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Factors Influencing Consumers' Online Purchase Intentions: A Quantitative Study of Trust, Website Quality, Product Reviews, Perceived Usefulness, and Perceived Risk

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ABSTRACT

The increasing trend to conducting transactions over the internet has fulfilled researchers' interests in studying the predictors of consumers' online purchase intention. In this study, five major variables have been identified: trust, quality of the website, product review, usefulness, and risk perception, which affect online purchase intention in the context of technology Acceptance Model (TAM) and theory of Planned Behaviour (TPB). Quantitative research has been employed using a cross-sectional design in which 320 online customers have been selected through an online questionnaire containing a five-point liker scale. Structural equation modeling using the software AMOS 24 has been conducted for hypothesis testing. From the analysis, it has been proven that all except one variable positively influence online purchase intention. Trust, quality of the website, product review, and usefulness have a significant impact on online purchase intention, whereas risk perception has a significant negative impact on online purchase intention. Among all the variables considered, trust is found to be the most significant factor (β=0.41, p<0.001).

***Keywords**: Online Purchase Intention, Trust, Website Quality, Perceived Risk, Perceived Usefulness, Product Reviews, e-Commerce, SEM.*

Introduction

E-Commerce retail transactions in the global digital space have achieved a record level in excess of USD 5.8 trillion and have achieved a record level in excess of USD 5.8 trillion in 2023, and this figure is expected to grow beyond USD 8 trillion by 2027[1]. However, the conversion rate in e-commerce is estimated at less than 3%, indicating that many potential customers visiting websites fail to make actual purchases [2]. Therefore, investigation of antecedents that influence the formation of online purchase intention is of great theoretical and practical significance. Online purchase intention may be defined as a person's conscious predisposition to purchase goods and services via online platforms [3]. This construct is considered to be the most immediate driver of e-commerce activities [4]. He antecedents of the purchase of the purchase intention concept have been analyzed using many theoretical perspectives that have already become classic in marketing, such as Technology Acceptance Model (TAM) [5], this highlights the significance of usefulness and ease of use; and the theory of planned behavior put forward by Ajzen[6], where behavioral intentions depend on attitudes, subjective norms, and perceived behavioral control. While reviewing relevant literature, one can observe the relevance of certain factors to a greater extent. Trust has been found to be a crucial factor among others. With the increasing usage of online platforms where consumers have no means to check products' authenticity

and sellers' credibility, trust has become the basis of their purchasing decision process [7]. Gefen, Karhanna, and Straub [8] reported in a ground breaking article that consumer trust towards online vendors positively predicts their buying intention.

Website quality, which includes aspects such as visual attractiveness, ease of navigation, accuracy of information, and security features, has also been established as an important antecedent [9]. Customers judge the website interface as reflecting the professional nature and competence of the vendors; poor website quality creates perceptions of uncertainty and decreases the intention to buy [10]. According to the IS Success model [11], along with its derivatives, satisfaction with a system and its information is based on system and information quality and affects purchase intentions. User generated content on e- commerce websites has increasingly contributed to the significance of e WOM through product reviews. Research examining e WOM credibility and quantity, like the study conducted by Cheung and Thadani [12], repeatedly indicates that positive and credible product reviews help lower uncertainty perceptions, positively evaluate products, and increase purchase intention. On the contrary, negative reviews may undermine these results [13].

Perceived usefulness, based on the TAM model. Refers to the degree to which the customer perceives online shopping as improving the efficiency or effectiveness of his/her shopping task [5]. There is empirical research that validates the role of perceived usefulness as a strong predictor of intention to make purchases through the internet, as shown by Pavlou and Fygenson [14]. However, perceived risk can be described as customers' perception of the potential threat arising out of the process of making an online transaction, including financial risk, privacy risk, performance risk, and delivery risk [15].

Although there are many individual studies that examine these constructs, there is a lack of research that integrates all five antecedents in a unified model and test them simultaneously using rigorous structural equation modeling especially in the context of emerging digital markets. This gap is addressed in the present study. The main purpose of this research is to investigate the relationship between various factors namely trust, website quality, product reviews, perceived usefulness and perceived risk and consumers online purchase intention. This investigation is framed by two broad hypotheses:

H_1: Trust, Website quality, product reviews, and perceived usefulness each have significant positive relationship with online purchase intention.

H_2: Perceived risk is negatively and significantly related to online purchase intention.

The rest of this paper is organized as follows. The literature review and theoretical framework are discussed in section2. Section 3 provides the research methodology. The empirical results are presented in section 5 reviews the findings in the context of previous studies. Section 6 discusses theoretical and managerial implications.

Literature Review

- **Theoretical Underpinnings**

This study is built on two complementary theoretical frameworks. The TAM [5] provides the fundamental lens through which perceived usefulness and ease of use are conceptualized as cognitive drivers of behavioral intention to use information technology. The C-TAM, TPB model by Taylor and Todd [17] is an adaptation of TAM to the e-commerce context, successfully incorporating volitional and normative constructs, and thus increasing the explanatory power of the model. The Theory of planned Behavior [6] complements TAM by emphasizing attitude formation and perceived control that are closely related to perceived risk in the online purchase setting[18].

- **Trust and Online Purchase Intention**

Trust in e-commerce is defined as the confidence that the seller will behave in a predictable manner and in the interest of the consumer [7]. McKnight et. al [19] demonstrated that institutional trust and trust in a vendor have an independent impact on online purchasing behavior. In a meta-analysis indexed by Scopus Schlosser, White and Lioyd[20] validated trust as a universal positive predictor of online purchase intention in 27 independent studies. Rust reduces the psychological cost of committing to an online purchase because it reduces the sense of vulnerability associated with non- face to face transactions. Based on this evidence, a positive relationship between trust and online purchase intention is hypothesized.

- **Website Quality and Online Purchase Intention**

Website quality has been operationalized through three main dimensions: system quality (Load speed, navigation, responsiveness), information quality(accuracy, relevance, completeness) and service

quality (personalization, customer support)[11]. Loiacono, Watson, and Goodhue [21] developed the WebQual instrument and showed that these dimensions have a significant relationship with consumer repurchase intention. Zhang and vonDran[22] also contended that motivator website features lead to positive attitude formation which in turn leads to higher purchase intention. A high quality website demonstrates organizational competence and investment in user experience, lowering cognitive friction in the purchase journey[9].

- **Product Review and Online Purchase Intention**

Electronic word-of-mouth, in the form of online product reviews, is a major source of information for online shoppers [12]. Cheung, Luo, Sia and Chen [23] applied elaboration likelihood theory to show that argument quality and source credibility of reviews affect consumers differently depending on their level of purchase involvement. High volume positive reviews increase social proof effects, which reduce uncertainty and increase purchase intention [24]. Cui offered casual evidence with natural experiment design to verify that review posting directly increased conversion on large scale e-commerce platforms.

- **Perceived Usefulness and Online Purchase Intention**

Shopping is the extent to which consumers believe that the platform makes the shopping process more effective, for example, saving time, providing a variety of products, and making price comparisons easier [5]. Gefen and Straub [26] extended TAM to the online retailing context and confirmed that perceived usefulness is a stronger predictor of purchase intention than perceived ease of use in experienced users. Further confirmation of perceived usefulness as a robust, cross-contextual antecedent of e-commerce adoption and intention was provided by a replication by a replication and extension carried out by Pavlou[27]over various product categories.

- **Perceived Risk and Online Purchase Intention**

Perceived risk is the consumers' expected loss on a number dimensions including financial (fraud Charges), Privacy (Data breach), Performance (Product not as described), psychological (Dissatisfaction) and delivery (non-receipt or delay) [15]. Forsythe and Shi [28] found that the perceived financial and performance risk were the main obstacles to the online purchase intent. Bhatnagar and Ghose [16] confirmed in a cross-national study across 11 countries that perceived risk will always negatively influence purchase intention, the strength of the effect being product tangibility and market maturity dependent mitigation strategies, such as secure payment badges, return policies, and trust seals, have been found to partially attenuate this negative relationship [29].

- **Conceptual Framework**

The proposed conceptual framework is presented in Figure 1. The study hypothesis that Trust, Website Quality, Product Reviews and Perceived Usefulness positively influence Online Purchase Intention(H1). (H2) Perceived Risk has a negative impact on online Purchase Intention. The framework is based on TAM and TPB with all antecedents operationalized at the individual consumer level.

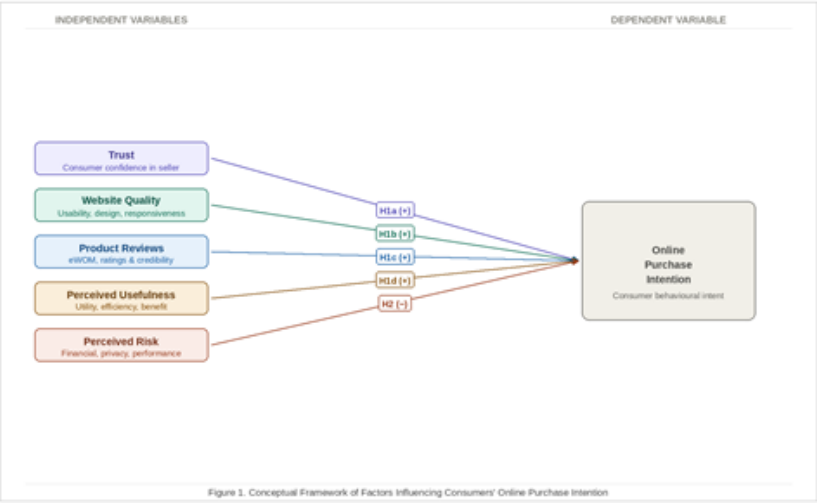

Figure 1: Conceptual Framework of Factors Influencing Consumers' Online Purchase Intention

Research Methodology

Research Design

This research adopts a positivist epistemological position and employs a quantitative, cross-sectional survey design. The hypothetical deductive approach is used to test the theoretically derived propositions through statistical analysis of primary data [30]. The choice of a survey instrument is consistent with previous studies on online purchase intention [3,8,14] and generates standardized and comparable data for respondents.

Population and Sampling

The target population includes adult consumers aged 18 years or older that have made at least one online transaction within the last six months. The sampling technique used in this study was a convenience sampling method based on an online survey tool that targeted consumers in different urban areas. According to the rule of thumb of 5 observations for each free parameter in SEM [31], with 32 free parameters estimated in the hypothesized model, the minimum sample size is 160 individuals. The target sample size was 350 questionnaires with a total of 320 valid responses.

Measurement Instrument

All constructs were operationalized via well-developed validated multi-item measures previously used in studies indexed in scopus. Trust (four items) was measured through the scales modief from Mcknight et al [19]. Website quality (four items) was based on the scales modified from Loiacono et al. [21]. Product reviews (three items) were measured using the scales adapted from Cheung and Thandni [12]. Perceived usefulness (four items) was measured by the scales modified after Davis [5]. Perceived risk (four items) was measured by the scales adapted from forsythe and Shi [28]. Online purchase intention (three items) was measured with the help of scales suggested by Pavlou [27]. All scales were assessed by means of a five point Likert scale.

Construct	Sample Item	Source
Trust	I believe this online store is trustworthy	McKnight et al. [19]
Website Quality	This website is well designed and easy to navigate	Loiacono et al. [21]
Product Reviews	Online reviews help me make better purchase decisions.	Cheung & Thandani [12]
Perceived usefulness	Shopping online enhances my purchasing efficiency	Davis [5]
Perceived Risk	I feel there is high risk involved in buying online	Sorsythe & SHi[28]
Purchase Intention	In intend purchase products online in the future	Pavlou [27]

Data Analysis

The data analysis process involved two main stages. The first stage involved conducting a Confirmatory Factor Analysis (CFA) in AMOS 24 to check the measurement model. Measures used to test reliability included Cronbach's Alphga and Composite Reliability at 0.70 as the minimum acceptable level. For the validity test, the average variance extracted (AVE> 0.50) and the Fornell- Larker Criterion were used. In the second stage, structural equation modelling was used to test the hypothesized relations. Evalution of model fit was carried out using measures such as X^2/df <3.0, RMSEA<0.08, CFI>0.90, TLI0.90, and SRMR<0.08[32].

Common Method Bias

The procedures used to address common method bias(CMB) include both procedure and statistics- based measures. In terms of procedure, respondent anonymity was ensured, while separating the predictors and criterion variables using a filler section. WIth regards to statistical methods, a Harma's one factor test was done, where the one factor variance accounted for 23.4% of the total variance, much less than 50% [33].

Results

- **Respondent Profile**

Total valid respondents: 320. Breakdown by gender: Female :52.8% Male: 47.2% Breakdown by age group: 18 to 25:34.1%, 26 to to 35: 38.4%, 36 to 45:18.8%, above 45:8.7% Breakdown by educational background: Undergraduate.

- **Measurement Model (CFA)**

Model fit was adequate based on the measurement model results; X^2/df=2.31, RMSEA= 0.064, CFI= 0.941, TLI=0.9333, SRMR=0.0051. ALI factor loading were greater than the benchmark value of 0.70, ranging between 0.71 and 0.89. Cronbach's alpha and composite reliability were both higher than the benchmark value of 0.70 with values ranging between 0.82 and 0.91 and 0.83 and 0.93, respectively, indicating adequate internal consistency values for average variance extracted (AVE) were between 0.

Table 2: Reliability and Validity Statistics

Construct	Cronbach's Alpha	CR	AVE	Mean (SD)
Trust	0.89	0.91	0.68	3.82(0.74)
Website Quality	0.85	0.87	0.63	3.71(0.81)
Product Reviews	0.82	0.84	0.57	3.65(0.78)
Perceived Usefulness	0.88	0.90	0.65	3.77(0.72)
Perceived Risk	0.83	0.85	0.58	3.02(0.91)
Purchase Intention	0.91	0.93	0.71	3.88(0.68)

- **Structural Model and Hypothesis Testing**

The goodness of fit for the model was very satisfactory: X/df=2.44, RMSEA= 0.067, CFI=, TLI= 0.928, SRMR= 0.055.

Hypothesis	path	Std. Beta	t-value	p-Value	Decision
H1a	Trust-OPI	0.41	7.82	<_.001	Supported
H1b	Website Quality-	0.29	5.41	<_.001	Supported
H1c	Prodct Reviews- OPI	0.24	4.68	<_0.001	Supported
H1d	Perceived Usefulness-OPI	0.33	6.25	<.001	Supported
H2	Perceived Risk- OPI	-0.22	-4.17	<.001	Supported

The regression model, therefore, accounted for 62.4% of the variance in online purchase intentions(R^2=0.624). Trust is the greatest positive influence(B=0.41), followed by perceived usefulness(b=0.33), web quality (B=0.29) and product reviews (B=0.24). Risk perception is the only negative influence on online purchasing intention (B=-o.22). H1 and H2 are completely supported.

Conclusion

- **Theoretical Contribution**

The research offers three key contributions from the theory perspective. Firstly, it introduces and empirically verifies and integration of TAM and TPB constructs into a novel five factor model of online purchase Intention. Secondly, it proves that trust is a superordinate construct that encompasses the partial effects attributed to risk and site quality variables. Finally, through empirical verification of all proposed relations using SEM analysis and psychometric validation, it contributes to a cumulative body of knowledge that underpins consensus within the scientific community regarding e-commerce related behaviour.

- **Managerial Implications**

For those involved in digital marketing and running e-commerce sites, the importance of trust indicates that the best use of marketing funds will be made by investigate in trustworthiness indicators, including SSL, verified sellers, return policies, and customer service response times. Website optimization, especially mobile-friendly website development and faster checkout processes, is the next best investment. A low-cost approach to harnessing social proof involves encouraging user to write verified reviews of products purchased from their accounts.

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