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Assessing the Challenges and Opportunities of Mobile Commerce in the Haryana Market

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Abstract

Mobile commerce (m-commerce) has emerged as a transformative segment within the Indian retail ecosystem, driven by widespread smartphone adoption and increasing internet penetration. This study aims to assess the challenges and opportunities associated with m-commerce in Haryana, a rapidly developing state with a diverse consumer base. Through a mixed-method approach combining surveys of 400 urban consumers and interviews with industry stakeholders, this paper identifies key barriers such as payment security concerns, digital literacy gaps, and infrastructural limitations. Conversely, opportunities in personalized marketing, convenience, and expanding rural access are highlighted. The findings offer actionable insights for policymakers, retailers, and technology providers seeking to harness the potential of m-commerce in Haryana's unique socio-economic context.

Keywords: Mobile Commerce, Policymaker, Retailer, Stakeholder

I. Introduction

The rapid proliferation of mobile technology has significantly transformed consumer behavior worldwide, making mobile commerce (m-commerce) a critical channel for retail transactions. India, with over 1.4 billion people and one of the fastest-growing digital economies, has witnessed unprecedented growth in smartphone usage and internet penetration. As of 2024, India boasts more than 900 million smartphone users, with internet penetration reaching approximately 70% nationally, driven largely by affordable data plans and expanding 4G and 5G networks [1]. Haryana, a key northern state with a population exceeding 30 million, reflects this digital surge, particularly in urban centers such as Gurugram, Faridabad, and Panipat, where smartphone penetration exceeds 85% [2]. Despite this technological advancement, Haryana's m-commerce adoption faces distinct challenges. A recent survey indicated that nearly 60% of consumers in Haryana express concerns regarding mobile payment security, and over 40% cite limited digital literacy as a barrier to using m-commerce platforms effectively [3]. Infrastructure disparities further exacerbate this divide, with rural and semi-urban areas reporting inconsistent internet connectivity, restricting seamless m-commerce experiences. Trust remains a pivotal issue; approximately 38% of Haryana's mobile users remain hesitant to transact digitally due to fears related to fraud, data privacy, and product authenticity [4]. On the opportunity front, the convenience offered by m-commerce—including 24/7 accessibility, home delivery, and personalized offers—is driving increased engagement, with over 70% of surveyed urban consumers in Haryana acknowledging enhanced shopping convenience through mobile apps [5].

As a result of developments in both IT and TCT, a new phenomenon known as mobile commerce (m-commerce) has emerged. This is essentially an expansion of online shopping made specifically for use in wireless networks. With this integration, we can provide one-of-a-kind services that conventional e-commerce platforms just can't match. To put it simply, m-commerce is the merging of e-commerce, cellular technologies, and the Internet. Mobile commerce (M-commerce) affects many different industries, including marketing, content delivery, entertainment, travel, banking, and more. In general, there are two primary types of m-commerce applications:

- Consultations, alerts, order confirmations, comments, and tracking are all part of the content delivery service.
- Buying, paying, checking out, and data entry/maintenance are all examples of transactions. To sum up, m-commerce opens up new business options by allowing online activities to be conducted anytime, anyplace, and on any device.

With a predicted increase in smartphone penetration from 8% at the end of 2014 to over 21% by 2017, a major portion of the Indian population will be prepared to engage in mobile commerce, according to K. Gupta, an e-business and channel strategy analyst at Forrester Research. With a growth rate of 150% each year, the number of smartphone users in India is currently over 44 million. The influence of mobile commerce on India's commercial sector is growing, despite the fact that the industry is still in its early stages and is mostly utilized for banking, purchasing railway tickets, and paying utility bills. The adoption of m-commerce platforms by industry leaders such as ICICI, Reliance, Airtel, and Tata has revolutionized consumer payment habits by allowing them to offer better services and expedite transactions. M-commerce offers a plethora of benefits, such as being accessible, customizable, adaptable, widely distributed, instantly connected, and instantaneous. People in the future will shop at malls, restaurants, hotels, and airports using portable electronic devices like smartphones, wearable computers, or personal digital assistants. Mobile commerce is projected to experience significant acceptance due to key aspects such as easy internet connection and intuitive navigation.

II. Literature Review

Kumar and Sharma (2020) conducted an empirical study examining the determinants of mobile commerce adoption among urban consumers in India, emphasizing digital literacy and infrastructure as critical barriers. Their research identified that limited digital skills and inconsistent internet connectivity particularly hinder m-commerce growth in tier-2 cities like those in Haryana. They concluded that addressing these infrastructural and educational gaps is essential for increasing mobile commerce penetration. The study applies the **Technology Acceptance Model (TAM),** highlighting perceived ease of use and perceived usefulness as major factors influencing adoption [6]. **Singh and Verma (2019)** explored consumer trust issues in mobile payment systems across northern India, focusing on Haryana's rapidly evolving digital ecosystem. Their qualitative analysis revealed that despite technological advancements, apprehensions about transaction security and data privacy remain prevalent, causing reluctance to fully embrace m-commerce. Their findings suggest that building robust security frameworks and transparent communication are vital to overcoming trust deficits. The authors draw on **Commitment-Trust Theory**, emphasizing trust as a cornerstone for sustained consumer relationships [7]. **Patel et al. (2021)** investigated social influence and peer recommendations on m-commerce usage among Haryana's young adults. Their quantitative survey demonstrated that social proof, particularly through social media and user reviews, strongly impacts mobile shopping behaviors. They concluded that marketers leveraging social networks can significantly boost consumer engagement in m-commerce. The study adopts **Social Exchange Theory** to explain how reciprocal information sharing builds trust and reduces uncertainty [8]. **Reddy and Rao (2018)** focused on rural consumer challenges related to mobile commerce in Haryana and neighboring states. Their ethnographic research found that poor digital literacy, language barriers, and lack of localized content limit rural adoption. They emphasized the need for culturally sensitive educational programs and vernacular interfaces. Their approach is informed by **Diffusion of Innovations Theory**, stressing that communication channels and social systems shape innovation adoption rates [9]. **Mehta and Joshi (2020)** analyzed payment system usability and customer satisfaction in Haryana's mobile commerce sector. Their mixed-method study found that ease of payment, including options for cash-on-delivery and digital wallets, strongly correlates with positive consumer experiences. They recommend expanding multiple secure payment modes to enhance inclusivity. The study uses **Unified Theory of Acceptance and Use of Technology (UTAUT)** to contextualize technology acceptance factors [10]. **Gupta and Kaur (2019)** examined the impact of mobile app design and usability on m-commerce retention in Haryana's urban markets. Their findings indicated that intuitive interfaces, fast loading times, and personalized recommendations

increase customer satisfaction and loyalty. They concluded that investing in user-centric design is a strategic necessity for competitive advantage. The research references **Service-Dominant Logic**, focusing on co-creation of value through interactive digital experiences [11]. **Verma and Singh (2022)** researched government initiatives like Digital India and their influence on m-commerce growth in Haryana. Their policy analysis demonstrated that infrastructure investments and digital literacy campaigns have significantly improved mobile internet penetration but highlighted persistent gaps in rural areas. They advocate for tailored interventions to bridge urban-rural divides. Their framework is based on **Institutional Theory**, which studies how formal structures affect organizational and consumer behavior [12]. **Chauhan et al. (2021)** explored consumer privacy concerns affecting mobile commerce adoption in Haryana. Survey results revealed that fear of data misuse and lack of awareness about privacy policies deter many users. They recommend stronger regulatory enforcement and consumer education to alleviate these concerns. The study draws on **Protection Motivation Theory** to explain how perceived threats influence consumer decisions [13]. **Khandelwal and Saini (2020)** studied the role of convenience and immediacy in shaping mobile shopping preferences among Haryana's working professionals. Their research concluded that time-saving and 24/7 accessibility significantly drive m-commerce usage, especially in metropolitan hubs like Gurugram and Faridabad. The authors applied **Expectation-Confirmation Theory (ECT)** to understand satisfaction and repurchase intentions in digital commerce [14]. **Bhardwaj and Malhotra (2019)** assessed technological readiness and its impact on m-commerce adoption in Haryana's SMEs and consumer segments. Their mixed-method approach found that while urban consumers show high readiness, SMEs face challenges in digital integration due to cost and skill gaps. They stress the importance of capacity-building and affordable technology solutions. The study applies **Resource-Based View (RBV)** to analyze firm-level capabilities influencing technology adoption [15].

3. Research Objectives

1. To identify the primary challenges faced by consumers and businesses in adopting m-commerce in Haryana.
2. To explore the opportunities and growth drivers for m-commerce in Haryana.
3. To provide recommendations for enhancing m-commerce adoption and addressing identified challenges.

4. Methodology

A mixed-method approach was adopted. Quantitative data were collected via structured questionnaires administered to 400 urban consumers in Haryana's major cities (Gurugram, Faridabad, Panipat). Purposive sampling ensured respondents had prior experience or awareness of m-commerce. Qualitative data were gathered through semi-structured interviews with 10 industry experts, including retail managers, technology providers, and policymakers. Data analysis employed descriptive statistics, thematic coding, and SWOT analysis to synthesize findings.

5. Results and Discussion

Table 1: Demographic Profile of Respondents (N=400)

Demographic Variable	Categories	Frequency	Percentage (%)
Age	Below 25	120	30.0
	25–35	180	45.0
	36–45	70	17.5
	Above 45	30	7.5
Gender	Male	210	52.5
	Female	190	47.5
City	Gurugram	130	32.5
	Faridabad	140	35.0

	Panipat	130	32.5
Education Level	High School	50	12.5
	Graduate	220	55.0
	Postgraduate	120	30.0
	Others	10	2.5
Occupation	Student	90	22.5
	Employed	230	57.5
	Self-employed	50	12.5
	Others	30	7.5
Monthly Income	Low (<₹20,000)	140	35.0
	Medium (₹20,000–₹50,000)	180	45.0
	High (>₹50,000)	80	20.0

Majority of respondents are young adults (25-35 years), fairly balanced by gender, mostly graduates, and employed with medium income levels, indicating a target segment familiar with m-commerce.

Table 2: Awareness and Usage Pattern of M-Commerce among Consumers (N=400)

Variable	Frequency	Percentage (%)
Awareness of m-commerce	380	95.0
No awareness	20	5.0
Frequency of m-commerce usage		
— Daily	160	40.0
— Weekly	130	32.5
— Monthly	60	15.0
— Rarely	50	12.5
Preferred m-commerce platform		
— Mobile Apps	300	75.0
— Websites	70	17.5
— Social Media Platforms	30	7.5
Devices used for m-commerce		
— Smartphone	380	95.0
— Tablet	10	2.5
— Laptop	10	2.5

The study revealed a high level of awareness of m-commerce among urban consumers in Haryana, with 95% of respondents indicating familiarity with m-commerce platforms. Usage patterns showed that a significant portion of consumers engage with m-commerce frequently, with 40% using these services daily and another 32.5% using them on a weekly basis. Monthly and rare users constituted smaller segments, at 15% and 12.5% respectively. Mobile apps emerged as the preferred platform for conducting m-commerce transactions, favored by 75% of respondents, followed by websites at 17.5%, and social media platforms at 7.5%. In terms of devices, smartphones dominated m-commerce access, with 95% of consumers using them, while tablets and laptops accounted for a minimal 2.5% each. These findings confirm a strong mobile-centric trend in m-commerce adoption within urban areas of Haryana, highlighting the critical role of smartphones and mobile applications in driving consumer engagement in digital commerce.

Table 3: Challenges Faced by Consumers in Adopting M-Commerce

Challenge	Mean Score (1–5)	Rank	% Reporting Issue
Poor internet connectivity	3.6	1	68.0
Security and privacy concerns	3.4	2	62.5

Delivery delays	3.2	3	58.0
Lack of trust in online payments	3.0	4	54.5
Complex user interface	2.8	5	47.0
Limited digital payment options	2.7	6	45.0
Lack of product information	2.6	7	43.0
Language barriers	2.3	8	38.0
Others (specify)	2.1	9	30.0

The analysis of challenges faced by consumers in adopting m-commerce highlights poor internet connectivity as the most significant barrier, with a mean score of 3.6 and 68% of respondents reporting it as an issue. Closely following are security and privacy concerns, which received a mean score of 3.4 and affected 62.5% of users, underscoring the importance of trust and safety in digital transactions. Delivery delays also present a substantial challenge, with 58% of consumers experiencing issues, impacting their overall satisfaction with m-commerce services. Other notable difficulties include a lack of trust in online payment systems (54.5%), complex user interfaces (47%), and limited digital payment options (45%). While language barriers (38%) and insufficient product information (43%) rank lower, they remain relevant obstacles for a significant portion of consumers. Overall, poor connectivity and security concerns stand out as the leading challenges that require urgent attention to enhance m-commerce adoption in Haryana.

Table 4: Challenges Faced by Businesses in Adopting M-Commerce (Qualitative)

Theme	Description	Frequency of Mention	Representative Quotes
Infrastructure Limitations	Inconsistent internet and technical resources	8/10	"Connectivity issues slow down order processing."
Payment Gateway Integration	Complexities in secure payment solutions	7/10	"Integrating reliable payments is a major hurdle."
Customer Trust & Retention	Difficulty in establishing online trust	6/10	"Consumers hesitate due to fraud fears."
Logistics & Delivery Challenges	Delivery delays and higher costs	8/10	"Last-mile delivery remains unreliable."
Regulatory and Compliance Issues	Unclear e-commerce regulations	5/10	"Frequent policy changes disrupt operations."
Skill and Knowledge Gap	Lack of trained digital staff	4/10	"We struggle to find skilled tech personnel."
Competition from Large Players	Market dominated by major e-commerce platforms	7/10	"Small businesses can't compete with giants."

Infrastructure, payment integration, and delivery issues dominate business challenges; trust and regulation also affect adoption.

Table 5: Opportunities and Growth Drivers for M-Commerce in Haryana (Consumer Ratings)

Opportunity/Driver	Mean Importance Score (1–5)	Rank	% Agree Strongly/Agree
Increasing smartphone penetration	4.5	1	88.0
Rising digital literacy	4.3	2	84.5
Government digital initiatives	4.1	3	80.0

Expansion of digital payment options	4.0	4	78.0
Young population demographic	3.9	5	75.0
Growing e-commerce platforms	3.8	6	72.0
Enhanced logistics infrastructure	3.6	7	68.0

Consumers in Haryana perceive several key opportunities and growth drivers that are fueling the expansion of m-commerce in the region. Foremost among these is the increasing penetration of smartphones, which received the highest importance rating with a mean score of 4.5 and was strongly agreed upon by 88% of respondents. Closely following this is the rise in digital literacy, rated 4.3 on average, with 84.5% of consumers recognizing its significance in enabling greater adoption of digital commerce. Government-led digital initiatives also play a vital role, earning a mean score of 4.1 and garnering support from 80% of participants, reflecting the impact of policy measures aimed at fostering a digital economy. Expansion of digital payment options is another critical driver, rated 4.0, with 78% agreement, highlighting the growing accessibility and convenience of online transactions. The young demographic of Haryana, with a mean rating of 3.9 and 75% agreement, further contributes to the m-commerce growth potential due to their familiarity and comfort with technology. Additionally, the proliferation of e-commerce platforms and improvements in logistics infrastructure, though rated slightly lower at 3.8 and 3.6 respectively, were still recognized by over two-thirds of respondents as important enablers of m-commerce development in the state.

Table 6: SWOT Analysis Summary of M-Commerce Adoption in Haryana (Expert Synthesis)

SWOT Component	Key Findings	Implications
Strengths	Widespread mobile use; youth engagement	Leverage high smartphone usage
Weaknesses	Infrastructure gaps; low trust in payments	Invest in connectivity and security
Opportunities	Govt. push for Digital India; rising e-payments	Align with government schemes
Threats	Cybersecurity threats; dominance of big players	Need robust security; support SMEs

The SWOT analysis of m-commerce adoption in Haryana, synthesized from expert interviews, presents a balanced overview of the current landscape. Among the strengths, widespread mobile usage and active engagement of the youth population stand out, suggesting that leveraging the high penetration of smartphones can significantly boost m-commerce growth. However, weaknesses such as infrastructure gaps, particularly in reliable internet connectivity, and low consumer trust in digital payment systems highlight critical areas that require focused investment in both connectivity improvements and enhanced security measures. On the opportunities front, experts emphasize the positive impact of government initiatives like the Digital India campaign and the rising adoption of electronic payments, underscoring the need for alignment with such schemes to accelerate m-commerce development. Threats identified include increasing cybersecurity risks and the market dominance of large players, which could stifle competition; hence, there is a pressing need to strengthen cybersecurity frameworks while simultaneously supporting small and medium enterprises (SMEs) to foster a more inclusive digital economy. This balanced view provides a strategic framework for stakeholders to capitalize on strengths and opportunities while effectively managing potential risks.

Table 7: Relationship between Demographics and M-Commerce Adoption (Chi-square Test)

Demographic Variable	Chi-square Value	df	p-value	Significance
Age	16.4	3	0.001	Significant ($p < 0.05$)
Gender	3.2	1	0.07	Not significant
Education Level	12.8	3	0.005	Significant ($p < 0.05$)
Income Level	10.1	2	0.006	Significant ($p < 0.05$)
City	4.5	2	0.10	Not significant

The chi-square test results indicate that m-commerce adoption in Haryana varies significantly with certain demographic factors. Specifically, age shows a strong association with adoption patterns ($\chi^2 = 16.4$, $p = 0.001$), suggesting that different age groups engage with m-commerce at varying levels. Similarly, education level ($\chi^2 = 12.8$, $p = 0.005$) and income level ($\chi^2 = 10.1$, $p = 0.006$) also significantly influence adoption, highlighting that higher educational attainment and income are linked to greater use of m-commerce platforms. In contrast, gender ($\chi^2 = 3.2$, $p = 0.07$) and city of residence ($\chi^2 = 4.5$, $p = 0.10$) do not show statistically significant relationships with m-commerce adoption, implying that male and female consumers, as well as residents across Gurugram, Faridabad, and Panipat, participate similarly in m-commerce activities. These findings underscore the importance of tailoring m-commerce strategies to target age groups, education levels, and income brackets to enhance adoption effectively.

Table 8: Consumer Satisfaction with M-Commerce Services

Satisfaction Dimension	Mean Score (1–5)	% Satisfied (4 or 5)
Product variety	3.8	75
Pricing	3.9	78
Ease of use	3.6	70
Payment process	3.4	65
Delivery timeliness	3.2	60
Customer service	3.3	62
Security & privacy	3.1	58

Consumer satisfaction with m-commerce services in Haryana reveals varied experiences across different service dimensions. Respondents expressed the highest satisfaction with pricing, which received a mean score of 3.9 and 78% of consumers rating it positively, closely followed by product variety with a mean score of 3.8 and 75% satisfaction. Ease of use also scored relatively well, with 70% of consumers satisfied, indicating that most users find m-commerce platforms accessible and user-friendly. However, areas such as the payment process and delivery timeliness showed lower satisfaction levels, with mean scores of 3.4 and 3.2 and only 65% and 60% of consumers expressing satisfaction, respectively. Customer service and security/privacy dimensions received the lowest satisfaction scores, at 3.3 and 3.1, with just 62% and 58% satisfaction rates. These findings suggest that while pricing and product variety are strong points, improving payment security, delivery speed, and customer support are crucial to enhancing overall consumer satisfaction and trust in m-commerce services.

Table 9: Recommendations for Enhancing M-Commerce Adoption (Expert Insights)

Recommendation	Frequency of Mention	Priority Level	Sample Expert Comment
Improve digital infrastructure	9/10	High	"Better network and data speed are essential."
Strengthen cybersecurity	8/10	High	"Consumers need assurance on data protection."

Consumer awareness campaigns	7/10	Medium	"Educate users about safe online shopping."
Simplify payment options	6/10	Medium	"Integrate multiple easy-to-use payment gateways."
Develop localized content	5/10	Medium	"Offer regional language interfaces."
Enhance last-mile delivery	8/10	High	"Reliable delivery is key to customer satisfaction."
Policy support & incentives	6/10	Medium	"Govt. should incentivize SMEs for digital adoption."

Priorities include infrastructure, security, and delivery improvements, supported by awareness and policy.

5. Challenges and Opportunities

Payment Security Concerns: A significant challenge identified through the survey is consumers' apprehension about the safety of digital payment systems. About 62% of respondents expressed concerns over payment security, primarily fearing fraud, hacking, and data breaches. These fears are amplified by occasional high-profile cases of cybercrime reported in the media, which erode trust in online financial transactions. For many users, especially those new to digital payments, the perceived risks outweigh the convenience benefits, leading to hesitation in adopting m-commerce fully. This challenge underscores the urgent need for robust security protocols, transparent communication about data protection measures, and consumer education to build confidence in digital payment ecosystems.

Digital Literacy Gaps: Another notable barrier is the gap in digital literacy among consumers, with approximately 45% of respondents admitting to limited knowledge about using m-commerce platforms and conducting online transactions safely. This issue is especially pronounced among older adults who may not be as familiar or comfortable with smartphones, apps, or online payment processes. The lack of digital skills results in usability challenges, errors during transactions, and increased vulnerability to scams, which can discourage continued use. Bridging this literacy gap through targeted training programs, simplified user interfaces, and localized support is essential for inclusive growth in m-commerce adoption.

Infrastructure Limitations: Infrastructure remains a fundamental constraint to seamless m-commerce experiences, particularly in peri-urban and rural parts of Haryana. Unstable internet connectivity, intermittent network coverage, and limited access to smartphones restrict the frequency and reliability of m-commerce usage for a significant segment of the population. These infrastructural deficiencies cause transaction failures, slow loading times, and frustration, which undermine consumer trust and satisfaction. Addressing these issues requires coordinated investments in telecommunications infrastructure, wider availability of affordable smart devices, and supportive government policies to enhance digital inclusion.

Trust Deficit: Trust plays a pivotal role in consumer decision-making in digital commerce. Many respondents highlighted a lack of trust stemming from unfamiliarity with brands and concerns over product authenticity as key deterrents to embracing m-commerce more fully. The inability to physically inspect products before purchase, coupled with fears of receiving counterfeit or substandard goods, creates skepticism. This trust deficit is compounded by limited customer service support and inconsistent return/refund policies. To overcome this, m-commerce businesses must emphasize transparent operations, build strong brand reputations, offer reliable customer support, and implement strict quality assurance mechanisms.

Opportunities

Convenience and Accessibility: Convenience is a compelling driver of m-commerce adoption, with 78% of consumers valuing the ability to shop anytime and anywhere. The COVID-19 pandemic accelerated this trend by imposing movement restrictions, which made

digital shopping not just desirable but essential. Consumers appreciate the elimination of physical store visits, time savings, and the ease of comparing products and prices online. This behavioral shift towards on-demand access creates an ongoing opportunity for m-commerce platforms to deepen engagement by enhancing user experience, offering seamless navigation, and expanding product assortments to cater to diverse consumer needs.

Personalized Marketing: The emergence of artificial intelligence (AI) and data analytics enables personalized marketing strategies that are increasingly recognized as effective tools to engage consumers. Tailored recommendations, targeted promotions, and customized communication based on consumer preferences can significantly enhance the shopping experience and boost conversion rates. Many respondents perceive AI-driven personalization as a promising avenue for better relevance and satisfaction. By leveraging consumer data ethically and creatively, m-commerce businesses can build stronger relationships, increase loyalty, and differentiate themselves in a competitive marketplace.

Government Support: Government initiatives like Digital India, which focus on expanding internet access, promoting digital payments, and fostering innovation, provide a robust supportive environment for m-commerce growth. Investments in mobile network infrastructure, regulatory reforms encouraging fintech adoption, and schemes aimed at digital literacy have collectively laid a foundation for a thriving digital economy in Haryana. These policies reduce entry barriers, incentivize innovation, and facilitate public-private partnerships. Businesses and consumers alike stand to benefit from continued government support that enhances connectivity, security, and access to digital services.

Expanding Rural Markets: With rising smartphone penetration and improving digital infrastructure in rural Haryana, there is substantial untapped potential for m-commerce expansion beyond traditional urban centers. Rural consumers are increasingly gaining exposure to online shopping through affordable devices and growing familiarity with digital tools. This shift opens opportunities to reach new customer segments by adapting offerings to local needs, languages, and purchasing power. Expanding into rural markets can drive volume growth, foster financial inclusion, and stimulate regional economic development, making it a strategic priority for m-commerce players aiming for long-term sustainability.

5.3 Recommendations

- Enhance consumer education programs focusing on digital literacy and secure payment methods.
- Strengthen cyber-security measures and communicate them transparently to build trust.
- Invest in improving digital infrastructure in less connected areas.
- Encourage partnerships between local retailers and digital platforms to improve brand recognition and product authenticity assurance.

6. Conclusion

This study highlights the evolving landscape of m-commerce adoption in Haryana, revealing a mix of strong growth potential alongside notable challenges. The increasing smartphone penetration, growing digital literacy, government support through initiatives like Digital India, and the expansion of rural markets create a favorable environment for the continued growth of mobile commerce. However, issues such as concerns over payment security, gaps in digital literacy—especially among older populations—infrastructure shortcomings, and a general trust deficit remain significant obstacles. Overcoming these challenges will require coordinated efforts focused on enhancing cybersecurity, improving consumer education, strengthening digital infrastructure, and building transparent and reliable service frameworks. Additionally, leveraging personalized marketing and ensuring efficient delivery systems can further improve user experience and foster consumer loyalty. Ultimately, collaboration among policymakers, businesses, and technology providers is crucial to fully harness the benefits of m-commerce, promoting inclusive digital growth and economic development across Haryana.

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