

Perception of Online Security and Trust in E-commerce in Ernakulam District

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This study undertakes a comprehensive examination of customer perception of online security and trust in the realm of e-commerce, delving into the multifaceted factors that shape trust and precipitate security concerns in online transactions. By probing the intricacies of customer attitudes and behaviors, this research aims to provide actionable insights into the pivotal role of online security and trust in e-commerce, underscoring the imperative for businesses to prioritize these critical aspects in order to cultivate unwavering customer loyalty, drive online sales, and ultimately, maintain a competitive edge in the rapidly evolving digital marketplace.

Keywords: Online Marketing, Customer Perception, Security Risks, Privacy Concerns, Trust.

1. Introduction

The growth of e-commerce has transformed the way consumers shop, with online transactions becoming increasingly prevalent. However, concerns about online security and trust remain a significant barrier to widespread adoption. As customers share personal and financial information online, they expect a secure and trustworthy environment. Understanding customer perception of online security and trust is crucial for businesses to develop effective strategies to mitigate concerns and foster a loyal customer base.

Statement of Problems

Despite the growing importance of e-commerce, many customers remain hesitant to engage in online transactions due to concerns about online security and trust. The lack of face-to-face interaction, fear of data breaches, and uncertainty about website authenticity contribute to these concerns. If left unaddressed, these issues can lead to decreased customer loyalty, negative word-of-mouth, and ultimately, lost sales. Therefore, this study aims to investigate the factors that influence customer perception of online security and trust in e-commerce.

Objectives

The primary objectives of this study are to investigate customer perception of online security and trust in e-commerce, identify the factors that influence trust and security concerns in online transactions, and examine the impact of online security and trust on customer loyalty and online sales. Additionally, the study aims to provide recommendations for businesses to improve online security and trust, thereby enhancing customer experience and driving online sales.

Sampling and Data Collection

This study employed a quantitative research approach, using a survey questionnaire to collect data from a sample of 150 online shoppers. The sample was selected using a convenience sampling technique, where participants were recruited through social media platforms and online forums. The questionnaire was administered online, and respondents were assured of confidentiality and anonymity.

Demographics

The demographic analysis of customers in Ernakulam district provides valuable insights into the characteristics of online shoppers, shedding light on their perceptions of online security. Understanding the demographics of online shoppers is crucial in developing effective strategies to enhance online security and trust in e-commerce.

Table 1. Respondents Profile

Demographics		No. of Respondents	Percentage
Age (Years)	Upto 30	54	36.00
	31 to 40	47	31.33
	41 to 50	33	22.00
	Above 50	16	10.67
	Total	175	100.00
Gender	Male	79	60.48
	Female	71	39.52
	Total	175	100.00
Education	UG Degree	60	40.00
	PG Degree	38	25.33
	ITI/Diploma	35	52.67
	Others	17	47.33
	Total	175	100.00
Income	Upto ₹.50,000	25	16.67
	₹.50,001 to ₹.1,00,000	61	40.67
	₹.1,00,001 to ₹.1,50,000	34	22.67
	Above ₹.1,50,000	30	20.00
	Total	175	100.00

Source: Primary Data

Based on the data provided in table 1, The demographic analysis of the respondents' age reveals that the majority of online shoppers in Ernakulam district are young adults, with 36% of respondents falling age group of up to 30 years, followed by 31.33% age group of 31-40 years. The age group of 41-50 years constitutes 22% of the respondents, while those above 50 years account for only 10.67%. This suggests that online shopping is more prevalent among the younger population in Ernakulam district, indicating a tech-savvy and digitally connected demographic.

The demographic profile of the respondents reveals that the majority of online shoppers in Ernakulam district are male, accounting for 60.31% (79 respondents) of the total sample, while females constitute 39.43% (71 respondents) and 6 respondents had missing values, indicating a slightly skewed representation towards male online shoppers in the district.

The educational background of the respondents reveals that the majority of online shoppers in Erkanulam district hold an undergraduate (UG) degree, accounting for 40% (60 respondents) of the total sample, followed by postgraduate (PG) degree holders at 25.33% (38 respondents), while ITI/Diploma holders and others constitute 20% (35 respondents) and 9.71% (17 respondents) respectively, indicating a relatively educated online shopping demographic in the district.

The income profile of the respondents reveals that the majority of online shoppers in Ernakulam district fall in the middle-income bracket, with 40.67% (61 respondents) earning between ₹50,001 to ₹1,00,000 per annum, followed by 22.67% (34 respondents) earning between ₹1,00,001 to ₹1,50,000, while 20% (30 respondents) earn above ₹1,50,000, indicating a relatively affluent online shopping demographic in the district.

Product Types

The type of products purchased online is a crucial aspect of e-commerce, as it influences customer perception of online security and trust. Table 2 presents the types of products bought by respondents in online marketing, providing insights into their online shopping behavior.

Table 2 Type of Products Buying in the Online Marketing of the Respondents

S. No.	Type of products	Yes	Percent	No	Percent	Total
1.	Automobiles and Parts	63	36.00	112	64.00	175
2.	Event, Travel ticket	138	78.86	37	21.14	175
3.	Car hire	69	39.43	106	60.57	175
4.	Cosmetics/nutrition supplies	158	90.29	17	9.71	175
5.	Clothing & Accessories	75	42.86	100	57.14	175
6.	Food & Drink	84	48.00	91	52.00	175
7.	Groceries	48	27.43	127	72.57	175
8.	Health & Beauty	129	73.71	46	26.29	175
9.	Electronic Products	126	72.00	49	28.00	175
10.	Sporting goods	166	94.86	9	5.14	175
11.	Tours/ Hotel Reservations	102	58.29	73	41.71	175
12.	Others	90	51.43	85	48.57	175

Source: Primary Data

The analysis of the types of products purchased online by respondents in Ernakulam district reveals a diverse range of product categories. The majority of respondents (94.86%) purchased sporting goods online, followed by cosmetics/nutrition supplies (90.29%), and electronic products (72%). In contrast, fewer respondents purchased automobiles and parts (36%),

groceries (27.43%), and car hire services (39.43%) online. These findings suggest that online shoppers in Ernakulam district prefer to purchase lifestyle and convenience products online, rather than big-ticket items or services that require more personalized interaction.

Shopping Frequency

Understanding the frequency of online shopping is crucial in assessing the level of comfort and trust that customers have in e-commerce platforms. The following table presents the shopping frequency of respondents, providing insights into their online shopping habits and behavior.

Table 3 How Often Shop Online

Frequency	No of respondents	Percentage
Daily	7	4.00
Weekly	8	4.57
Monthly	12	6.86
Once in sis months	13	7.43
Rarely	135	77.14
Total	175	100.00

Source: Primary Data

Table 2 shows the analysis of shopping frequency reveals that the majority of respondents (77.14%, 135) rarely shop online, indicating a relatively low frequency of online shopping among customers in Ernakulam district. Only a small percentage of respondents shop online daily (4%), weekly (4.57%), or monthly (6.86%), suggesting that online shopping is not yet a regular habit for most customers in the district.

Security Risks in Online Marketing

Customer perception of online security in payment risks plays a crucial role in shaping their trust and confidence in e-commerce transactions. The following table presents the customer perceptions of security problems in online marketing, highlighting the concerns and risks associated with online transactions in Ernakulam district.

Table 4 Security Risks in Online Marketing

S. No.	Variables	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Total
1.	Payment procedure is secured	60	102	5	6	2	175
		34.29	58.29	2.86	3.43	1.14	100.00
2.	Payment procedure is convenient	18	98	41	14	4	175
		10.29	56.00	23.43	8.00	2.29	100.00
3.	Better to check security before payment	61	78	24	6	6	175
		34.86	44.57	13.71	3.43	3.43	100.00
4.	I feel secure when I make payment via credit card and net banking	65	63	23	18	6	175
		37.14	36.00	13.14	10.29	3.43	100.00

5.	Risk in monetary transactions	21	36	58	55	5	175
		12.00	20.57	33.14	31.43	2.86	100.00
6.	Money deducted without purchase of goods	115	42	6	6	6	175
		65.71	24.00	3.43	3.43	3.43	100.00
7.	Wastage of money	7	117	42	2	7	175
		4.00	66.86	24.00	1.14	4.00	100.00

Source: Primary data

The analysis of security risks in online marketing reveals a mixed perception among respondents. On one hand, a significant proportion of respondents strongly agree/agree that payment procedures are secured (34.29%/58.29%), convenient (10.29%/56%), and that it is better to check security before payment (34.86%/44.57%). Additionally, 37.14% of respondents feel secure when making payments via credit card and net banking. On the other hand, a notable percentage of respondents express concerns about risks in monetary transactions (12%/20.57%), money being deducted without purchasing goods (65.71%/24%), and wastage of money (4%/66.86%). These findings suggest that while some customers in Ernakulam district have confidence in online payment security, others remain cautious and concerned about potential risks, highlighting the need for online marketers to prioritize security measures and transparency to alleviate these concerns.

Customer Privacy Risks in Online Marketing

Customer perception of privacy policy is a critical aspect of online marketing, as it directly impacts trust and confidence in e-commerce transactions. The following table presents the customer perceptions towards privacy policy in online marketing, highlighting the importance of protecting personal information in Ernakulam district.

Table 5 Customer Privacy Risks in Online Marketing

S. No.	Variables	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Total
1.	Personal information is not safe	70	24	25	21	35	175
		40.00	13.71	14.29	12.00	20.00	100.00
2.	Customer data for statistic issues without consent	33	40	27	27	48	175
		18.86	22.86	15.43	15.43	27.43	100.00
3.	Without permission to send advertisements to their e-mail accounts	64	23	25	29	34	175
		36.57	13.14	14.29	16.57	19.43	100.00
4.	Online marketers forward customers information to marketing companies	107	24	9	15	20	175
		61.14	13.71	5.14	8.57	11.43	100.00
5.	Risk of internet hackers	77	35	23	20	20	175
		44.00	20.00	13.14	11.43	11.43	100.00

Source: Primary data

The analysis of customer privacy risks in online marketing reveals significant concerns among respondents. A substantial proportion of respondents strongly agree/agree that personal information is not safe (40%/13.71%), customer data is used for statistical issues without consent (18.86%/22.86%), and online marketers forward customer information to marketing companies (61.14%/13.71%). Additionally, a notable percentage of respondents express concerns about receiving advertisements via email without permission (36.57%/13.14%) and the risk of internet hackers (44%/20%). These findings indicate that customers in Ernakulam district are apprehensive about the handling of their personal information and the potential risks associated with online transactions, highlighting the need for online marketers to prioritize data protection and transparency to alleviate these concerns.

Structural fit

Security and Privacy Risks

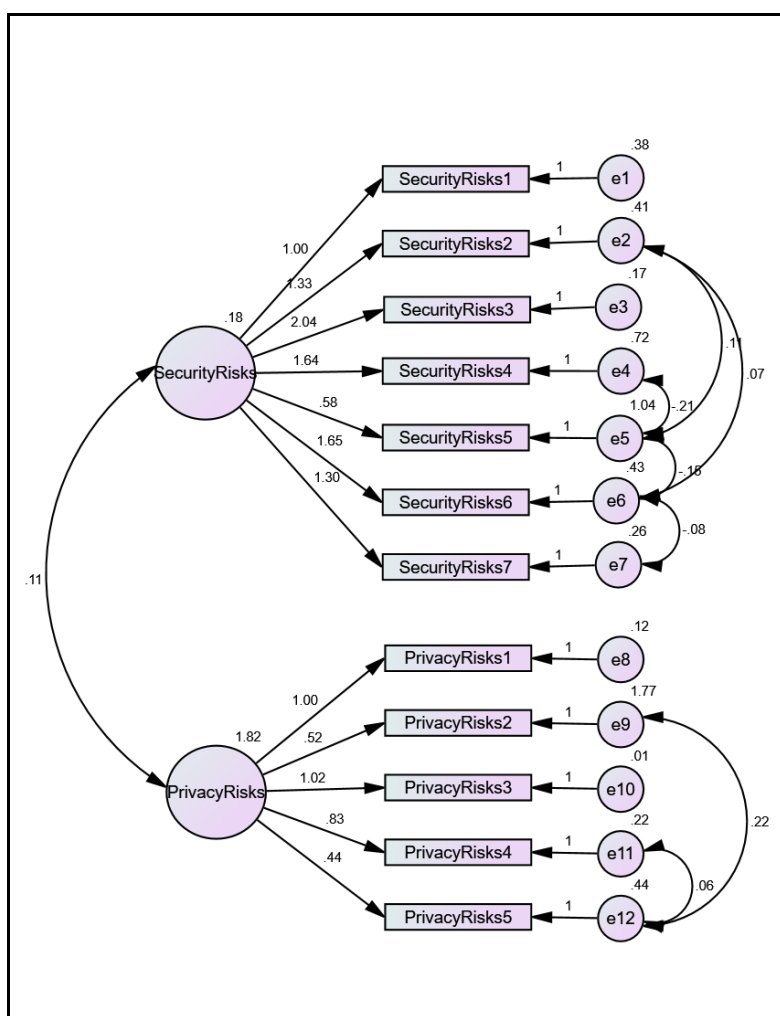


Table 6 Security and Privacy Risks (Regression Weights)

			Estimate	S.E.	C.R.	P	Label
Personal information is not safe	<---	Privacy Risks	1.000				
Customer data for statistic issues without consent	<---	Privacy Risks	0.522	0.076	6.886	***	
Without permission to send advertisements to their e-mail accounts	<---	Privacy Risks	1.022	0.022	45.818	***	
Online marketers forward customers information to marketing companies	<---	Privacy Risks	0.827	0.031	26.611	***	
Risk of internet hackers	<---	Privacy Risks	0.445	0.038	11.619	***	
Payment procedure is secured	<---	Security Risks	1.000				
Payment procedure is convenient	<---	Security Risks	1.334	0.198	6.750	***	
Better to check security before payment	<---	Security Risks	2.038	0.254	8.034	***	
I feel secure when I make payment via credit card and net banking	<---	Security Risks	1.643	0.249	6.595	***	
Risk in monetary transactions	<---	Security Risks	0.581	0.206	2.818	.005	
Money deducted without purchase of goods	<---	Security Risks	1.649	0.232	7.117	***	
Wastage of money	<---	Security Risks	1.304	0.181	7.214	***	

Source: Computed Primary data

The analysis of security risks in online marketing reveals a mixed perception among respondents. On one hand, a significant proportion of respondents strongly agree/agree that payment procedures are secured (34.29%/58.29%), convenient (10.29%/56%), and that it is better to check security before payment (34.86%/44.57%). Additionally, 37.14% of respondents feel secure when making payments via credit card and net banking. On the other hand, a notable percentage of respondents express concerns about risks in monetary transactions (12%/20.57%), money being deducted without purchasing goods (65.71%/24%), and wastage of money (4%/66.86%). These findings suggest that while some customers in Ernakulam district have confidence in online payment security, others remain cautious and concerned about potential risks, highlighting the need for online marketers to prioritize security measures and transparency to alleviate these concerns.

Table 7 CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	32	65.125	46	0.033	1.416
Saturated model	78	0.000	0		
Independence model	12	1502.585	66	0.000	22.766

Source: Computed Primary data

The Chi-Square Minimization (CMIN) results indicate that the default model is a good fit to the data, with a non-significant p-value of 0.033. The CMIN/DF ratio of 1.416 is also

Nanotechnology Perceptions Vol. 20 No. 7 (2024)

within the recommended range of 1-3, indicating a good fit.

In contrast, the independence model is a poor fit to the data, with a highly significant p-value of 0.000 and a CMIN/DF ratio of 22.766, which is far above the recommended range.

The saturated model, which is the most complex model possible, has a CMIN value of 0.000 and 78 parameters, indicating that it fits the data perfectly. However, this model is not useful for predictive purposes due to its complexity.

Table 8 GFI and Baseline comparisons

Model Fit	Result	Cut off Value (base)
GFI	0.943	>0.90
AGFI	0.903	>0.90
NFI	0.957	>0.90
RFI	0.938	>0.90
IFI	0.987	>0.90
TLI	0.981	>0.90
CFI	0.987	>0.90
χ^2	65.125	>0.05

Source: Computed Primary data

The model fit results demonstrate an excellent fit of the proposed model to the data. The goodness-of-fit indices such as “GFI, AGFI, NFI, RFI, IFI, TLI, and CFI” surpass the recommended thresholds, ranging from 0.903 to 0.987, indicating a strong representation of the data. Furthermore, the chi-square statistic ($\chi^2 = 65.125$) is non-significant at $p > 0.05$, confirming the model's acceptability. Overall, these findings confirm that the proposed model provides a robust fit to the data, effectively explaining the relationships between the variables.

Table 9 RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.049	.015	.075	.502
Independence model	.354	.338	.369	.000

Source: Computed Primary data

The Root Mean Square Error of Approximation (RMSEA) results confirm that the default model provides an excellent fit to the data, with an RMSEA value of 0.049 that falls below the recommended threshold of 0.08. The 90% confidence interval (0.015-0.075) further supports the model's goodness of fit. Moreover, the PCLOSE value of 0.502 indicates that the model is acceptable.

In contrast, the independence model exhibits a poor fit, as evidenced by its high RMSEA value of 0.354. The 90% confidence interval (0.338-0.369) and the PCLOSE value of 0.000 both confirm that the independence model is not a suitable representation of the data.

2. Suggestions

Based on the findings, several suggestions can be made to improve online marketing and e-commerce transactions in Ernakulam district. Firstly, online marketers should prioritize data protection and transparency to alleviate customer concerns about privacy and security risks. This can be achieved by implementing robust security measures, such as encryption and secure payment gateways, and providing clear and concise information about data collection and usage. Secondly, online marketers should focus on building trust and confidence among customers by ensuring that payment procedures are secure, convenient, and transparent. This can be achieved by providing multiple payment options, clear payment instructions, and prompt customer support. Thirdly, online marketers should educate customers about online security risks and provide tips on how to protect themselves from potential threats, such as phishing and identity theft. Finally, online marketers should continuously monitor and evaluate their online marketing strategies to ensure that they are meeting customer needs and expectations, and make necessary adjustments to improve customer satisfaction and loyalty.

3. Conclusion

In conclusion, the study on customer perception of online security and trust in e-commerce in Ernakulam district reveals that customers are cautious and concerned about online security, payment risks, and privacy issues. The findings highlight the importance of building trust and ensuring online security to encourage customers to adopt e-commerce. Online marketers and e-commerce platforms must prioritize data protection, transparency, and security measures to alleviate customer concerns and foster trust. By addressing these concerns, e-commerce businesses can improve customer satisfaction, loyalty, and retention, ultimately driving growth and success in the online market.

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