenker BR, Helm B, Tedeschi JT (1973) The effects of personality and situational variables on behavioral trust. Journal of Personality and Social Psychology 25: 419-427.

53. Moorman C, Zaltman G, Deshpande R (1992) Relationship between providers and users of market research: The dynamics of trust within and between organizations. Journal of Marketing Research 29: 20-38.

54. Deutsch M (1960) Trust and suspicion. Journal of conflict Resolution 2: 265-279.

55. Evans AM, Revelle W (2008) Survey and behavioral measurements of interpersonal trust. Journal of Research in Personality 42: 1585-1593.

56. Malhotra D (2004) Trust and reciprocity Decisions: The differing perspectives of trustors and trusted parties. Organizational Behavior and Human Decision Processes 94: 61-73.

57. Gupta S (2014) Trust-building factors in e-commerce industry.

58. Yoon S (2002) The antecedents and consequences of trust in online-purchase decision. Journal of Interactive Marketing 16: 47-63.

59. Friedman B, Howe D, Kahn P (2000) Trust online. Communications of the ACM 43: 34-40.

60. Grabner-Krauter S (2002) The role of consumers' trust in online-shopping. Journal of Business Ethics 39: 43-50.

61. Urban GL, Sultan F, Qualls WJ (2000) Placing trust at the center of your internet strategy. Sloan Management Review 42: 39-48.

62. Resnick P, Zeckhauser R, Friedman E, Kuwabara K (2000) Reputation systems. Communications of the ACM 43: 45-48.

63. Kollock P (1999) The production of trust in online markets, advances in group processes. 16: 99-123.

64. Milne GR, Boza M (1999) Trust and concern in consumers-perceptions of marketing information management practices. Journal of Interactive Marketing 13: 5-24.

65. Simmons GJ (1993) An introduction to the Mathematics of Trust in Security1-127 Protocols. Proceedings of Computer Security Foundations Workshop IV.

66. Bowlby J (1973) Attachment and loss: separations: anxiety and anger. Hogarth Press, London.

67. Steinfied C, Whitten P (1999) Community level socio- economic impacts of electronic commerce. Journal of Computer-Mediated Communication.

68. Ravald A, Gronroos C (1996) The value concept and relationship marketing. European Journal of Marketing 30: 19-30.

69. Head M, Hassanein K (2002) Trust in e-commerce: evaluating the impact of third-party seals. Quarterly Journal of Electronic Commerce 3: 307-325.

70. Mishra AK (1996) Organizational responses to crises: The centrality of trust.

Sage Publications.

71. Chen Sandy C, Dhillo Gurpreet S (2003) Interpreting dimensions of consumer trust in E-commerce. Information Technology and Management 4: 303-318.

72. Barber B (1983) The logic and limits of trust. Rutgers University Press, New Brunswick, NJ.

73. Johnson-George C, Swap WC (1982) Measurement of specific interpersonal trust: construction and validation of a scale to assess trust in a specific order. Journal of Personality and Social Psychology 43: 1306-1317.

74. Becker SA (2007) Electronic commerce: concepts, methodologies, tools and applications. Information Science Reference.

75. Parker Donn B (2004) Toward a new framework for information security. In: Seymour B, Kabay ME (ed.), Computer Security Handbook (4thedn.), John Wiley & Sons.

76. Omariba ZB, Masese NB, Wanyembi G (2012) Security and privacy of electronic banking. International Journal of Computer Science 9: 1694-1814.

77. Chellapa RK (2006) Consumers' trust in electronic commerce transactions: the role of perceived privacy and perceived security.

78. Yousafzai SY, Pallister JG, Foxall GR (2005) Strategies for building and communicating trust in electronic banking a field experiment. Psychology and Marketing 22: 181-201.

79. Biryukov A, Shamir A (2001) Structural cryptanalysis of SASAS. Advances in cryptology: Eurocrypt 2001. International Conference on the Theory and Application of Cryptographic Techniques, Innsbruck, Proceedings, Austria, pp: 395-405.

80. Jean Camp L (2000) Trust and risk in internet commerce. MIT Press, winter, Cambridge, MA.

81. Pavlou PA, Chellappa (2001) The role of perceived privacy and perceived security in the development of trust in electronic commerce transactions.

82. Cheung MK, Lee MKO (2006) Understanding consumer trust in internet shopping: A multidisciplinary approach. Journal of the American Society for Information Science and Technology 57: 479-492.

83. McKnight DH, Cummings L, Chervany N (1998) Initial trust formation in new organizational relationships, The Academy of Management Review 23: 473-490.

84. Siau K, Shen Z (2003) Building customer trust in mobile commerce. Communication of the ACM 46: 91-95.

85. Teo SH, Liu J (2007) Consumer trust in e-commerce in the United States, Singapore and China. The Internal Journal of Management Science, Omega 35: 22-38.

86. Pavlou PA (2003) Consumer acceptance of electronic commerce: Integrating trust and risk with the technology acceptance model. International Journal of Electronic Commerce 7: 197-226.

87. Corbitt BJ, Thanasankit T, Yi H (2003) Trust and e-commerce: a study of consumer perceptions. Electronic Commerce Research and Applications 2: 203-215.

88. Zviran M (2008) User's perspectives on privacy in web-based applications. Journal of Computer Information Systems 48: 97-105.

89. Princeton Survey Research Associates (2002) A matter of trust: What users want from websites. Results of a national survey of Internet users for Consumer Web Watch.

90. Hidayanto AN, Herbowo A, Budi NFA, Sucahyo YG (2014) Determinant of customer trust on e-commerce and its impact to purchase and word of mouth intention: A case of Indonesia. Journal of Computer Science 10: 2395-2407.

91. Lee G, Lin H (2005) Customer perceptions of e-service quality in online shopping. International Journal of Retail and Distribution Management 33: 161-176.

92. Chen Y, Barnes S (2007) Initial trust and online buying behavior. Industrial Management and Data System 107: 21-36.

93. Lau TC, Kwek CL, Tan HP (2010) The effects of shopping orientations, online trust and prior online purchase experience towards customers' online purchase intention. International Business Research 3: 63-76.

94. Sexton RS, Johnson RA, Hignite MA (2002) Predicting Internet/e-commerce use. Internet Research 12: 402-410.

95. Saunders M, Lewis P, Thornhill A (2007) Research methods for business students.

96. Sekaran R, Bougie R (2013) Research methods for business: A skilled Approach.

97. Cooper DR, Schindler PS (2006) Marketing research. McGraw-Hill Irwin, New York.

98. Burns AC, Bush RF (2003) Marketing research. International Edition-Online Research Application. Pearson Education, Inc., New Jersey.

99. Hair JF, Bush RP, Ortinau DJ (2006) Marketing research: within a changing information environment. McGraw-Hill, New York.

100. Karahanna E, Straub DW, Chervany NL (1999) Information technology adoption across time: A cross-sectional comparison of pre-adoption and post-adoption beliefs. MIS Quaterly, pp: 183-213.

101. Oshkalo A (2016) Russian Markets

102. Balasubramanan S, Konana P, Meron MN (2003) Customer satisfaction in virtual environment: A study of online investing. Management Science 49: 871-889.

103. Baran P (1964) On distributed communications networks. IEEE Trans Communication Systems The Rand Corporation.

104. Landesberg D, Zeisser (1999) Trust in network economy. Springer-Verlag, Wien, New York 2: 90.

105. Gabriel Sperandio M, Suelen B, Deonir De T, Luciene E (2015) Information quality, distrust and perceived risk as antecedents of purchase intention in the online purchase context.

106. Hosmer GG (1961) Social behavior: its elementary forms, harcourt, brace and company.

107. OECD (2016) Consumer protection in E-commerce: OECD Recommendation, OECD Publishing, Paris.

108. Rule C, Friedberg L (2005) The appropriate role of dispute resolution in building trust online. Artificial Intelligence and Law 13: 193-205.

109.   Walzuch R, Lundgren H (2004) Psychological antecedents of institution-based consumer trust in e-retailing. Information and Management 42: 159-177.