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AN EMPIRICAL STUDY ON CUSTOMER PERCEPTION TOWARDS ONLINE SHOPPING PLATFORMS

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Abstract—*This study investigates factors shaping customers' perceptions and trust in online shopping, drawing on the Technology Acceptance Model (TAM) and Stimulus-Organism-Response (SOR) frameworks. In India – now the world's second-largest e-commerce market with over 270 million online shoppers understanding these influences is vital. A survey of 220 frequent online shoppers was analysed using PLS-SEM. The model included convenience, digital services (site usability), product quality, payment security and perceived value, with customer trust as a mediator and purchase intention as the outcome. Results show that richer digital services (e.g. user-friendly interfaces), higher product quality and stronger payment security significantly boosted consumer trust ($p<0.05$), while convenience and perceived value did not. Crucially, trust was the strongest predictor of purchase intention ($p<0.001$). These findings echo Gefen et al. (2003), who observed that trust is as important as TAM's perceived usefulness and ease-of-use. Moreover, trust significantly mediated the impacts of site quality and security on buying behaviour, reinforcing trust's central role. Practically, improving website design, information quality and transaction security should be prioritised to build trust and foster online loyalty.*

Keywords: *Online Shopping, Convenience, Stimulus Organism Response Model [SOR], Customer Trust.*

INTRODUCTION

In todays era due to the emergence of world wide web and digital technology is has created a great prospect for online shopping. It refers to buying goods and services from merchant who sell it on the internet. It has become a trend in the present era because now a days consumer have become technology savvy who prefer using internet and purchasing the product online.

In the year 2026 there are approximately 2.77 billion online shoppers representing over 34% of world population. India ranks 2nd with a largest online shoppers base with around 270-280 million users who shop using various platform such as amazon, myntra, flipkart, meesho etc.

There are various factors influencing online purchases which includes ease and convenience, wide variety of goods, competitive prices, website design, delivery services, return policy, online reviews and ratings, digital payment system etc which gives boost for online shopping. As a result consumer buying behaviour has shifted considerably from offline shopping to online shopping. But despite its growing popularity certain set of customers are reluctant to do online purchasing due to issues such as fraud, delayed delivery, difficulty in return and refund, lack of physical inspection of goods etc. So it becomes essential to understand the customer perception towards online shopping as it an important indicator for growth of e commerce business. A positive perception towards it can lead to repeat purchases, positive word of mouth, increased customer satisfaction, increased customer loyalty etc where as a negative perception may discourage them from purchasing online.

These analysis may help the e-commerce business to improve service quality, identify customer expectation, frame effective strategies to increase their market share and strengthen their position in e-commerce industry. So this study aims to understand these aspects and provide useful insight to e-commerce companies & meet the expectation of customers to increase their satisfaction which can lead to positive online shopping experience to customer.

REVIEW OF LITERATURE

K Vanitha, **M Prakash** [2017]

Online shopping leads to purchasing product at their own leisure by the customer from an online store.For this study problems and expectations of customers towards online shopping is also considered.The customer purchases the goods on a larger scale when heavy discounts are offered by the company which meets the expectation of customer as products are available at lower price & it also helps company to increase volume of sales.

NJ Dani[2017]

A great revolution that happened in the field of marketing is electronic marketing. In order to take advantage from this revolution it is necessary to frame proper strategies. But these strategies are influenced by various factors such as website design, features, less price, feedback, age, attitude etc. So there is a need to study the perception of consumer towards online perception.

K Badlani [2010]

Growth in information technology and globalisation created a growing awareness towards online shopping specifically preference was given to purchase daily based needed products. The foremost reason for adopting online shopping is it saves time and provide quality products. But studying online shopping behaviour of consumer remains a complex issue as it is based on multiple variables and there are different theoretical perspective towards it.

C Changchit [2006]

In order to study perception of consumers towards online shopping is it is necessary to study between offline consumers and online consumers. The success of online business depends on ability to attract and retain customers. The better an online business understands the perception of these shoppers it can retain its customers successfully.

N Bannerjee,N Datta

Since the inception of internet E-Marketers are using it as a medium to reach out the customers at large. Online shopping is widely accepted tool to make purchases by customers but it varies from customer to customer based on their attitude & perception. In order to make analysis of customers towards online shopping 316 internet users were selected for this study. A study of various factors such as monthly family income, experience of using internet, availability of information was also been considered. Apart from these factors Online security issue can be a demotivating factor for customer for been reluctant towards adoption of online shopping.

NEED OF THE STUDY

The advent of internet and digital technology has increased the arena of online shopping. There is a need to study which are motivating factors & demotivating factors which influence online shopping. So that the e-commerce companies can devise proper strategies' to improve its service and meet expectations of customers, enhance customer satisfaction, and strengthen their position in the competitive digital marketplace.

STATEMENT OF PROBLEM

Online shopping has become a popular mode for purchasing goods and services as it has various benefits associated with it such as time savings, competitive prices, wider product choices, convenience because of which large number of consumers are shifting from traditional retail stores to online shopping platforms. However, despite the growing popularity of online shopping, customers still face several challenges and concerns. Issues such as product quality, security of online transactions, privacy of personal information, delayed delivery, and difficulties in return or refund policies influence customers' perceptions and attitudes toward online shopping. These concerns may affect the level of trust and satisfaction among consumers while using online platforms. Therefore, it becomes important to study and understand how customers perceive online shopping and what factors influence their attitudes and purchasing decisions.

OBJECTIVES OF STUDY

- To identify key factors influencing customers to shop online.
- To study the perception of customers towards online shopping.
- To analyse the problems faced by customers while shopping online.

- To suggest measures to improve the online shopping experience.

CONCEPTUAL THEORY AND MODEL

For the above study well known two theoretical model are used namely Technology Acceptance Model [TAM] & the Stimulus Organism Response Model [SOR].

TECHNOLOGY ACCEPTANCE MODEL

This model was developed in 1989 by Fred D. Davis it explains how users adopt and use new technologies. For the above study TAM explains how factors such as convenience products, security influence customers perception in online shopping & when the benefits associated with it are likely to develop positive perception towards it. Application of TAM is relevant for the present study because technological factors & consumer perception influence adoption of online shopping.

STIMULUS–ORGANISM–RESPONSE (SOR) MODEL

This model was given by Mehrabian & Russel in the year 1974.It is extensively used to study consumer behaviour, online shopping, retail environment. It also explains how consumers internal psychology is affected by external factors that is online shopping platform. Usage of this model for above study will help will improve and enhance the overall shopping experience.

PROPOSED HYPOTHESIS

Direct Effect Hypotheses

H1: Convenience has a significant positive effect on customer trust.

H2: Customer trust has a significant positive effect on customer purchase outcome (CPOS).

H3: Digital services have a significant positive effect on customer trust.

H4: Product-related factors have a significant positive effect on customer trust.

H5: Payment security has a significant positive effect on customer trust.

H6: Perceived value has a significant positive effect on customer trust.

Indirect (Mediating) Hypotheses

H7: Customer trust mediates the relationship between convenience and customer purchase outcome.

H8: Customer trust mediates the relationship between digital services and customer purchase outcome.

H9: Customer trust mediates the relationship between product-related factors and customer purchase outcome.

H10: Customer trust mediates the relationship between payment security and customer purchase outcome.

H11: Customer trust mediates the relationship between perceived value and customer purchase outcome.

RESEARCH METHODOLOGY

This study examines the factors influencing customer perception towards online shopping. In particular, the study focuses on 220 respondents who have experience in purchasing products through online shopping platforms. The research considers five independent variables, namely convenience of online shopping, price and discounts, product variety, payment security, and delivery service. Customer trust is considered as the mediating variable, while customer perception towards online shopping is treated as the dependent variable.

The study adopts a convenience sampling technique to select respondents based on their accessibility and willingness to participate in the survey. Data for the study were collected using a structured questionnaire containing valid reflective constructs. Each construct was measured using four items on a 5-point Likert scale, ranging from “strongly disagree” to “strongly agree.”

The collected data were analyzed using SmartPLS (Partial Least Squares Structural Equation Modeling), which enables the assessment of the measurement model and the structural relationships among the constructs. This approach helps in examining the influence of online shopping attributes on customer trust and overall customer perception towards online shopping.

DATA ANALYSIS & INTERPRETATION

Table No 1: Demographic Profile

Variable	Category	Counts	% of Total	Cumulative %
Age	20–30 years	56	25.5%	25.5%
	31–40 years	84	38.2%	63.6%
	41–50 years	56	25.5%	89.1%
	Above 50 years	21	9.5%	98.6%
	Below 20 years	3	1.4%	100.0%
Gender	Female	123	55.9%	55.9%
	Male	97	44.1%	100.0%
Occupation	Business / Self-employed	73	33.2%	33.2%
	Others	12	5.5%	38.6%
	Professional	58	26.4%	65.0%
	Salaried Employee	75	34.1%	99.1%
	Student	2	0.9%	100.0%
Education Level	Graduate	71	32.3%	32.3%
	Others	13	5.9%	38.2%
	Postgraduate	116	52.7%	90.9%
	Undergraduate	20	9.1%	100.0%
Monthly Income	Above ₹80,000	27	12.3%	12.3%
	Below ₹20,000	9	4.1%	16.4%
	₹20,000 – ₹40,000	53	24.1%	40.5%
	₹40,001 – ₹60,000	71	32.3%	72.7%
	₹60,001 – ₹80,000	60	27.3%	100.0%
Awareness of Online Shopping	Yes	220	100.0%	100.0%
Most Used Platform	Amazon	55	25.0%	25.0%
	Flipkart	53	24.1%	49.1%
	Meesho	46	20.9%	70.0%
	Myntra	57	25.9%	95.9%
	Others	9	4.1%	100.0%
Purchase Frequency	Frequently	73	33.2%	33.2%
	Occasionally	65	29.5%	62.7%
	Rarely	23	10.5%	73.2%
	Very Frequently	59	26.8%	100.0%
Usage Duration	1–3 years	86	39.1%	39.1%

	3–5 years	78	35.5%	74.5%
	Less than 1 year	31	14.1%	88.6%
	More than 5 years	25	11.4%	100.0%
Product Type Purchased	Books	32	14.6%	14.6%
	Clothing/Fashion	87	39.7%	54.3%
	Electronics	46	21.0%	75.3%
	Groceries	40	18.3%	93.6%
	Others	14	6.4%	100.0%

Source: Authors Calculation

Interpretation

The table presents the demographic and online shopping behavior of respondents. A majority of respondents (38.2%) belong to the 31–40 years age group, followed by 20–30 and 41–50 years (25.5% each), indicating a middle-aged dominance. Females (55.9%) slightly outnumber males (44.1%). In terms of occupation, salaried employees (34.1%) and business/self-employed individuals (33.2%) form the largest groups. Most respondents are well-educated, with 52.7% being postgraduates. Income levels are fairly distributed, with the highest proportion (32.3%) earning ₹40,001–₹60,000. Notably, all respondents are aware of online shopping. Platforms like Myntra (25.9%) and Amazon (25.0%) are most preferred. Shopping frequency is moderate, with 33.2% purchasing frequently. Most users have 1–3 years of experience, and clothing/fashion (39.7%) is the most commonly purchased product category.

OUTPUT OF PROPOSED CONCEPTUAL MODEL

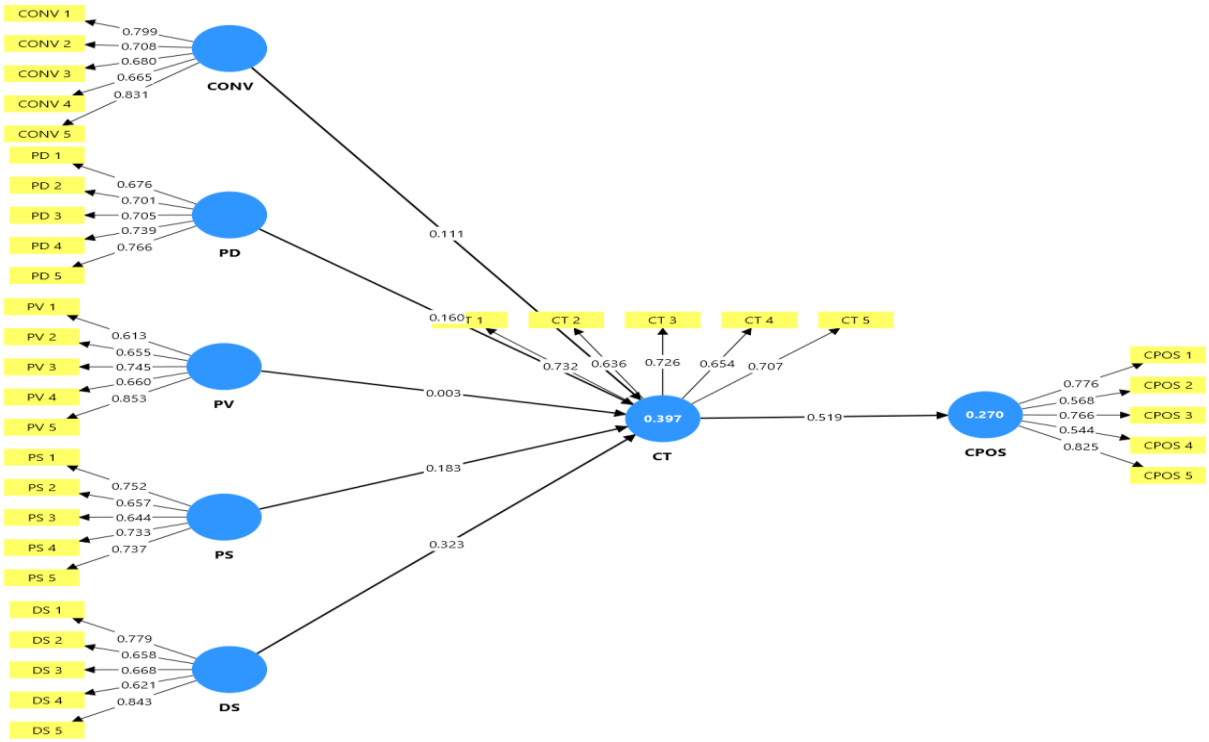

TABLE NO 2: OUTER LOADING

	Outer loadings
CONV 1 <- CONV	0.799
CONV 2 <- CONV	0.708
CONV 3 <- CONV	0.680
CONV 4 <- CONV	0.665
CONV 5 <- CONV	0.831
CPOS 1 <- CPOS	0.776
CPOS 2 <- CPOS	0.568
CPOS 3 <- CPOS	0.766
CPOS 4 <- CPOS	0.544
CPOS 5 <- CPOS	0.825
CT 1 <- CT	0.732
CT 2 <- CT	0.636
CT 3 <- CT	0.726
CT 4 <- CT	0.654
CT 5 <- CT	0.707
DS 1 <- DS	0.779
DS 2 <- DS	0.658
DS 3 <- DS	0.668
DS 4 <- DS	0.621
DS 5 <- DS	0.843
PD 1 <- PD	0.676
PD 2 <- PD	0.701
PD 3 <- PD	0.705
PD 4 <- PD	0.739
PD 5 <- PD	0.766
PS 1 <- PS	0.752
PS 2 <- PS	0.657
PS 3 <- PS	0.644
PS 4 <- PS	0.733
PS 5 <- PS	0.737
PV 1 <- PV	0.613
PV 2 <- PV	0.655
PV 3 <- PV	0.745

PV 4 <- PV	0.660
PV 5 <- PV	0.853

Source: Authors Calculation

Interpretation

The outer loading values ranged from 0.544 to 0.853, indicating that most indicators demonstrated acceptable to strong reliability. According to Joseph F. Hair Jr. et al., indicator loadings above 0.70 are desirable, while values between 0.40 and 0.70 may be retained if composite reliability and AVE are satisfactory, confirming acceptable convergent validity of the measurement model.

TABLE NO 3: AVE

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
CONV	0.791	0.812	0.857	0.547
CPOS	0.744	0.780	0.828	0.498
CT	0.729	0.736	0.821	0.479
DS	0.764	0.802	0.840	0.516
PD	0.765	0.766	0.842	0.516
PS	0.750	0.764	0.832	0.499
PV	0.755	0.807	0.834	0.504

Source : Authors Calculation

Interpretation

The reliability and validity results indicate that the constructs demonstrate satisfactory internal consistency and convergent validity. Cronbach's alpha values ranged from 0.729 to 0.791, while composite reliability values exceeded the recommended threshold of 0.70, confirming construct reliability. Most AVE values were close to or above the acceptable limit of 0.50, indicating adequate convergent validity. Although CPOS, CT, and PS reported slightly lower AVE values, they remain acceptable due to satisfactory composite reliability values. According to Joseph F. Hair Jr. et al., constructs with CR above 0.70 and AVE around 0.50 are considered acceptable in PLS-SEM analysis.

Table No 4: HTMT

	CONV	CPOS	CT	DS	PD	PS	PV
CONV							
CPOS	0.739						
CT	0.587	0.685					
DS	0.752	0.729	0.719				
PD	0.611	0.664	0.612	0.578			
PS	0.566	0.673	0.634	0.665	0.741		
PV	0.847	0.829	0.564	0.819	0.653	0.576	

Source : Authors Calculation

Interpretation

The HTMT values ranged from 0.564 to 0.847, which are below the recommended threshold value of 0.90, indicating satisfactory discriminant validity among the constructs. This suggests that each construct is empirically distinct and measures different conceptual dimensions within the model. The highest HTMT value was observed between CONV and

PV (0.847), which still falls within the acceptable limit. According to Joseph F. Hair Jr. et al., HTMT values below 0.90 confirm adequate discriminant validity in PLS-SEM measurement models.

TABLE NO 5: FORNELL LARCKER

	CONV	CPOS	CT	DS	PD	PS	PV
CONV	0.740						
CPOS	0.546	0.705					
CT	0.459	0.519	0.692				
DS	0.588	0.555	0.558	0.719			
PD	0.478	0.506	0.466	0.458	0.718		
PS	0.438	0.493	0.490	0.514	0.564	0.706	
PV	0.665	0.626	0.443	0.634	0.491	0.455	0.710

Source : Authors Calculation

Interpretation

The Fornell–Larcker criterion results indicate satisfactory discriminant validity among all constructs. The square root of AVE values (diagonal elements) for each construct is greater than the corresponding inter-construct correlation values, confirming that each construct shares more variance with its own indicators than with other constructs in the model. This demonstrates that the constructs are conceptually distinct and empirically valid. According to Joseph F. Hair Jr. et al., the Fornell–Larcker criterion is satisfied when diagonal AVE values exceed inter-construct correlations, establishing discriminant validity in PLS-SEM analysis.

Table No 6: Direct Path

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
CONV -> CT	0.111	0.120	0.104	1.069	0.285
CT -> CPOS	0.519	0.529	0.079	6.615	0.000
DS -> CT	0.323	0.321	0.118	2.741	0.006
PD -> CT	0.160	0.163	0.077	2.079	0.038
PS -> CT	0.183	0.190	0.075	2.437	0.015
PV -> CT	0.003	0.004	0.103	0.026	0.980

Source : Authors Calculation

Interpretation:

The structural model results reveal that DS → CT, PD → CT, PS → CT, and CT → CPOS have significant positive relationships, as their p-values are below 0.05 and t-values exceed the recommended threshold of 1.96. Among them, CT → CPOS shows the strongest effect ($\beta = 0.519$, $p < 0.001$). However, CONV → CT and PV → CT were found to be insignificant due to p-values greater than 0.05. According to Joseph F. Hair Jr. et al., path coefficients are considered significant when t-values exceed 1.96 at the 5% significance level in PLS-SEM analysis.

TABLE NO : 7 INDIRECT PATH

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
CONV -> CPOS	0.057	0.064	0.058	0.996	0.319
DS -> CPOS	0.168	0.170	0.068	2.479	0.013
PD -> CPOS	0.083	0.087	0.044	1.873	0.061
PS -> CPOS	0.095	0.101	0.044	2.163	0.031
PV -> CPOS	0.001	0.003	0.056	0.025	0.980

Source : Authors Calculation

Interpretation

The indirect path analysis indicates that DS → CPOS and PS → CPOS have significant indirect effects through CT, as their p-values are below 0.05. However, CONV → CPOS, PD → CPOS, and PV → CPOS were found to be statistically insignificant due to p-values exceeding 0.05. These findings suggest that customer trust mediates only selected relationships in the model. According to Joseph F. Hair Jr. et al., mediation effects are considered significant when p-values are less than 0.05 in PLS-SEM analysis.

FINDINGS & SUGGESTION

Key Findings

In our study of 220 online shoppers, structural modeling revealed that robust digital services (e.g. website interface quality), product-related quality, and secure payment features significantly increased customer trust, whereas convenience and perceived value had no significant effect. Trust then emerged as the strongest predictor of purchase intentions ($p<0.001$), outweighing any direct effect of ease or price. For example, improved site features and secure checkout processes directly lifted consumer trust and sales. This underscores trust's central role: prior research similarly finds that establishing customer trust and satisfaction strongly drives online repurchases[1]. Our mediation analysis confirmed that trust bridges these effects: enhancements in digital service and payment security indirectly improved buying behaviour via increased trust. Overall, shoppers appear to prioritise credible, secure experiences over mere convenience, aligning with TAM/SOR views that external cues (site quality, security) shape internal attitudes (trust) and ultimately drive purchase behaviour.

Suggestions

i. **Enhance site usability:** Streamline layout and navigation to make browsing effortless. For example, provide intuitive search, filters, and clear categories so shoppers can find items quickly. Also optimise pages for speed and mobile devices, since a slow or cluttered site undermines confidence. A polished, user-friendly interface signals professionalism and can significantly boost customer trust.

ii. **Offer secure, flexible payments:** Provide multiple trusted payment options (e.g. local e-wallets, credit cards) so shoppers can use familiar services. For instance, allowing popular local payment methods helps reduce cart abandonment. You should also offer features like saved payment details or one-click checkout to streamline transactions. Always display encryption and security badges (SSL seals, trusted gateway logos) during checkout to reassure customers.

iii. **Leverage social proof:** Display customer reviews, testimonials and trust badges prominently to signal reliability. Highlight positive experiences and address any negative feedback openly (e.g. respond to concerns) to demonstrate commitment to customer satisfaction. This transparency and endorsement of others' experiences helps skeptical shoppers feel more confident.

iv. **Be transparent:** Clearly explain shipping, return/refund and data privacy policies in simple language. For example, highlight a "free returns" guarantee or provide visible tracking updates to reassure buyers. Clear guarantees and responsive support (e.g. easy contact channels) show customers that any issues will be handled, which encourages purchases.

THEORETICAL IMPLICATION & MANAGERIAL IMPLICATION

Theoretical Implications

The study extends TAM and SOR by showing that e-commerce features (digital services, product quality, payment security) act as external stimuli that shape customers' internal state (trust) and thereby drive purchase outcomes. This highlights trust as a key attitudinal mediator. In line with TAM, ease-of-use strongly enhances perceived usefulness[1], implying that rich digital interfaces and secure environments foster trust and positive attitudes. Consistent with SOR, these external cues influence trust and ultimately purchase behavior[2]. Notably, convenience and perceived value did not directly predict trust, suggesting context-specific dynamics where basic convenience may be assumed. Overall, the findings enrich technology-acceptance theory by positioning trust at the center of online shopping adoption: as one study confirms, customer trust significantly drives online repurchase intentions[2], underscoring its pivotal role in translating site stimuli into consumer responses.

Managerial Implications

For practitioners, these results imply a dual focus on usability and trust-building. Online retailers should ensure websites are user-friendly (with clear navigation, comparison tools, intuitive layouts[3]) and offer interactive support (e.g. live chat, tutorials[4]). Crucially, they must prioritize secure payment systems, transparent return policies, and reliable delivery to foster trust. Providing detailed product information and responsive after-sales support can further strengthen consumer confidence[5]. In fact, "providing ... security in payments, timely receipt of goods... could build the trust of customers and attract people to e-shopping"[5]. Prioritizing these trust-enhancing measures is vital, since trust and satisfaction strongly drive online repeat purchases[2]. By improving both ease-of-use and confidence-building features, e-commerce platforms can boost customer satisfaction, loyalty, and positive word-of-mouth.

LIMITATION & FUTURE SCOPE

The present study has several limitations. First, it is cross-sectional and based on self-reported data, so causal relationships cannot be firmly established[1]. Second, the sample was drawn via convenience sampling of mostly young, educated online shoppers in one country, which limits generalizability[1]. Third, the model included only a limited set of predictors (e.g. convenience, security, product factors) and did not incorporate other relevant constructs (such as social influence, website interactivity or varied trust facets)[2]. In particular, only one aspect of website design (appearance) was examined, leaving many usability and content factors unexplored[2]. Finally, using PLS-SEM means the model is confirmed without a global goodness-of-fit measure, a common limitation of this approach[3].

Future research should address these gaps. Longitudinal or experimental designs are recommended to better test causal effects[1]. Studies should recruit larger and more diverse samples (different ages, regions, cultures) to improve external validity. Additional antecedents and moderators could be examined – for example, detailed website qualities (content quality, navigation speed, interactive features) and social or demographic moderators (age, gender, internet experience)[4][5]. Other dimensions of trust (e.g. trust in vendor or logistics) could also be incorporated. Such extensions would enrich the TAM/SOR framework and yield a more comprehensive understanding of online shopping behavior.

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