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UNDERSTANDING CONSUMER PERCEPTIONS OF RISK INVOLVED WITH E-COMMERCE PLATFORMS - A STUDY WITH SPECIAL REFERENCE TO ONLINE BUYERS IN BANGALORE

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ABSTRACT

This study examines consumer perceptions of risks related to e-commerce platforms, primarily targeting online purchasers in Bangalore. Notwithstanding the increasing prevalence of online buying, risk perception continues to be an important barrier to both adoption and ongoing utilization by customers. This study delineates the principal categories of perceived risk namely financial risk, product risk, security risk and examines the impact of demographic variables and social influence on these perceptions. The study also examines the relationship between risk perception and purchase intentions. A mixed-method approach utilizing primary data from Bangalore's online consumers provides insights into their concerns and risk mitigation techniques. The results indicate that product legitimacy, data security, transparent return process and social influence are crucial in establishing consumer trust and mitigating perceived risks. This study enhances the literature by delivering a regionally contextualized comprehension of e-commerce risk perception and presents pragmatic recommendations for customers to effectively mitigate risks and make safer decisions while purchasing online.

KEYWORDS: Online Purchase, Consumer Perception, Risk, E-Commerce, Social Influence.

1. BACKGROUND OF THE STUDY

The Internet offers significant possibilities for online purchasing, providing cost reductions for both consumers and businesses. Utilizing the website as a marketing instrument offers an effective method for reducing costs related to contact statistics. Millions of users peruse numerous online vendor sites daily with the goal of purchasing products and services. Online shopping presents a novel realm of possibilities and exceptional experiences for consumers. The variety of items and services available in online buying across various price ranges renders it an extraordinary marketplace. The majority of consumers have wholeheartedly embraced internet buying, but others harbor apprehensions over uncertainty and the potential failure to meet their expectations. These uncertainties fundamentally represent perceived risk. Perceived risk is the uncertainty encountered by a consumer when the outcomes of their purchasing decisions are unpredictable. Consumer-perceived risks can impede the execution of internet transactions. This study examines customer perceptions of risk associated with e-commerce platforms, primarily targeting buyers in Bangalore, along with its dimensions and other influencing factors. This paper aims to analyze the elements influencing consumer risk perceptions in online shopping. This article additionally proposes suggestions for e-commerce merchants to mitigate adverse consumer impressions of online trade.

2. INTRODUCTION

One of the most significant transformations in the past decade is the enhanced ease of interaction with people via social media. The swift expansion of web-based platforms that promote social contact online has profoundly altered the dynamics between human activity and the environment. Authentic social interactions have transitioned to cyberspace, resulting in the formation of global online communities. This transition to the digital realm enables individuals to exchange knowledge, provide entertainment, and foster discourse among other cultures. Recently, the Internet has significantly influenced individuals' lifestyles. The executive summary of the United Nations Internet Business Development Report (2002) indicates that e-commerce will enhance trade efficiency and empower the economies of poor nations globally by generating employment opportunities (UNCTAD, 2002).

Currently, a growing population inhabits both rural and urban regions, utilizing e-commerce more

extensively than ever before. It will resonate globally. Every e-commerce user considers risk and risk management. Technological improvements are being addressed by mitigating risk and cultivating user trust. Awareness of these changes is essential for formulating effective strategies to mitigate anticipated risks and enhance consumer trust in e-commerce systems. Contemporary developments highlight the impact of hazards, such as financial instability, information security, and privacy issues, on consumer behavior and the adoption of e-commerce. As e-commerce platforms proliferate, the intricacy of risk management escalates, encompassing the handling of sensitive personal data, ensuring transaction security and maintaining customer trust. Recognizing these tendencies is crucial for identifying effective methods to mitigate perceived dangers and enhance consumer trust in e-commerce systems. It also demonstrates to governments and corporations the evolving dynamics of digital trade and how they may alleviate growing concerns.

3. E-COMMERCE CONCEPT

E-commerce represents a contemporary platform for conducting business and digital marketing. This has resulted in the birth of a new shopping strategy termed internet shopping, which subsequently alters the traditional buying approach. Historically, individuals would physically visit a store, examine the desired product, negotiate a bargain with the retailer, and subsequently complete the transaction. The new web-based shopping has revolutionized traditional shopping for consumers, making it a more straightforward and convenient process for selecting and purchasing their products. The companies are striving to remain current with trends due to escalating rivalry among sellers. Consequently, organizations over the preceding two decades utilize two techniques for procuring goods: online and offline systems.

E-commerce denotes the conduct of commercial transactions over the internet and has emerged as a fundamental component of the global retail environment in recent years. To optimize market prospects, enterprises across all sectors have transitioned to e-commerce. The expansion of e-commerce entails heightened risk exposure, necessitating the integration of risk management into the e-commerce culture. Numerous corporations who have opted for a digital shop have utilized electronic platforms, since they include functionalities that allow merchants to create a branded online storefront for selling their products

and services. The online marketing sector utilizes platforms like social media to expand the consumer base by presenting a variety of items and exclusive data and information that sales personnel cannot supply. Numerous individuals can simultaneously observe the same thing and are capable of purchasing the identical product concurrently. It lowers costs by eliminating intermediaries, such as buyers or sellers, hence decreasing intermediary charges and making items more affordable and accessible through this medium. Statista (2021) reports that in 2020, more than two billion individuals engaged in online purchases, with global e-retail sales exceeding 4.2 trillion U.S. dollars that year. During the pandemic year, worldwide retail e-commerce sales increased by about 25%. Organizations can no longer disregard the significance of digital transformation, as it serves as a crucial catalyst for establishing a distinct competitive edge. Consequently, it is imperative for the e-commerce platform to analyze the advantages and disadvantages of the e-market, the factors that motivate customers to purchase online, and the reasons some consumers remain reluctant to engage in online purchasing.

4. SOME OF THE STUDY-BASED THEORIES

Risk Perception Theory elucidates how perceived risks, including privacy and security apprehensions, influence consumers' purchasing intentions and technology adoption in e-commerce. **Social Exchange Theory** examines how customers evaluate the risks and advantages associated with e-commerce transactions, emphasizing perceived hazards and trust elements. **Technology Acceptance Model (TAM)** describes the impact of perceived ease of use and perceived usefulness on customers' acceptance of e-commerce platforms and technology. It is especially significant when examining perceived security, privacy threats, and the adoption of e-governance technology. **Theory of Planned Behavior (TPB)** is ineffective for examining the impact of individual attitudes, subjective norms, and perceived behavioral control on behavioral intentions in e-commerce and online banking environments. This theory also explains how privacy and security apprehensions influence customer intentions to engage in online purchasing. **Trust-Based Customer Decision-Making Model** is essential for comprehending the impact of trust on customer behavior in e-commerce, especially in relation to online transactions and mobile banking. **Protection Motivation Theory** investigates the factors that drive consumers to safeguard their privacy and security during e-commerce transactions.

Service Quality Model assesses the disparity between client expectations and the actual service provided, facilitating the comprehension of service quality on e-commerce platforms.

5. TYPES OF CONSUMER PERCEIVED RISK IN E-COMMERCE

Perceived risk refers to a consumer's apprehension regarding possible adverse outcomes associated with a purchase, which is exacerbated in e-commerce due to the virtual and remote characteristics of the transaction. Various forms of perceived risk affect online customer behavior.

Psychological Risk: This risk pertains to the possibility that a purchase may induce mental distress or dissatisfaction. Acquiring a product that is incongruent with one's self-image or personality may result in feelings of regret or anxiety.

Social Risk: Social risk pertains to a consumer's apprehension that a purchase may result in shame or detriment to their social status. In e-commerce, this pertains to the perception of an online purchase by others, particularly acquaintances and relatives.

Delivery Risk: This refers to the unpredictability inherent in the shipping and delivery process. It encompasses the timeliness of the item's arrival and its condition upon delivery.

Privacy and security Risks: Concerns regarding data privacy and the safeguarding of personal information are heightened in the internet context. Customers are concerned that their personal or financial information may be jeopardized or exploited.

Time-loss Risk: This refers to the apprehension that a consumer's time and effort may be squandered. The risk includes the duration spent locating products, awaiting delivery and the complications associated with returns or exchanges.

Financial Risk: The possibility of fiscal loss is a significant apprehension for online consumers. This encompasses not just the risk of overpayment but also the potential for financial loss due to fraud. A significant concern is the security of internet transactions. Many customers remain uneasy about disclosing their personal and account information to e-marketers.

Functional Risk: This refers to the possibility that a product or service will fail to perform as anticipated or satisfy the consumer's requirements. The risk in e-commerce is exacerbated as the customer is unable to personally inspect or test the product before purchase. Intangibility constitutes a significant risk for customers. As the goods cannot be seen, touched, or felt, it becomes challenging for online consumers

to assess its quality prior to making a purchase. A significant number of individuals continue to eschew online buying.

6. MEASURES TO MANAGE PERCEIVED RISK IN E-COMMERCE

It is essential for every E-Commerce platform to provide various secure payment alternatives, including PayPal, Apple Pay, and credit card processing, to allow customers to select their preferred method of security. Ensure the privacy policy is readily accessible and comprehensible. Clearly delineate the information collected and its utilization to safeguard against unsolicited marketing. Online platforms must explicitly delineate the parameters of the return policy, encompassing money-back guarantees. A risk-free return policy demonstrates assurance in your items and provides customers with alternatives if they are dissatisfied. Ensure dependable and transparent shipment. Collaborate with reputable carriers and provide tracking details for every shipment. Regular communication during the fulfillment process alleviates client apprehension. Utilize safe payment gateways. Provide various secure payment alternatives, including PayPal, Apple Pay, and credit card processing, to allow clients to select their preferred method of security. Incorporate consumer evaluations and testimonials, showcasing genuine feedback both favorable and unfavorable alongside professional comments on product pages and the homepage. Exhibit user-generated content. Motivate customers to disseminate their experiences on social media and showcase this content on your website. This fosters a personal connection and cultivates a sense of community. Deliver thorough and truthful product details, encompassing dimensions, materials, and maintenance guidelines, to mitigate ambiguity and establish explicit expectations. Rapid webpage performance. Enhance your website's loading speed, particularly on mobile platforms. Reduced speeds exasperate users, impair brand perception, and elevate cart abandonment rates. Employing professional photography featuring high-quality product photographs, numerous angles, and zoom capabilities to enable shoppers to scrutinize products as thoroughly as feasible.

7. REVIEW OF LITERATURE

Amidst the pressures of global competition, evolving market trends and consumer preferences, as well as economic and financial crises, numerous enterprises and organizations are increasingly compelled to include e-commerce into their

operations. **Shurab (2014)** contends that e-commerce empowers its adopters to adeptly respond in order to survive and thrive. Commerce is a transactional activity when two parties negotiate the trade under mutually agreeable terms, ensuring satisfaction for both sides with the result. Likewise, e-commerce operates on the same principles as traditional commerce, yet it is executed via a network of computers interconnected globally through the internet. Therefore, e-commerce refers to the transaction of purchasing and selling goods or services via the Internet. It includes a diverse array of data, methods, and tools for online purchasers and vendors, encompassing mobile commerce and online payment encryption (**Big-commerce, 2022**).

Ramamurthy Bedaduri et al. (2025) examined the situation of literature progress and found the primary contributor to literary production. Furthermore, the review investigation can analyze clusters based on term occurrences utilizing VosViewer. A yearly assessment of study output from 2004 indicates a notable increase, with pronounced surges in 2010 and 2011, implying escalating concerns and intricacies related to e-commerce dangers. The prevailing trend, influenced by the developing issues of digital transactions, indicates a sustained scholarly interest in the topic, notwithstanding fluctuations. The study encompasses geographical research productivity, regional views, principal sources, and several facets of e-commerce risk management. Geographical study reveals that China is the foremost donor, succeeded by the United States, Taiwan, the United Kingdom, and India, amidst the rising prominence of emerging economies like as Brazil and Indonesia. Renowned conferences and publications serve as invaluable resources. This study delineates seven thematic clusters pertaining to supply-chain risk, consumer trust, behavioral intents, service quality, emerging trends, privacy issues, and technological adoption. Addressing these gaps can help delineate e-commerce hazards and inform legislation designed to enhance consumer trust and secure digital transactions. These findings underscore study deficiencies, validated ideas, and academic research challenges.

Singh, A. K. (2023) emphasized the necessity for research on the interplay between customer value, risk, and trust within the framework of social cross-platform views, particularly in India. The study seeks to elucidate the impact of these factors on consumers' cross-platform purchasing behavior, thereby enhancing the comprehension of online shopping dynamics and guiding strategies to foster

trust and improve consumer experiences in the digital marketplace. The research approach entailed administering a survey to 320 internet consumers in India. The research indicated that customers' views of risk and value considerably influence their propensity to utilize social e-commerce platforms.

Chenggang Wang et al. (2023) indicated that the ongoing advancement of Internet technology and international logistics is amplifying the influence of cross-border e-commerce. Cross-border e-commerce transactions are distinguished by a diverse array of products, competitive pricing, and expedited procurement durations. Consequently, consumers are increasingly inclined to engage in shopping on cross-border e-commerce platforms. The quantity of consumers submitting orders is likewise rising. Consumer perception, trust, and attitude concurrently exert significant influence on shopping behavior in cross-border e-commerce platforms. This study utilizes structural equation modeling and mediation analysis to investigate the mechanisms by which different factors affect customers' purchasing intentions. The findings of this study offer significant insights for managers of cross-border e-commerce firms in making educated management decisions.

8. RESEARCH GAP

A significant research gap exists in comprehending consumer risk perception regarding e-commerce platforms among online purchasers in Bangalore. Previous studies frequently examine individual components (e.g., financial, product, or delivery risk) in isolation, lacking a comprehensive methodology that simultaneously integrates social, psychological, and technological dimensions for consumers in Bangalore. This proposed study seeks to solve the existing research gap on the regionally focused, multifaceted, and developing analysis of risk perception drivers among online consumers in Bangalore.

9. STATEMENT OF THE PROBLEM

Online consumers in Bangalore still regard e-commerce platforms as hazardous due to ongoing concerns about financial loss, data misuse, product quality and delivery reliability, despite significant technology progress and an increase in online purchasing alternatives. Contemporary research does not adequately elucidate the complexity and multidimensionality of consumer risk perceptions within this regional setting. The interaction of local demographic factors, digital trust mechanisms, and platform attributes in shaping consumer attitudes towards e-commerce risks is inadequately

understood, creating a significant gap in developing effective risk-mitigation strategies and consumer education initiatives for Bangalore's diverse online buyer demographic. This study seeks to identify, analyze and contextualize the principal elements affecting customer risk perceptions about e-commerce platforms among online purchasers in Bangalore, thereby addressing a significant gap and offering practical insights for businesses and regulators.

10. OBJECTIVES OF THE STUDY

- To identify and assess the major categories of perceived risks (including financial, product, security, delivery, social and temporal concerns) among online purchasers in Bangalore.
- To provide suggestions for online consumers to effectively mitigate risk while making online purchases.

11. SIGNIFICANCE OF THE STUDY

This study is significant as it examines the complex and multifaceted nature of consumer risk perception in e-commerce platforms, specifically targeting online shoppers in Bangalore. Through a thorough analysis of the principal determinants influencing risk perceptions, the results will yield practical insights for enterprises, governments and scholars. The research would facilitate e-commerce enterprises in Bangalore to comprehend the distinct apprehensions and reservations of local consumers, so enabling the formulation of more efficacious trust-building and risk-mitigation methods customized for their market. This research has the potential to address significant information deficiencies, promote safer and more consumer-oriented e-commerce adoption, and influence the future of digital buying in Bangalore.

12. SCOPE OF THE STUDY

The study will assist authorities in identifying significant deficiencies in digital literacy, consumer protection and regulatory oversight within Bangalore's rapidly expanding e-commerce sector, hence facilitating the development of specific regulations and guidelines. The study enhances the literature by contextualizing the factors influencing consumer risk perceptions with local demographic and behavioral variables, so providing a basis for future research on technology adoption and consumer trust in emerging economies. The study's insights will provide Bangalore's online consumers with the knowledge to make effective and safe decisions, more transparent digital markets, hence fostering sustainable engagement in e-commerce.

13. RESEARCH METHODOLOGY

This section delineates the research strategy, data collection questionnaire, sample plan, study region and employed statistical methods.

- **Research Design:** This study included both qualitative and quantitative research methods, considering numerous elements to comprehend consumer perceptions of risk associated with e-commerce platforms, specifically with online purchasers in Bangalore.
- **Research Tool:** A structured instrument was developed in accordance with the study's aims. The questionnaire containing inquiries regarding customer perceptions of risk associated with e-commerce platforms in Bangalore was delivered to respondents, who were requested to provide ratings for the questions. The variables for the current investigation are Product risk, Privacy risk, Financial risk, Social influence and Purchase outcomes. Responses were assessed using a five-point Likert scale, ranging from strongly disagree to agree.
- **Data Collection:** This study employed both primary and secondary data sources to get pertinent information. The research is founded on a study carried out in various sites in Bangalore, Karnataka. A survey was conducted among the residents of Bangalore city who preferred shopping via e-commerce websites and applications. The researcher developed a self-constructed questionnaire aligned with the aims and variables pertaining to perceived risk considerations in e-commerce. Secondary data was obtained from many publications, books, websites and governmental annual reports for the current study.
- **Population:** The respondents comprised individuals over the age of 18 from Bangalore who favored buying via e-commerce websites and applications. The study included both male and female populations to gather pertinent replies.
- **Sample size and sampling method:** A sample population of 195 respondents were selected to provide responses to the questionnaire developed for this study. The sample method employed in this investigation was non-probability convenience sampling, noted for its efficiency and cost-effectiveness.
- **Statistical Tools and Data Analysis:** The responses obtained from participants were inputted and analyzed utilizing the Statistical Package for Social Sciences (SPSS). Statistical instruments, including one-way ANOVA, and correlation, were employed to examine the primary data and evaluate the hypothesis of the current study.

14. DATA ANALYSIS

H01 - Age of the respondents do not have significant difference among the variables product risk, privacy risk, financial risk, social influence and purchase outcomes.

Table 1: One Way ANOVA between Age and Study Variables.

Factors	F-Value	Significant	Inference
Product Risk	7.821	0.001	Rejected
Privacy Risk	8.301	0.000	Rejected
Financial Risk	1.423	0.244	Accepted
Social Influence	5.240	0.006	Rejected
Purchase Outcomes	15.328	0.000	Rejected

*5% Significant Level

The age factor and financial risk do not significantly correlate. The null hypothesis is rejected for the age factor as the significant value for product risk, privacy risk, social influence, and purchase outcomes is less than the 5% threshold. Consequently, it suggests that there is a considerable difference in product risk, privacy risk, social influence, and purchase outcomes depending on the respondents' age.

H02 - Education of the respondents do not have significant difference among the variables product risk, privacy risk, financial risk, social influence and purchase outcomes.

Table 2: One Way ANOVA between Education and Study Variables.

Factors	F-Value	Significant	Inference
Product Risk	4.063	0.019	Rejected
Privacy Risk	9.403	0.000	Rejected
Financial Risk	2.365	0.097	Accepted
Social Influence	1.948	0.145	Accepted
Purchase Outcomes	11.035	0.000	Rejected

*5% Significant Level

The education factor, financial risk and social influence do not significantly correlate. The null hypothesis is rejected for the education factor as the significant value for product risk, privacy risk and purchase outcomes is less than the 5% threshold. Consequently, it suggests that there is a considerable difference in product risk, privacy risk, and purchase outcomes depending on the respondents' education.

Correlation between Product risk and Purchase outcomes

H03: There is no significant relationship between product risk and purchase outcomes.

Table 3: Product risk and Purchase outcomes.

		Product risk	Purchase outcomes
Product risk	Pearson Correlation	1	.414**
	Sig. (2-tailed)		.000
	N	195	195
Purchase outcomes	Pearson Correlation	.414**	1
	Sig. (2-tailed)	.000	
	N	195	195

**Correlation is significant at the 0.01 level

Table 3 suggests that there is a 0.414 coefficient of association between product risk and purchase outcomes. It shows that two variables have a positive connection with one another. At the 1% level of significance, the resulting coefficient of correlation is determined to be significant. The null hypothesis is therefore disproved. It would appear reasonable to conclude that there is a relationship between product risk and purchase outcomes. It suggests that there is a strong association between these two sets of variables—that is, purchase outcomes and product risk.

Correlation between Financial risk and Social influence

H_{04} : There is no significant relationship between financial risk and social influence.

Table 4: Financial risk and Social influence.

		Financial risk	Social influence
Financial risk	Pearson Correlation	1	.728**
	Sig. (2-tailed)		.000
	N	195	195
Social influence	Pearson Correlation	.728**	1
	Sig. (2-tailed)	.000	
	N	195	195

**Correlation is significant at the 0.01 level

Table 4 suggests that there is a 0.414 coefficient of association between financial risk and social influence. It shows that two variables have a positive connection with one another. At the 1% level of significance, the resulting coefficient of correlation is determined to be significant. The null hypothesis is therefore disproved. It would appear reasonable to conclude that there is a relationship between financial risk and social influence. It suggests that there is a strong association between these two sets of variables—that is, financial risk and social influence.

15. FINDINGS

- ✓ Correlation test perceived there is a strong association between these two sets of variables—that is, purchases outcomes and product risk. There is a strong association between these two sets of variables—that is, financial risk and social influence.
- ✓ The ANOVA test revealed that, depending on the respondents' age, there is a significant correlation between product risk, privacy risk, social influence, and purchase outcomes; additionally, there is a significant difference in product risk, privacy risk, and purchase outcomes based on the respondents' educational attainment.

16. SUGGESTIONS

- Consumers who perceive online purchasing as perilous and are concerned about the safeguarding of their personal data and the robustness of the retailer's infrastructure. The importance of cybersecurity awareness in preventing online fraud. Due to the correlation between cybersecurity and the adoption of electronic commerce, consumer awareness and education regarding cybersecurity are essential.
- Bibliometric tools such as VOSviewer enable the depiction of intricate interconnections among risk factors. By delineating these links, companies may prioritize risks and deploy resources with greater efficacy. Organizations can recognize pre-eminent authorities and foundational literature in the domain of risk management. This knowledge enables firms to evaluate their practices against industry standards and implement best practices.
- Logistic failures in online purchasing can tarnish the reputation of e-stores and jeopardize their future. A guaranteed return policy may be a more effective solution to address this difficulty. In developing countries, where various industries are subject to differing tax rates, accounting issues represent a significant hurdle for the Indian online market. A unified tax rate is a superior method to address this difficulty.

17. CONCLUSION

E-commerce presents a plethora of opportunities and experiences for consumers. The diverse array of items and services available in online buying across various price ranges renders it an extraordinary marketplace. The majority of consumers have wholeheartedly embraced online buying, but others harbor concerns over various forms of risks. These risks serve as a disincentive to internet purchase. Various academics have examined consumer internet perceived risk and its dimensions throughout the years. A literature review was conducted to examine several elements of perceived risk. Research identified significant categories of perceived hazards in e-commerce platforms, including Product risk, Privacy risk, Financial risk, Social influence and Purchase outcomes.

E-commerce platforms create value networks by linking various participants and offer a strong framework for information sharing, transactions and secure payments. E-commerce platforms offer an environment conducive to value co-creation among stakeholders and promote greater interactive engagement among participants. Robust e-commerce platforms attract a growing number of participants,

hence amplifying the network effect.

18. FUTURE SCOPE

Future researchers may investigate the direct influence of these characteristics on purchase intentions, considering the mediating effect of perceived risk. The study was limited to the big city

of Bangalore; hence, a comparable investigation might be undertaken in other cities or states across the country on a broader scale. The research examined multiple aspects of perceived risk. Future researchers may undertake a similar study by considering perceived danger as a comprehensive concept.

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