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HOW TIER 2 SHOPPERS ADOPT ONLINE SHOPPING AFTER COVID-19: A CONCEPTUAL STUDY

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Original Article

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Abstract

To propose an integrated conceptual framework explaining how shoppers in Tier 2 Indian cities adopt online shopping in the post-COVID-19 context. This study uses a structured review of recent theoretical and empirical work on online shopping, mobile commerce, social influence, and digital inclusion to identify key determinants and organise them in a multidimensional model. The framework highlights five domains shaping adoption: behavioural factors (habit, impulse, and planned buying), consumer characteristics (demographic and psychographic moderators), technological adoption mechanisms (perceived usefulness, ease of use, trust, and motivation for mobile commerce), social influence (offline peers, virtual communities, and live commerce), and infrastructure conditions (connectivity, digital literacy, payment readiness, and logistics). Behavioural and technological factors drive intention; consumer characteristics and social influence modify and amplify these effects, while infrastructural conditions determine whether intention converts into actual use. The paper formulates propositions linking these domains and outlines a research agenda for future empirical testing using longitudinal and multi-group designs in emerging market settings. The framework can guide policymakers and practitioners in designing interventions that jointly address behavioural drivers, digital capabilities, social support, and infrastructure gaps to strengthen online shopping participation in Tier 2 cities. By combining behavioural, technological, social, and infrastructural perspectives, this study offers a holistic, post-pandemic explanation of online shopping adoption in resource-constrained yet rapidly digitised urban regions.

Keywords: Conceptual Framework; Consumer Behaviour; Digital Inclusion; Online Shopping Adoption; Tier 2 Cities; Technology Acceptance

Introduction

The COVID-19 pandemic gave a huge push for a drastic shift in consumer behaviour all over India, and households that were shopping for essential and non-essential items suddenly switched to online shopping. Tier 2 cities, which were already experiencing a gradual digital expansion before the pandemic, saw an especially sharp increase in online shopping due to mobility restrictions, safety concerns, and growing familiarity with digital interfaces [1, 2]. What started as a crisis-driven response has now been able to morph into a year-on-year pattern of digital consumption. Evidence shows that consumers in these emerging urban regions are still relying on online channels for groceries, apparel, and everyday needs even after leaving pandemic-induced mobility, which may suggest a structural change in shopping behaviour rather than the temporary displacement of traditional retail [3, 4]. Alongside the growth of the online purchasing experience, several behavioural and psychological shifts have altered the way consumers behave as they have become used to the convenience and easy expectation of shopping online. Authors assess and interact with digital platforms as consumers. Increased exposure to digital marketing, real-time content, and constant product

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availability resulted in an increase in impulse buying, which was driven, for example, by anxiety, expectations of scarcity, and FOMO, especially among younger users [5, 6]. At the same time, the use of mobile commerce reinforced buying behaviours as consumers became used to the convenience and easy expectation of shopping on smartphones [7].

Household purchasing patterns incorporated mobile-driven grocery shopping, resulting in a permanent shift in consumer behaviour [8]. These behavioural trends are influenced by differences in demographics and psychographics. Research indicates that female consumers, younger adults, students and digitally literate consumers exhibit greater levels of online engagement, and technology readiness, lifestyle orientation, purchasing, and innovativeness are additional distinguishing features in splitting up consumer segments [9, 10, 11, 12]. Social influence also plays an important role. Offline peer networks, virtual communities and live shopping platforms influence buying decisions by creating normative and informational cues that help evaluate products and satisfaction [13, 14, 15]. Despite these modifications, the rate of adoption of online shopping in Tier 2 cities is uneven in view of infrastructural and socio-economic constraints. Research consistently brings into the spotlight the gaps in digital access, digital literacy, adoption of mobile payments, and last-mile delivery efficiency, especially in semi-urban, rural pockets of Tier 2 regions [16, 17, 18].

Cultural resistance, security issues and low logistical reach further limit the adoption of payments, as well as the ability to reliably fulfil services [19, 20, 21]. These constraints demonstrate that technological, social, and infrastructural systems, rather than individual factors, influence online shopping behaviour. Although a substantial body of literature exists exploring post-pandemic consumer behaviour and digital transformation, there is a lack of conceptual work that brings together behavioural, technological, social, and infrastructural determinants in one multidimensional explanation of online shopping adoption in Tier 2 cities. Existing studies often focus on individual constructs – such as impulse buying, mobile commerce, peer influence or logistics – but research seldom combines these perspectives to explain how adoption arises in resource-constrained yet rapidly digitalised urban environments. This paper addresses this gap by developing a multidimensional conceptual framework that combines behavioural drivers, consumer characteristics, technological adoption mechanisms, social influence dynamics, and infrastructure enablers.

The framework synthesises various streams of literature to explain how these determinants interact to influence online shopping adoption in Tier 2 cities during the post-pandemic era. The paper contributes to the literature by proposing a holistic model that is based on the peculiar realities of emerging Indian cities and formulating some propositions that can be used to guide future empirical research. The rest of the paper is organised as follows: Section 2 reviews theoretical and empirical literature relating to the behavioural, technological, social, and infrastructure domains. Section 3 describes in more detail the conceptual model and explains the relationships between the constructs. Section 4 presents the propositions derived from the model. Section 5 discusses the model's theoretical, managerial and policy implications and provides a research agenda. Section 6 concludes the study and draws attention to its contribution to understanding digital commerce in Tier 2 cities.

Literature Review

Behavioural, technological, social, and infrastructural forces, which develop rapidly during and after the pandemic, influence the adoption of online shopping in Tier 2 cities. The literature, though rich and diverse, has treated these domains in isolation. This section is a synthesis of these streams to form the theoretical basis of a multidimensional conceptual framework.

Behavioural Shifts in Digital Post-Pandemic Consumption

The pandemic catalyses a fundamental behavioural transformation by forcing consumers to depend on shopping online for security, convenience, and continuity of access [1, 2]. This emergency-driven movement gradually stabilised into a more constant behavioural pattern, as evidenced by the fact that post-pandemic consumers are still

buying groceries, essentials, and lifestyle products digitally even once the restrictions are eased [3, 4]. One major behavioural development is the increase in impulse buying, which is influenced by psychological factors such as anxiety, scarcity perceptions, and FOMO. Younger consumers exhibit pronounced impulsive behaviour in the context of digital saturation and promotional stimuli [5, 6]. On the other hand, planned buying was increasingly conservative during anyone's uncertainty and mirrored risk avoidance assessments of product need and resource deployment [22]. Mobile commerce was at the forefront of reinforcing these behavioural changes. Convenience, effort expectations, and familiarity with smartphone interfaces resulted in the establishment of stable online shopping habits that exist across products [7]. Particularly, mobile purchases of groceries led to a long-term reconfiguration of household shopping routines [8]. These patterns of behaviour are the basis for the conceptual model.

Usage of Technology Adoption Digital Interface Engagement

A second important basis for understanding online shopping adoption is technology acceptance theory. Multiple studies point out that perceived usefulness, ease of use, and trust are the best predictors of intentions to use online platforms [23, 24]. Trust increases the effects of perceived usefulness and behavioural control, while risk perception differs among demographics, such as gender and level of education [25]. Mobile commerce literature supports these insights. Not only does pandemic necessity sustain smartphone-driven shopping, but intrinsic motivation, habit, and perceived convenience also play a role [7, 26]. These technological determinants are cognitive enablers that turn behavioural tendencies into reality in terms of platform usage.

Social Influence, the Virtual Communities & Live Commerce Dynamics

Social influence theory addresses a third area of influences on online shopping behaviour. Offline peer influence – especially within close interpersonal relationships – can influence consumer attitudes and buying decisions by sharing the importance of normative approval and positive emotional support [13, 27]. This effect is especially strong in tightly knit communities that are common in Tier 2 cities. In a digital environment, virtual communities develop shared perceptions of value, critical mass, and legitimacy, which reinforce purchase intentions and lead to participation in collective buying behaviours [14]. Live shopping platforms add the element of experience to these influences. Real-time demos, interactive content and social validation signals provide better post-purchase satisfaction, and an intention to buy personalisation strengthens user trust and improves again [15]. Together, these social mechanisms indicate that online shopping behaviour is influenced by offline and online interactions that take place simultaneously. Digital retail studies also show that AI, AR, and data-driven personalisation strengthen user trust and improve digital engagement, supporting the role of technological mechanisms in shaping online shopping decisions [28].

Who and What Are New Age Digital Consumers?

Demographic characteristics are still important predictors of online shopping behaviours. Female consumers, as well as younger adults, students and digitally literate individuals, always show a higher level of online engagement and purchase frequency [9, 10, 29]. Psychographic insights expand on this knowledge by revealing that technology readiness, lifestyle orientation, fashion involvement, and shopping motivation make up different groups of consumers, such as convenience seekers, experience-orientated shoppers, and independent evaluators [11, 12]. These personal characteristics do not exist alone; they moderate the influence of behavioural, technological, and social factors on adoption. Digital behaviour research in related domains also shows that self-efficacy and digital readiness significantly shape intention pathways and strengthen the effects of technology-enabled environments [30]. For emerging markets, such as Tier 2 cities, the personal aspect is the layer that moderates, and it is important to understand different consumer trajectories. Recent work also shows that digital transformation strengthens organisational and user capabilities to engage with technology-driven systems, indicating a broader shift towards digital readiness in emerging markets [31].

Infrastructure, Digital Inclusion and Constraints of Logistics

Infrastructural readiness is an important context that impacts localisation for adoption. Internet connectivity, digital literacy and logistics capabilities vary dramatically between the urban cores and rural pockets of the cities of Tier 2 [16, 18]. Limited digital skills and lower exposure to online systems lead to lower adoption potential, especially in the case of older people and rural consumers. There are other challenges for mobile payment adoption. Cultural resistance, security concerns, and perceived value issues are impeding the adoption of digital payment systems in many semi-urban and rural areas [19, 20]. Logistics research points out the gaps in last-mile delivery, supply chain efficiency and service reliability limit the adoption of online groceries and lower consumer satisfaction [17, 21]. These infrastructural realities underscore how behavioural intention is not enough for adoption to take place, as consumers also need to work in an enabling ecosystem.

Summary of Literature Review

The reviewed literature reveals that the adoption of online shopping in Tier 2 cities is influenced by various forces, which are interlinked. Behavioural patterns and psychological triggers still play a role in how consumers make decisions, and technology acceptance factors like usefulness, ease of use, and trust drive their evaluation of digital platforms. Social and community-based influences, offline and online, play an important role in influencing confidence and purchase intention. Adoption also differs across demographic and psychographic groups because of age, gender, lifestyle and technology readiness; engagement levels exist. Finally, infrastructural readiness, e.g., connectivity, digital literacy, payment comfort, and delivery reliability, has a strong impact on whether intentions can be realised in actual usage. Together, these different threads of evidence are pointing to the need for an integrated framework to explain how these determinants interact to shape online shopping behaviour in Tier 2 cities in the post-pandemic environment. Table 1 summarises these key determinants and their respective roles. The reviewed literature reveals that various interlinked forces influence the adoption of online shopping in Tier 2 cities.

Table 1: Summary of Key Determinants of Online Shopping Adoption in Tier 2 Cities

Determinant	Core Constructs	Meaning / Role in Adoption	Supporting Studies
Behavioural Factors	Habit, Impulse Buying, Planned to Buy	Habit strengthens repeated online use; impulse buying increases unplanned purchases; planned buying guides essential and cautious purchases	Bhalerao et al. [1]; Mahpour et al. [4]; Gupta & Mukherjee [5]; Goel et al. [6]; Khanna et al. [22]
Consumer Characteristics (Moderators)	Age, Gender, Education, Technology Readiness, Lifestyle Orientation	These factors shape how users interpret digital platforms and moderate behavioural and technological effects	Venkatesh & Aruna [9]; Kalia [10]; Narang [11]; Pandey et al. [12]; Ravanan et al. [29]
Technology Adoption Mechanisms	Perceived Usefulness, Ease of Use, Trust, Mobile Commerce Motivation	Technology acceptance creates intention; trust reduces risk; mobile convenience increases frequency	Suresh & Ramanathan [7]; Murad et al. [23]; Fihartini et al. [24]; Awal et al. [25]; Chopdar et al. [26]
Social Influence	Offline Peer Influence, Virtual Communities, Live Commerce	Peer networks build reassurance; online communities create legitimacy; live shopping increases engagement and satisfaction	Wu et al. [13]; Lim [14]; Bahtar et al. [15]; Liu et al. [27]
Infrastructure & Environmental Conditions	Connectivity, Digital Literacy, Payment Readiness, Logistics/Delivery	Infrastructure determines whether intention becomes actual behaviour; poor access restricts usage	Rashid et al. [16]; Dhaigude & Mohan [17]; Parvathamma [18]; Sahi & Manrai [19]; Van Phuong et al. [20] ; Koshy et al. [21]

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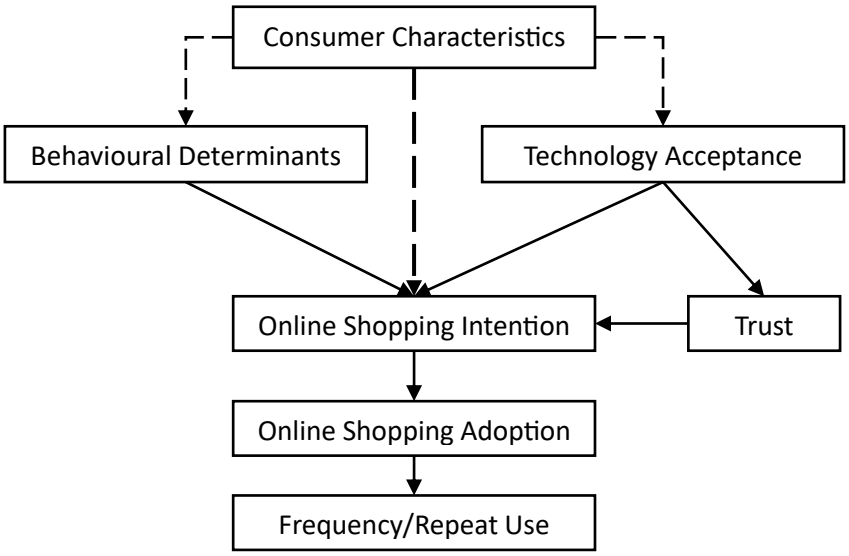
Modelling of Concepts Development

The literature reviewed in the previous section highlights that post-pandemic online shopping behaviours in Tier 2 cities were created out of the interplay between behavioural shifts, technological engagement, social influences, and infrastructural readiness. While previous work focuses on these elements individually, the interaction between them has so far been understudied theoretically. This section synthesises these determinants into an integrated conceptual model to explain how adoption takes place and why it differs among consumers in emerging urban regions. The model capturing these relationships is presented in Figure 1.

Figure 1: Conceptual model of factors influencing online shopping intention, use, and continued engagement in Tier-2 cities



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Behavioural Foundations as Fundamental Determinants

Consumer behaviour has undergone a structural transformation during the pandemic, leading to persistent digital habits, heightened impulses, and shifting priorities. Reiterative exposures to online platforms for essential and leisurely buys strengthened the habit of online shopping, which made digital buying an intrinsic routine [1, 4].

Simultaneously, the emergence of impulse buying – caused by anxiety, perceived scarcity and FOMO – brought emotional volatility into the decision-making process, particularly among youthful shoppers [5, 6]. On the contrary, planned buying was more selective and directed towards necessary goods in times of uncertainty [22]. These behavioural constructs comprise the first layer of the model and are direct drivers of intention and purchase frequency. They indicate the psychological and habitual aspects of post-pandemic consumer decision-making.

Consumer Characteristics as Moderators to Behavioural Pathways

Individual characteristics influence the understanding consumers have of digital environments and how they react to external stimuli. Demographic variables like age, gender, education and occupation have a consistent effect on the propensity to adopt online shopping. Young consumers, female shoppers and students show a higher level of engagement and purchase frequency, indicating their greater digital affinity and openness to new consumption patterns [9, 10, 29]. Psychographic characteristics – such as technology readiness, lifestyle orientation, innovativeness and shopping motivation – add to the differentiation of consumer responses [11, 12]. These traits influence perceptions of risk, convenience, and trust in platform confidence, thereby moderating its behavioural and technological effects. In the conceptual model, these characteristics do not act as direct predictors but instead as moderating forces, enhancing or diminishing the power of behavioural and technological constructs to influence the outcomes of online shopping.

Mechanisms of Technology Adoption as Cognitive Enablers

Technology acceptance theory describes how consumers move from being aware to intending and from intending to adopting a technology. The constructs of perceived usefulness, ease of use, and trust have been shown time and time again to determine willingness to use online platforms [23, 24]. Trust amplifies the effect of perceived usefulness and means that the hesitancy caused by risk perceptions is reduced [25]. Mobile commerce opens these avenues by making them convenient and intuitive, and they are always available in shopping environments. The fact that one can browse, compare, and purchase through smartphones leads to habit formation and an increased frequency of purchases [7, 26]. According to the conceptual model, technology adoption mechanisms are cognitive enablers that bridge the gap between behavioural tendencies and actual engagement with the platform.

Social Influence and Effects of the Digital Community as Engagement Amplifiers

Social influence comes into play through both offline and online networks. Interpersonal closeness among peer groups influences attitudes, expectations, and product judgements [13, 27]. In the digital realm, virtual communities foster a sense of belonging and collective affirmation within the communities, thereby enhancing purchasing intentions [14]. Live shopping platforms also increase engagement by providing real-time demonstrations, interactive cues, and entertainment-driven participation, all of which lead to satisfaction and repeat purchases [15]. Social influence mechanisms are thus provided as amplifiers in the model, enhancing the behavioural consequences as well as the emotional and social meanings of online shopping.

Infrastructural and Environmental Enablers Boundary Conditions

The existence of supportive infrastructure determines the possibility of online shopping adoption. Internet connectivity, digital literacy, and mobile payment readiness identify consumers' practical capacity to interact with the digital platform [16, 18]. Cultural resistance to digital payment systems, security concerns and a lack of financial infrastructure limit the adoption of these systems in many semi-urban and rural areas [19, 20]. Logistics constraints – for instance, poor last-mile delivery, weak serviceability and supply chain gaps – also constrain adoption, especially for groceries and perishables [17, 21]. These contextual variables represent boundary conditions in the conceptual framework. They find out whether behavioural intentions and technological readiness may translate into the actual adoption of e-commerce.

The Integrated Conceptual Framework

Combining these insights, online shopping adoption is suggested to be the multidimensional result of:

- Behavioural determinants (habit, impulse purchasing, planned purchasing)
- Consumer characteristics (demographic, psychographic, moderators)
- Technology adoption enablers (usefulness, ease of use, trust, mobile commerce motivation)
- Social influence amplifiers (in person, peers online and in virtual communities), live shopping
- Target of infrastructural boundary conditions (connectivity, literacy, payments, logistics)

The framework emphasises that adoption is not the product of individual determinants but the result of the interaction of psychological, social, and environmental factors. It has formed a basis for the formulation of explicit propositions and for future empirical research. Similar integrated frameworks have been used in other domains of consumer behaviour, reinforcing the value of combining internal and external determinants to explain complex adoption processes [32].

Propositions Development

The multidimensional framework developed in Section 3 suggests that online shopping adoption in Tier 2 cities arises from the interaction of behavioural, technological, social, personal, and infrastructural forces. This section formalises a set of propositions to transform this logic into a testable conceptual structure. These propositions describe theoretically grounded pathways, and empirical work can confirm them and refine or elaborate the model.

Behavioural Determinants of Adoption

The literature reveals that behavioural changes developed during the pandemic have stabilised into persistent consumption patterns. Online shopping habits play the role of a primary behavioural anchor that influences the intention and frequency of consumer purchases [1, 4]. Impulse buying, which is emotional in nature, like FOMO, as well as perceptions of anxiety and scarcity, are also directly related to unplanned and more frequent purchases [5, 6]. Planned buying behaviours also impact product category choices and frequency.

- **Proposition 1:** Online shopping habits have a positive impact on online shopping in Tier 2 cities.
- **Proposition 2:** Impulse buying tendency has a positive relationship with the frequency of online purchases.
- **Proposition 3:** Planned buying Orientation is related to the type and frequency of online purchase.

Consumer Characteristics: Moderators

Demographic differences – such as gender, age and education – influence the magnitude of behavioural and technological influences on online shopping. Female shoppers and younger consumers are always more inclined to adopt and have more open-mindedness to digital interfaces [9, 10]. Psychographic characteristics, such as technology readiness and lifestyle orientation, further explain the variation in perceived convenience, trust, and willingness to engage [11, 12].

- **Proposition 4:** The technology's readiness is positively linked to online shopping adoption.
- **Proposition 5:** The impact of technology readiness on adoption is greater for younger consumers than older consumers.
- **Proposition 6:** Female consumers have higher intentions to shop online and adopt than male consumers.

Mechanisms for the Adoption of Technology: Cognitive Enablers

The Technology Acceptance Model (TAM) and similar models highlight the utility, ease of use, and trust involved in the development of intentions. Research consistently demonstrates that these constructs accurately predict online shopping behaviour, especially in emerging markets with uneven digital familiarity [23, 24]. Trust increases the impact of perceived usefulness and lowers the risk perceptions [25]. Mobile commerce motivation provides an extra enabler in terms of reinforcing the convenience and habit [7, 26].

- **Proposition 7:** Perceived usefulness and ease of use have a positive effect on online shopping intention.
- **Proposition 8:** Trust mediates the relationship between perceived usefulness and online shopping intention.
- **Proposition 9:** Mobile commerce motivation can be found to be a positive factor in the frequency of online shopping.

Social Influence as Strengthening Behaviour

Offline peer networks, virtual communities, and live shopping formats intensify engagement by shaping norms, expectations, and legitimacy [13, 14, 15]. Social cues offer comfort and boost confidence in product choice and reliance on the platform. These effects are especially potent in Tier 2 environments in which social networks are thick, and peer validation plays a role in decision-making.

- **Proposition 10:** Social influence from peers and virtual communities is a positive factor that influences online shopping attitudes and adoptions.
- **Proposition 11:** Use of live shopping platforms has a positive impact on post-purchase satisfaction and repeat purchase intention.

Infrastructure and the Environmental Condition as Boundary Constraints

Even if behavioural and technical factors are conducive to going online, infrastructure conditions determine whether consumers can engage on a regular basis. Internet connectivity, digital literacy, and mobile payment readiness play important roles in determining the feasibility of online shopping [16, 18]. Logistics and last-mile delivery reliability have a strong influence on satisfaction, repeat purchasing and trust in digital channels [17, 21].

- **Proposition 12:** Internet connectivity, digital literacy, and payment readiness have a positive effect on consumers' ability to adjust to online shopping.
- **Proposition 13:** The relationship between online shopping intention and actual adoption is stronger in areas with adequate last-mile delivery infrastructure.

Discussion

The conceptual model developed in this study indicates how behavioural patterns, technology readiness, social influence, and local infrastructure affect online shopping adoption in Tier 2 cities. A critical reading of such relationships makes it clear that their strength varies from user to user and from condition to condition, and this contributes to the uneven adoption rates in post-pandemic India. Habit and impulse buying are still important behavioural factors, but less stable than the model suggests. Evidence from the study of pandemic-driven routines suggests that crisis-based habits are likely to weaken when normal mobility is re-established, as illustrated in work from Khanna et al. [22]. This implies that the powerful digital habits reported during the time of Covid-19 [1, 4] may not be consistent across all consumer groups. Impulse buying also rose significantly during the pandemic due to emotion and digital exposure, a trend mentioned by Gupta & Mukherjee [5] and Goel et al. [6]. Such behaviour may lessen with the dissipation of emotional pressure. These points indicate that it is necessary to understand behavioural drivers in the model as fluid and responsive to changing social and economic contexts.

Technology adoption factors such as usefulness, ease of use, and trust are still central to predicting intentions, as mentioned by Murad et al. [23] and Fihartini et al. [24]. However, their influence is weakened in cases where infrastructural barriers exist. Research on digital inclusion in semi-urban India identifies that the disconnect between intention and behaviour is often due to gaps in connectivity, a lack of literacy, and the reliability of delivery [16]. This diminishes the ability of TAM-based constructs to predict and is consistent with the findings of Awal et al. [25], which demonstrate that trust is not sufficient to overcome limitations such as contextual barriers. Thus, the model underscores that while intention was necessary, it was insufficient when capability constraints remained high. Social influence is also a complex factor. Offline networks in Tier 2 cities can be used to promote the adoption of the technology, as recommended by Wu et al. [13] as well as Liu et al. [27], but these networks can also reinforce the avoidance of the use of security or digital payments.

Online communities and live shopping platforms tend to enhance confidence and engagement, and this trend has been supported by Bahtar et al. [15], but these forms of influence in a digital form are more effective for younger or digitally confident users. This reveals that social influence does not work uniformly and can increase or decrease the adoption depending on demographic and psychographic characteristics. Infrastructure continues to be the biggest determinant of actual usage. Connectivity gaps restricted digital literacy and erratic delivery have been extensively reported as Tier-2 and semi-urban constraints [16, 18]. Logistics issues, especially weak last-mile delivery for groceries and perishables, also further limit adoption, as found in Dhaigude & Mohan [17] and Koshy et al. [21]. These studies corroborate the model's assertion that infrastructure serves as a boundary condition that constrains the influence of behavioural and technological readiness. Overall, this critical analysis reveals that online shopping adoption in Tier 2 cities is the result of the interaction of personal motivation and structural conditions. Behavioural and technological drivers bring about intention, but social norms and infrastructural gaps determine whether that intention is converted into actual behaviour. This trend is due to the need for multidimensional explanations as opposed to single-construct models in emerging markets.

Research Agenda and Areas for Future Research

The critical reading of the conceptual model reveals several gaps that the future research should address. These gaps are in line with previous findings on post-pandemic behaviour, digital inclusion, and social influence, but they also highlight areas where there is still little knowledge. A major area where there is further work to be done is the long-term strength of digital habits. During the pandemic, research suggests that the restriction on mobility led to the establishment of strong online shopping habits [1, 4]. However, studies concerning behavioural change in times of

uncertainty, for example, Khanna et al. [22], indicate that habits that are developed under pressure might erode when external conditions stabilise. Longitudinal designs are therefore needed to track how digital routines are changing as life returns to normal and whether these habits are different across ages, genders, or income groups. Another area of research relates to the conditional strength of the factors of technology adoption.

Perceived usefulness, ease of use, and trust are strong predictors of intention in a range of settings [23, 24], yet they may be less important in areas with poor infrastructure. Digital inclusion research, including work by Rashid et al. [16], has found that intention often does not turn into behaviour due to poor connectivity, illiteracy, and poor delivery. Possible future work would include testing whether TAM-based constructs lose their predictive power in cases when infrastructural barriers are high or whether trust would act differently in scenarios with low capabilities, as Awal et al. [25] suggest. Social influence also needs to be more deeply studied. Offline ties are strong in Tier 2 cities and influence shopping behaviours, as mentioned by Wu & others [13] and Liu & others [27], but they may generate both encouragement and resistance. Online influence via reviews, communities, and live shopping formats can increase engagement with the site, especially among the younger. Bahtar et al. [15] made this observation. Future research should focus on how these two forms of influence interact, which is more dominant at different stages of adoption, and how influence differs for demographic and psychographic groups. Infrastructure remains the largest gap in the evidence base. Previous studies indicate persistent disparities in connectivity and literacy between semi-urban and rural areas [16, 18].

Logistics studies like Koshy et al. [21] and Dhaigude & Mohan [17] indicate that the reliability of delivery has a strong impact on levels of satisfaction and repeat purchase. Future studies will be useful to map the specific nature of digital access in Tier 2 regions, identify specific infrastructure barriers that impede adoption, and assess hyperlocal and community-based delivery models that may reduce these gaps. There is an opportunity for theoretical development, too. The current model incorporates behaviour in constrained environments and suggests that local norms and financial precautions, technological, social, and infrastructural drivers, economic pressure, cultural expectations, and trust in institutions may also influence adoption in smaller cities. Previous research on consumer behaviour for constrained environments suggests that local norms and financial caution can have a strong influence on adoption decisions [11, 12]. Incorporation of these variables might aid the development of more accurate hybrid theories for emerging markets. Finally, propositions developed in this paper need empirical testing. Structural equation modelling, multi-group analysis, and longitudinal research can help investigate differences in relationships among user segments. Studies can also investigate changes in the strength of specific constructs over time, especially in habits, trust, impulse buying, and social influence. Empirical validation will aid in refining the framework to have a stronger predictive value and to determine which drivers have the greatest impact on adoption in Tier 2 cities.

Conclusion

This study attempts to create an integrated conceptual framework for how the adoption of online shopping has been evolving in the Tier 2 Indian cities post-Covid-19. The review demonstrates that the sudden move to digital platforms during the pandemic has created behaviour patterns that are likely to persist, including enhanced online shopping behaviours and an increase in exposure to impulse-driven behavioural triggers. These behavioural changes are now working in concert with technology adoption factors such as usefulness, ease of use, and trust, which still serve as guidelines for consumers to evaluate digital platforms. The study underscores the impact of both offline and online social influence on online shopping in Tier 2 cities. While virtual communities, reviews, and live shopping formats develop new forms of engagement, close interpersonal networks provide reassurance and set expectations. These social pathways do not work homogeneously and may enhance or reduce adoption depending on the user's age, digital confidence level, and lifestyle orientation. This framework makes a significant contribution by considering infrastructure as a structural boundary condition. Differences in connectivity, digital literacy, reliability of delivery, and proof of payment often limit actual use, despite the behavioural and technological factors that contribute to users' intentions. These constraints show that individual-level determinants alone cannot explain the adoption of online shopping in emerging urban regions. This study presents a model and propositions that serve as a foundation for

future empirical testing. They help clarify the interactions between behavioural, technological, social, and infrastructural forces, as well as the reasons for the uneven level of adoption across consumer groups and localities. The research agenda reflects the need for longitudinal work on habit formation, for a more in-depth study of social influence channels and for greater evidence on the effects of the digital divide in Tier 2 cities. Overall, this study is a contribution to the field of digital commerce by providing a multidimensional explanation of online shopping adoption reflecting the realities of new emerging Indian markets. It illustrates that adoption is influenced by the trade-off between the motivation of the consumer and the constraints of the environment, and it calls for the theory, the practice, and the policy to address these factors together to support inclusive and sustained digital participation.

Conflict of Interest

The authors declare that they have no conflict of interest.

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