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A Comparative Analysis of Consumer Perception towards Mobile Commerce in Selected Cities of Saurashtra Region

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Abstract
The rapid growth of mobile commerce has transformed the way consumers engage in buying and selling activities, particularly in emerging economies like India. This study aims to analyze and compare consumer perception towards mobile commerce across selected cities of the Saurashtra region, namely Rajkot, Jamnagar, Junagadh, and Porbandar. The research is based on primary data collected through a structured questionnaire from 200 respondents using the survey method. Key factors influencing consumer perception—trust, convenience, cost, and perceived risk—were analyzed using descriptive statistics and the Kruskal–Wallis test.
The findings reveal that consumers exhibit a high level of trust and perceive mobile commerce as convenient, with no significant differences observed across cities for these factors. However, significant differences were found in terms of cost perception and perceived risk, indicating that economic considerations and security concerns vary across regions. The study concludes that while mobile commerce adoption is widespread and relatively uniform in terms of usability, regional disparities persist in cost sensitivity and risk perception. These insights highlight the need for targeted strategies focusing on pricing and security enhancements to promote inclusive and balanced growth of mobile commerce.

Key Words: Mobile Commerce, Consumer Perception, Trust, Convenience, Cost, Perceived Risk, Kruskal–Wallis Test, Comparative Analysis

Introduction

The rapid advancement of digital technology has significantly transformed the way consumers engage in commercial activities. Among these developments, mobile commerce (m-commerce) has emerged as a dynamic and convenient platform that enables users to conduct transactions anytime and anywhere through mobile devices. With the widespread adoption of smartphones and increasing internet penetration, especially in developing economies like India, mobile commerce has become an integral part of the digital ecosystem.

In recent years, government initiatives such as Digital India and the expansion of digital payment systems have accelerated the growth of mobile commerce across urban as well as semi-urban regions. Consumers are increasingly relying on mobile applications for shopping, bill payments, banking, and other financial transactions. However, despite its growing popularity, the adoption and perception of mobile commerce vary across regions due to differences in socio-economic conditions, digital literacy, infrastructure, and trust in online platforms.

Consumer perception plays a crucial role in determining the success of mobile commerce. Factors such as trust, convenience, cost-effectiveness, and perceived risk significantly influence the willingness of consumers to adopt and continue using mobile commerce services. While convenience and accessibility act as major drivers, concerns related to security, privacy, and transaction risks often hinder widespread acceptance.
The Saurashtra region of Gujarat, comprising cities such as Rajkot, Jamnagar, Junagadh, and Porbandar, presents a unique context for studying consumer perception towards mobile commerce. These cities differ in terms of economic development, technological exposure, and consumer behavior patterns, making them suitable for a comparative analysis. Understanding regional variations in perception can provide valuable insights for businesses, policymakers, and service providers to design effective strategies for enhancing mobile commerce adoption.

Therefore, the present study aims to conduct a comparative analysis of consumer perception towards mobile commerce in selected cities of the Saurashtra region. By examining key factors such as trust, convenience, cost, and perceived risk, the study seeks to identify significant differences across cities and contribute to the existing body of knowledge on digital consumer behavior. The findings of this research will help in formulating targeted approaches to improve user experience and promote inclusive digital growth.

2. Literature Review

A study by **Yang et al. (2012)** examined regional differences in consumer acceptance of mobile technology across three cities in China and found that the importance of adoption factors varied significantly across regions. The study highlighted that consumers in different cities prioritize different aspects such as social influence, content availability, and practical utility, indicating that regional context plays a critical role in shaping consumer perception.

Regional variation is also evident within countries. Research on consumer preference structures in China demonstrated that economic and regional differences lead to variations in consumer preferences, making it necessary for businesses to adopt region-specific marketing strategies rather than a standardized approach **(Wang & Zhang, 2014).**

In the Indian context, mobile commerce adoption has been influenced by initiatives such as Digital India, increased smartphone penetration, and the growth of digital payment platforms. Studies have shown that urban consumers exhibit higher adoption rates due to better infrastructure and digital literacy, while semi-urban and rural consumers face challenges related to awareness and trust **(Gupta & Arora, 2017).**

Similarly, **Ashraf et al. (2021)** conducted a cross-national comparative study across nine countries and found that the determinants of mobile commerce usage differ significantly depending on the level of technological readiness and economic development. The study revealed that not all value dimensions—such as convenience, performance, and informational value—have the same impact across different regions, emphasizing the need for localized strategies in mobile commerce.

In the Indian context, research on Tier-II and Tier-III cities indicates that consumer perception towards online shopping and mobile commerce varies significantly from metropolitan areas.

Factors such as limited digital literacy, trust issues, and infrastructure constraints influence adoption patterns in smaller cities **(Kadam, 2022).**

Further, studies focusing on urban–rural comparisons have shown that location-based differences significantly affect risk perception and online shopping behavior. For instance, **Gracz (2023)** found that consumers in urban areas exhibit different levels of perceived risk compared to rural consumers, primarily due to differences in awareness, digital literacy, and access to technology.

In the context of digital commerce**, Madlenak et al. (2025)** analyzed consumer behavior across European countries and identified statistically significant differences in multiple dimensions, including price sensitivity, security concerns, and service satisfaction. The study concluded that national and regional contexts, influenced by culture and digital infrastructure, significantly affect consumer perception and behavior, thereby supporting the need for comparative regional analysis.

3. Research Objectives

To compare the perception of trust associated with mobile commerce among consumers across the selected cities.

To compare the perception of convenience associated with mobile commerce among consumers across the selected cities.

To compare the perception of cost associated with mobile commerce among consumers across the selected cities.

To compare the perception of risk associated with mobile commerce among consumers across the selected cities.

To provide suggestions and recommendations for improving mobile commerce adoption based on regional differences in consumer perception.

4. Research Methodology

The present study adopts a descriptive and comparative research design to examine consumer perception towards mobile commerce across selected cities of the Saurashtra region, namely Rajkot, Jamnagar, Junagadh, and Porbandar. The study is based on primary data collected through a structured questionnaire administered to mobile commerce users. A total sample of 200 respondents was selected, comprising 50 respondents from each city, using a non-probability convenience sampling method. The questionnaire was designed to measure key variables influencing consumer perception, including trust, convenience, cost, and perceived risk, with multiple statements for each variable measured on a Likert scale. The collected data were analyzed using appropriate statistical tools. Descriptive statistics such as mean and standard deviation were used to understand general trends, while inferential statistical techniques were employed to test the hypotheses. Since the data did not follow a normal distribution, the Kruskal–Wallis test was applied to examine differences in consumer perception across the selected cities. The results were interpreted to identify significant differences in perception and to draw meaningful conclusions regarding regional variations in mobile commerce adoption.

5. Data Analysis and Interpretation

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1. Analysis of Differences in Trust across the Selected Cities.

Hypothesis:
H_{01}: There is no significant difference in perceived trust associated with mobile commerce among consumers across the selected cities.
H_{11}: There is a significant difference in perceived trust associated with mobile commerce among consumers across the selected cities.

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
TRUST	200	3.8310	.67074	1.00	5.00
City of the Respondent	200	2.50	1.121	1	4

The descriptive statistics indicate that the overall mean score of trust towards mobile commerce is 3.831, which suggests a relatively high level of trust among respondents. The standard deviation of 0.67074 indicates moderate variability in responses, implying that respondents have somewhat consistent opinions regarding trust in mobile commerce.

Kruskal-Wallis Test
Ranks

	City of the Respondent	N	Mean Rank
TRUST	Rajkot	50	93.72
	Junagadh	50	113.92
	Jamnagar	50	85.88
	Porbandar	50	108.48
	Total	200	

The mean rank analysis shows variation in the level of trust across the selected cities of Saurashtra, namely Rajkot, Junagadh, Jamnagar, and Porbandar. Among these, Junagadh (Mean Rank = 113.92) exhibits the highest level of trust, followed by Porbandar (108.48). In contrast, Jamnagar (85.88) shows the lowest level of trust, while Rajkot (93.72) falls in between. This indicates noticeable differences in trust perception among consumers across cities.

Test Statistics[a,b]

	TRUST
Chi-Square	7.692
df	3
Asymp. Sig.	.053

a. Kruskal Wallis Test
b. Grouping Variable: City of the Respondent

The Kruskal–Wallis test was conducted to determine whether there is a statistically significant difference in the level of trust towards mobile commerce among consumers across the selected cities. The test result shows a Chi-square value of 7.692 with a p-value of 0.053.

Since the p-value (0.053) is greater than the significance level of 0.05, the null hypothesis is accepted. This indicates that there is no statistically significant difference in the level of trust towards mobile commerce among consumers across Rajkot, Junagadh, Jamnagar, and Porbandar.
However, it is important to note that the p-value is very close to the threshold level (0.05), suggesting a marginal difference in trust levels across cities. This implies that while the statistical evidence is not strong enough to confirm a significant difference, practical variations in consumer perception may still exist.

2. Analysis of Differences in Convenience across the Selected Cities.
Hypothesis:
H_{02}: There is no significant difference in perceived convenience associated with mobile commerce among consumers across the selected cities.
H_{12}: There is a significant difference in perceived convenience associated with mobile commerce among consumers across the selected cities.

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
CONVENIENCE	200	4.0075	.67246	1.25	5.00
City of the Respondent	200	2.50	1.121	1	4

The descriptive statistics reveal that the overall mean score of convenience is 4.0075, indicating a high level of perceived convenience among consumers towards mobile commerce. The standard deviation of 0.67246 suggests moderate variation in responses, implying that most respondents share a similar perception regarding the convenience offered by mobile commerce platforms.

Kruskal-Wallis Test
Ranks

	City of the Respondent	N	Mean Rank
CONVENIENCE	Rajkot	50	106.54
	Junagadh	50	114.01
	Jamnagar	50	90.12
	Porbandar	50	91.33
	Total	200	

The mean rank analysis indicates differences in perceived convenience across the selected cities, namely Rajkot, Junagadh, Jamnagar, and Porbandar. Among these, Junagadh (Mean Rank = 114.01) shows the highest level of perceived convenience, followed by Rajkot (106.54). On the other hand, Porbandar (91.33) and Jamnagar (90.12) exhibit relatively lower levels of

convenience perception. This suggests some variation in how consumers perceive the ease and accessibility of mobile commerce across cities.

Test Statistics[a,b]

	CONVENIENCE
Chi-Square	6.298
df	3
Asymp. Sig.	.098

a. Kruskal Wallis Test
b. Grouping Variable: City of the Respondent

The Kruskal–Wallis test was conducted to examine whether there is a statistically significant difference in perceived convenience among consumers across the selected cities. The test result shows a Chi-square value of 6.298 with a p-value of 0.098.
Since the p-value (0.098) is greater than the significance level of 0.05, the null hypothesis is accepted. This indicates that there is no statistically significant difference in perceived convenience towards mobile commerce among consumers across Rajkot, Junagadh, Jamnagar, and Porbandar.

3. Analysis of Differences in Cost across the Selected Cities.
Hypothesis:
H_{03}: There is no significant difference in perceived cost associated with mobile commerce among consumers across the selected cities.
H_{13}: There is a significant difference in perceived cost associated with mobile commerce among consumers across the selected cities.

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
COST	200	3.5413	.78450	1.50	5.00
City of the Respondent	200	2.50	1.121	1	4

The descriptive statistics show that the overall mean score of cost perception is 3.5413, indicating a moderate level of agreement among consumers regarding the cost-effectiveness of mobile commerce. The standard deviation of 0.78450 suggests relatively higher variability compared to other factors, implying that respondents differ more in their opinions about cost.

Kruskal-Wallis Test
Ranks

	City of the Respondent	N	Mean Rank
COST	Rajkot	50	99.56
	Junagadh	50	116.74
	Jamnagar	50	78.76
	Porbandar	50	106.94

Total	200	

The mean rank analysis reveals noticeable differences in cost perception among the selected cities, namely Rajkot, Junagadh, Jamnagar, and Porbandar. Among these, Junagadh (Mean Rank = 116.74) exhibits the highest perception of cost-effectiveness, followed by Porbandar (106.94) and Rajkot (99.56). In contrast, Jamnagar (78.76) shows the lowest perception, indicating that consumers in Jamnagar perceive mobile commerce as relatively less cost-effective.

Test Statistics[a,b]

	COST
Chi-Square	11.790
df	3
Asymp. Sig.	.008

a. Kruskal Wallis Test
b. Grouping Variable: City of the Respondent

The Kruskal–Wallis test was applied to examine whether there is a significant difference in cost perception among consumers across the selected cities. The test result shows a Chi-square value of 11.790 with a p-value of 0.008.
Since the p-value (0.008) is less than the significance level of 0.05, the null hypothesis is rejected. This indicates that there is a statistically significant difference in cost perception towards mobile commerce among consumers across Rajkot, Junagadh, Jamnagar, and Porbandar.

4. Analysis of Differences in Risk across the Selected Cities.
Hypothesis:
H_{04}: There is no significant difference in perceived risk associated with mobile commerce among consumers across the selected cities.
H_{14}: There is a significant difference in perceived risk associated with mobile commerce among consumers across the selected cities.

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
RISK	200	3.7970	.63956	1.80	5.00
City of the Respondent	200	2.50	1.121	1	4

The descriptive statistics indicate that the overall mean score of perceived risk is 3.797, suggesting a moderately high level of risk perception among consumers towards mobile commerce. The standard deviation of 0.63956 reflects moderate consistency in responses, indicating that consumers share relatively similar concerns regarding risk factors such as security and privacy.

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Kruskal-Wallis Test

Ranks

	City of the Respondent	N	Mean Rank
RISK	Rajkot	50	105.10
	Junagadh	50	112.38
	Jamnagar	50	78.72
	Porbandar	50	105.80
	Total	200	

The mean rank analysis shows variation in perceived risk across the selected cities, namely Rajkot, Junagadh, Jamnagar, and Porbandar. Among these, Junagadh (Mean Rank = 112.38) exhibits the highest perceived risk, followed closely by Porbandar (105.80) and Rajkot (105.10). In contrast, Jamnagar (78.72) shows the lowest perceived risk among the cities. This indicates noticeable variation in consumer concerns regarding mobile commerce.

Test Statistics[a,b]

	RISK
Chi-Square	10.188
df	3
Asymp. Sig.	.017

a. Kruskal Wallis Test
b. Grouping Variable: City of the Respondent

The Kruskal–Wallis test was conducted to examine whether there is a significant difference in perceived risk among consumers across the selected cities. The test result shows a Chi-square value of 10.188 with a p-value of 0.017.
Since the p-value (0.017) is less than the significance level of 0.05, the null hypothesis is rejected. This indicates that there is a statistically significant difference in perceived risk towards mobile commerce among consumers across Rajkot, Junagadh, Jamnagar, and Porbandar.

6. Findings and Suggestions

The findings of the study reveal that while trust and convenience towards mobile commerce are relatively consistent across the selected cities, cost and perceived risk show significant variation. This suggests that consumers across cities have developed a similar level of familiarity and ease with mobile commerce platforms, but differ in their evaluation of economic and security aspects.
In particular:

- Cost differences indicate variation in price sensitivity, perceived value, or promotional benefits across cities
- Risk differences reflect varying levels of awareness, digital literacy, and trust in online security systems

Based on these findings, it is suggested that mobile commerce service providers should adopt region-specific strategies, focusing on transparent pricing, promotional offers, and cost

benefits in price-sensitive markets. Additionally, efforts should be made to enhance security features, data privacy measures, and consumer awareness programs to reduce perceived risk. Policymakers and businesses should also promote digital literacy initiatives to strengthen user confidence and ensure inclusive growth of mobile commerce across all cities.

7. Conclusion

The present study concludes that while mobile commerce has achieved a considerable level of acceptance among consumers in the Saurashtra region, regional differences still exist in key perception factors. The comparative analysis indicates that trust and convenience are uniformly strong across cities, reflecting the maturity of digital adoption. However, significant differences in cost perception and perceived risk suggest that economic considerations and security concerns continue to influence consumer behavior differently across locations. Therefore, the success of mobile commerce in such regions depends on addressing these localized challenges through targeted strategies. Overall, the study contributes to understanding regional variations in consumer perception and emphasizes the importance of customized approaches for enhancing mobile commerce adoption and ensuring sustainable digital growth.

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