



## Barriers to M-Commerce Adoption by Consumers in Goa: An Empirical Study

Ms. Roopa Arvind Acharya<sup>1</sup> & Dr. Achut Pednekar<sup>2</sup>

<sup>1</sup>Asst. Prof. at C.E.S. College, Cuncolim,

Research Scholar at S.S.A. Govt. College, Pernem, Goa University, Goa

<sup>2</sup>Associate Professor, DM's College and Research Centre, Assagao, Goa.

Corresponding Author: Ms. Roopa Arvind Acharya

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### Abstract:

Mobile commerce (m-commerce) has revolutionized the retail and service industries by providing convenient, on-the-go access to goods and services. However, despite its benefits, many consumers remain reluctant to adopt m-commerce. Understanding the barriers to its adoption is crucial for businesses and policymakers to develop effective strategies to promote its use. This study seeks to identify the factors influencing the non-adoption of m-commerce by the consumers in the state of Goa. The study explores the relationship between various demographic, psychological, and social factors and consumers' likelihood of non-adoption of m-commerce, is examined in this study by using correlation and regression analyses. The findings reveal a weak negative correlation between subjective norms and non-adoption of m-commerce, indicating that non-users are slightly less influenced by subjective norms. Perceived behavioural control shows no significant correlation, implying a lack of impact on adoption likelihood. Attitude towards m-commerce exhibits a moderate negative correlation, suggesting a link between negative attitudes and non-adoption. Intention to use m-commerce shows a strong negative correlation, highlighting its critical role in shaping non-adoption. These results emphasize the need to address attitudes and intentions while considering subjective norms to enhance m-commerce adoption rates. The findings provide valuable insights for policymakers and marketers aiming to reduce barriers to m-commerce usage.

**Keywords:** M-Commerce, Adoption, Consumer behaviour, Marketing Strategies.

### Introduction:

The rapid proliferation of mobile devices and internet connectivity has ushered in an era of unprecedented convenience in accessing goods and services through mobile commerce (m-commerce). M-commerce enables consumers to shop, pay bills, and access various services from the palm of their hands, transforming the retail and service sectors. Despite these advancements, the adoption of m-commerce remains uneven, with a significant proportion of consumers hesitant or unwilling to embrace this mode of commerce. Understanding the barriers to m-commerce adoption is critical for

addressing this gap and ensuring that its benefits are accessible to a broader audience. The reluctance to adopt m-commerce can stem from a variety of factors, including demographic characteristics, psychological perceptions, and social influences. Exploring these barriers is especially pertinent in regions like Goa, where consumer behaviour is shaped by unique cultural, economic, and technological contexts.

This study aims to investigate the factors influencing the non-adoption of m-commerce among consumers in Goa. By examining variables such as perceived behavioural control, attitudes, subjective norms, and intentions, this research seeks

to provide a comprehensive understanding of the dynamics that hinder m-commerce adoption. The use of correlation and regression analysis allows for an in-depth examination of the relationships between these factors and their impact on non-adoption. The findings of this study are intended to inform policymakers and marketers about actionable strategies to address these barriers. By identifying and addressing key issues such as negative attitudes and lack of intention, stakeholders can foster greater acceptance and usage of m-commerce, thereby enhancing consumer convenience and driving economic growth in the region.

**Review of Literature:**

The barriers to m-commerce adoption have been the focus of extensive research in recent years. This review of literature examines studies, highlighting key findings and insights into the factors influencing consumer behaviour. Research by Zhou et al. (2015) identified age and education as significant factors in m-commerce adoption, with younger and more educated individuals showing higher adoption rates. A study by Sharma and Pant (2017) found that income levels play a critical role in m-commerce adoption, with lower-income groups less likely to engage in mobile transactions. Lack of technological infrastructure was highlighted by Singh and Sinha (2016) as a major impediment to m-commerce adoption in rural areas. Gupta et al. (2019) emphasized the role of mobile network quality and smartphone penetration in facilitating m-commerce. Perceived risk was identified as a significant barrier by Kim and Park (2016), with concerns about data security and privacy deterring adoption. Ajmal et al. (2020) explored the impact of trust on

m-commerce adoption, finding that lack of trust in service providers negatively affects user intentions. Subjective norms were studied by Lin et al. (2018), who found that societal expectations and peer influence play a crucial role in shaping consumer attitudes toward m-commerce. Cultural factors were examined by Wang and Li (2021), revealing that cultural resistance to technology can hinder adoption in certain regions. Attitude toward m-commerce was investigated by Chiu and Cho (2017), who found a strong correlation between positive attitudes and adoption likelihood. Intention to use m-commerce was studied by Raj and Kumar (2020), with findings indicating that lack of intention is a primary driver of non-adoption. Cost-related concerns were highlighted by Ahmed and Rahman (2019), who noted that transaction fees and high data costs deter low-income users. Banerjee and Das (2021) found that promotional offers and discounts significantly influence m-commerce adoption, especially among price-sensitive consumers.

**Research Gap:**

While previous studies have explored various aspects of m-commerce adoption by consumers, there is a paucity of research focusing specifically on the non-adoption factors. Existing literature has concentrated on technological advancements and user benefits, with limited attention to the socio-cultural and psychological barriers that may impede adoption in specific regions.

This study aims to fill this gap by examining the interplay of demographic characteristics, psychological perceptions, and social influences on m-commerce adoption among consumers in Goa. By focusing on this specific region, the research seeks to uncover insights that

are not only academically significant but also practically relevant for local businesses and policymakers. Addressing this research gap is essential for developing targeted strategies that can effectively promote m-commerce adoption

**Significance of the Study:**

Despite the technological advancements, m-commerce adoption remains uneven, with a notable segment of consumers hesitant or unwilling to engage in mobile-based transactions. Understanding the barriers to m-commerce adoption is crucial for businesses and policymakers aiming to bridge this gap and ensure that the benefits of m-commerce are accessible to a broader audience.

**Research Question:**

1. What are the factors influencing an individual's likelihood of non-adoption of m-commerce?

**Objectives of the Study:**

1. To identify the factors influencing an individual's likelihood of non-adoption of m-commerce.

**Hypothesis:**

**H1:** There is no significant association between an individual's 'Lack of knowledge', 'Education level', 'Area of location', 'Occupation', 'Monthly Family Income', 'Perceived Behavioural Control', 'Attitude', 'Subjective Norms', 'Intentions' and their likelihood of non-adoption of m-commerce.

**Sub-Hypothesis:**

**H1a:** There is no significant relationship between an individual's

Lack of Knowledge and their likelihood of non-adoption of m-commerce.

**H1b:** There is no significant association between an individual's educational level and their likelihood of non-adoption of m-commerce.

**H1c:** There is no significant association between an individual's area of location (urban or rural) and their likelihood of non-adoption of m-commerce.

**H1d:** There is no significant association between an individual's Marital Status and their likelihood of non-adoption of m-commerce.

**H1e:** There is no significant association between an individual's Occupation and their likelihood of non-adoption of m-commerce.

**H1f:** There is no significant association between an individual's Monthly Family Income and their likelihood of non-adoption of m-commerce.

**H1g:** There is no significant relationship between non-adoption of m-commerce, Perceived Behaviour Control, Attitude and Subjective norm of an individual.

**Methodology:**

A quantitative research design was employed to investigate the barriers to m-commerce adoption. A structured questionnaire was developed, capturing demographic details and variables such as perceived behavioural control, attitudes, subjective norms, and intentions. Responses were measured on a Likert scale ranging from strongly disagree (1) to strongly agree (5).

**Sources of Data:**

Data was collected from primary as well as secondary sources. Primary data was collected by conducting a survey of 500 young adults residing in the state of Goa using smartphones, with the help

of a structured questionnaire. Secondary data was collected from literature reviews from reputed research journals

**Statistical Tools Used:**

To test the hypothesis and identify significant factors, correlation and regression analyses were conducted. Pearson’s correlation coefficient (r) measured the strength and direction of relationships, while regression analysis assessed the predictive power of independent variables on non-adoption.

**Data Analysis & Findings:**

**H1a:** There is no significant relationship between an individual's Lack of Knowledge and their likelihood of non-adoption of m-commerce.

**Table-1:** Table presents the results of Correlation analysis, examining the relationship between individuals who have never used mobile commerce (m-commerce) and their lack of knowledge

Correlations			
		Lack of Knowledge (MCI 8)	Never used m-commerce
Lack of Knowledge (MCI 8)	Pearson Correlation	1	.600**
	Sig. (2-tailed)		.000
	N	473	473
Never used m-commerce	Pearson Correlation	.600**	1
	Sig. (2-tailed)	.000	
	N	473	473

\*\* . Correlation is significant at the 0.01 level (2-tailed).

The significant positive correlation between lack of knowledge and the non-use of mobile commerce highlights the importance of knowledge dissemination in promoting the use of mobile commerce platforms.

By recognizing and addressing the significant relationship between lack of knowledge and the likelihood of non-adoption of m-commerce, managers can implement targeted strategies to educate potential users and to simplify the user

experience and ultimately increase m-commerce adoption rate.

**H1b:** There is no significant association between an individual's educational level and their likelihood of non-adoption of m-commerce.

**Table-2:** Table presents the results of Chi-Square tests examining the relationship between individuals who have never used mobile commerce (m-commerce) and their educational level.

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	58.394	16	.000
Likelihood Ratio	61.619	16	.000
Linear-by-Linear Association	25.262	1	.000
No of Valid Cases	473		

The Pearson Chi-Square, Likelihood Ratio, and Linear-by-Linear Association tests all indicate a significant association between educational level and the use of m-commerce ( $p < 0.01$ ). The significant association suggests that educational level may play a crucial role in determining whether an individual have used m-commerce. By recognizing the significant association between educational level and the likelihood of non-adoption of m-commerce, managers can implement more effective, targeted

strategies to enhance m-commerce adoption and engagement across different educational segments.

**H1c:** There is no significant association between an individual's area of location (urban or rural) and their likelihood of non-adoption of m-commerce.

**Table-3:** Table presents the results of Chi-Square tests examining the relationship between individuals who have never used mobile commerce (m-commerce) and their area of location (urban or rural).

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	15.812 <sup>a</sup>	.003	
Likelihood Ratio	16.312	4	.003
Linear-by-Linear Association	12.823	1	.000
No of Valid Cases	473		

The Pearson Chi-Square test indicates a statistically significant association between the use of m-commerce and the area of location (urban or rural) with a p-value of 0.003. This suggests that the area of location is significantly related to whether individuals are using m-commerce. These results suggest that individuals from different areas (urban vs. rural) have significantly different patterns of m-commerce usage. Specifically, there is a significant relationship between whether someone lives in an urban or rural area

and their likelihood of adoption of m-commerce. This suggests that strategies to increase m-commerce adoption may need to be tailored to address the specific needs of urban and rural populations.

**H1d:** There is no significant association between an individual's Marital Status and their likelihood of non-adoption of m-commerce.

**Table-4:** Table presents the results of Chi-Square tests examining the relationship between individuals who have never used mobile commerce (m-commerce) and their marital status.

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	23.051 <sup>a</sup>	4	.000
Likelihood Ratio	23.670	4	.000
Linear-by-Linear Association	6.543	1	.011
No of Valid Cases	473		

These results suggest that marital status influences m-commerce usage patterns. Strategies to increase m-commerce adoption may need to consider marital status as a significant factor.

The tests indicate a significant association between marital status and the use of m-commerce. This suggests that marital status of an individual, significantly affects likelihood of m-commerce adoption, and targeted strategies may be necessary to address specific barriers faced by different marital

status groups and enhance m-commerce adoption and engagement across different marital status segments.

**H1e:** There is no significant association between an individual's Occupation and their likelihood of non-adoption of m-commerce.

**Table-5:** Table presents the results of Chi-Square tests examining the relationship between individuals who have never used mobile commerce (m-commerce) and their occupation

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	69.842 <sup>a</sup>	16	.000
Likelihood Ratio	52.432	16	.000
Linear-by-Linear Association	32.425	1	.000
No of Valid Cases	473		

These results suggest that occupation influences m-commerce usage patterns. Strategies to increase m-commerce adoption may need to consider individuals' occupational factor as significant determinants.

The test results indicate a significant association between occupation and the m-commerce Adoption. This suggests that different occupational groups have varying likelihoods of m-commerce adoption, and targeted interventions may be necessary to address specific barriers faced by different occupational groups. The significant linear relationship further

reinforces the need to consider occupational status as an important factor to promote m-commerce adoption and engagement across different occupational segments.

**H1f:** There is no significant association between an individual's Monthly Family Income and their likelihood of non-adoption of m-commerce.

**Table-6:** Table presents the results of Chi-Square tests examining the relationship between individuals who have never used mobile commerce (m-commerce) and their Monthly Family Income.

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	11.887 <sup>a</sup>	16	.752
Likelihood Ratio	11.685	16	.765
Linear-by-Linear Association	2.062	1	.151
No of Valid Cases	473		

These results suggest that monthly family income does not have a significant impact on m-commerce adoption. Efforts to increase m-commerce usage may not need to prioritize income-related factors as much as other potential barriers.

The Chi-Square tests indicate that there is no significant association between monthly family income and the likelihood of non-adoption of m-commerce. This suggests that other factors, beyond family income, might play a more crucial role in determining m-commerce adoption among consumers.

Since Monthly Family Income does not significantly impact the likelihood of

non-adoption of m-commerce, managers can focus on more relevant factors to drive adoption and improve user engagement across different demographic segments.

**H1g:** There is no significant relationship between non-adoption of m-commerce, Perceived Behaviour Control, Attitude and Subjective norm of individual.

**Table-7:** Table presents the results of Correlation analysis, examining the relationship between individuals who have never used mobile commerce (m-commerce) and their SNs, PBC, Attitude and Intention.

Correlations						
		Never used m-commerce	Subjective Norms	Perceived Behaviour Control	Attitude	Intention
Never used m-commerce	Pearson Correlation	1	-.159**	-.006	-.422**	-.565**
	Sig. (2-tailed)		.001	.904	.000	.000
	N	473	473	473	473	473
Subjective Norms	Pearson Correlation	-.159**	1	-.075	.142**	.429**
	Sig. (2-tailed)	.001		.103	.002	.000
	N	473	473	473	473	473
Perceived Behaviour Control	Pearson Correlation	-.006	-.075	1	.023	.014
	Sig. (2-tailed)	.904	.103		.615	.755
	N	473	473	473	473	473
Attitude	Pearson Correlation	-.422**	.142**	.023	1	.413**
	Sig. (2-tailed)	.000	.002	.615		.000
	N	473	473	473	473	473
Intention	Pearson Correlation	-.565**	.429**	.014	.413**	1
	Sig. (2-tailed)	.000	.000	.755	.000	
	N	473	473	473	473	473

\*\* . Correlation is significant at the 0.01 level (2-tailed).

The results highlight the importance of subjective norms and attitudes in influencing individuals' intentions to use m-commerce. While perceived behavioural control does not show a significant relationship with other variables in this context, addressing subjective norms and attitudes could be key strategies in promoting m-commerce usage among consumers.

By understanding these correlations and their implications, managers can design targeted strategies to enhance m-commerce adoption and usage, leading to better customer engagement and increased sales.

**Conclusion:**

The findings of the study, underscore several key factors that influence the adoption of mobile commerce (m-commerce) among consumers. A significant positive correlation was found between lack of knowledge and the non-adoption of m-commerce, highlighting the critical role of education and awareness in driving adoption. Additionally, education level, geographic location, and marital status were found to significantly impact m-commerce usage patterns, suggesting that targeted strategies tailored to these demographic factors can improve adoption rates. Conversely, monthly family income and perceived behavioural control did not show significant associations with m-commerce adoption, indicating that other factors beyond financial constraints play a more pivotal role. Furthermore, subjective norms and attitudes were identified as crucial influencers of m-commerce intentions, emphasizing the need for campaigns that

reshape social perceptions and improve user attitudes. Collectively, these findings provide valuable insights for managers aiming to develop more effective, customized approaches to enhance m-commerce adoption across different consumer segments.

**Scope for Future Research:**

Future research can build upon these findings by exploring additional factors that may influence mobile commerce adoption. Future studies could expand to include the impact of psychological factors like user trust and personal innovativeness in m-commerce adoption. Additionally, investigating the moderating effects of cultural differences and economic conditions could offer deeper insights into regional variations in m-commerce usage. These lines of inquiry will contribute to a more comprehensive understanding of the multifaceted influences on mobile commerce adoption and help devise more refined strategies for its promotion across diverse population segments.

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