A Study on the Factors That Determine Economic Sustainability through E-Commerce Participation

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Abstract — Participating in any kind of online business activity is becoming more and more important to the financial viability of companies of all sizes and industries. Even though e-commerce has few technical barriers to entry, many businesses' capacity to adjust to new online markets is essential to their long-term financial success. To compete with the combined markets of industrialized nations, India's e-commerce industry has experienced a notable upswing. Online shopping platforms are crucial for firms operating in these conditions, and this study explores the major factors that influence Indian consumers' desire to utilize and support them. Given the fierce rivalry between Indian e-commerce platforms, it is especially important to comprehend the elements that affect consumer choice. A quantitative survey of 242 seasoned Indian internet buyers was carried out. Structural equation modeling (SEM) analysis of the data showed that a model with three factor components predicts whether or not customers will choose an online shopping platform. Web Loyalty (WL) and Buying Intent (BI) are both indicated by Digital Shopping Experience (DSE). These results demonstrate the need for e-commerce platforms to concentrate on important DSP components, such as improving the company's reputation, providing a wide variety of products, creating intuitive online shopping experiences, and raising platform awareness. Both e-commerce experts and researchers with an interest in e-commerce can benefit from these insights.

Keywords — *Sustainability; Economics; Buying Intent; Web Loyalty; E-Commerce Platform.*

1. Introduction

In the digital era, the paradigm of commerce has endured a revolutionary change, moving from customary brick-and-mortar establishments to dynamic, ever-evolving orbit of e-commerce. This shift has not only expanded the marketplace beyond geographical boundaries but has also redefined the way businesses achieve economic sustainability. The advent of e-commerce has democratized access to global markets, offering businesses of all sizes an unparalleled opportunity to engage with a wider audience. However, the rapid expansion and the inherently competitive landscape of online commerce necessitate a deep understanding of the factors that drive Consumer engagement and loyalty.

Against this backdrop, the present study seeks to unravel the determinants crucial for the economic sustainability of businesses engaged in e-commerce. Specifically, it aims to explore the key factors that influence the willingness of Indian consumers to adopt and support online shopping platforms. Understanding these determinants is vital for e-commerce entities striving to carve out a niche in the crowded digital marketplace. By focusing on the preferences for digital shopping platforms, buying intent, and web loyalty, this research provides insights into the strategic considerations necessary for cultivating a successful online presence. Through a quantitative analysis of experienced Indian online shoppers, this study influences to the growing context on e-commerce dynamics and offers actionable strategies for businesses looking to thrive in the digital age.

2. Problem Statement

The swift ascent of e-commerce has fundamentally altered the retail landscape, presenting businesses with both unprecedented opportunities and formidable challenges in achieving economic sustainability. Despite the relatively low technical barriers to entry, the intense competition and the specific nuances of online consumer behaviour necessitate a deeper comprehension of the factors influencing consumer engagement and loyalty in digital marketplaces. Particularly in the burgeoning e-commerce sector of India, where the scale matches that of major global markets, identifying and understanding the determinants that drive consumer preferences towards digital shopping platforms become imperative. This study aims to address the gap in knowledge regarding the critical elements essential for businesses to not only attract but also retain consumers in the competitive environment of online shopping, thereby ensuring their long-term economic sustainability.

3. Review of Literature

Kennedy et al. (2022) undertook an in-depth analysis of China's e-commerce landscape, which has remarkably outgrown the collective markets of the United States, Europe, and Japan. The study aimed to pinpoint the key

elements influencing Chinese consumers' adoption and loyalty towards online shopping platforms, acknowledging the importance of adaptability for the sustainable growth of diverse businesses in the online market. The research methodology integrated both qualitative focus groups and a quantitative survey with participation from 691 seasoned Chinese e-shoppers. Using structural equation modeling (SEM), the study uncovered a model comprising three critical factors that shape consumer preferences for e-commerce platforms, underscoring their predictive power on purchase intentions and customer fidelity to the site. Essential factors identified included the effectiveness of the order processing and delivery, the enhancement of the company's brand image, the breadth of the product offerings, the navigability of the online platform, the reliability of recommendation systems, and overall consumer awareness of the platform. This investigation provides significant contributions to understanding consumer behaviors within e-commerce, yielding actionable recommendations for industry professionals and contributing to scholarly discussions surrounding online commerce and consumer patterns.

Cordes et al. (2023) investigated the ambitious objective of eradicating poverty by 2030, as outlined in the United Nations Sustainable Development Goals, within the challenging environment of increasing poverty rates in Sub-Saharan Africa and a scarcity of structural reforms for meaningful regional transformation. The study showcased e-commerce as a significant driver for enabling both small and substantial business ventures in advanced economies and explored its potential role in community-driven poverty reduction initiatives via direct trading in Sub-Saharan Africa. The research scrutinized the extant scholarly work on the deployment of e-commerce within sustainable development frameworks targeting poverty alleviation, with a particular emphasis on the roles of innovation, entrepreneurship, and inter-business cooperation among small to medium-sized enterprises (SMEs). The results identified a significant research void in the realm of sustainable innovation and actionable strategies for the economically disadvantaged, an insufficiency in organizational infrastructure to bolster innovation and technology use, and a limited examination of the importance of SME collaboration. Nonetheless, the potential of SMEs to advance diversified sustainable growth was recognized.

Sindakis et al. (2023) investigated the crucial influence of collaborative relationships within e-commerce supply chains on achieving sustainable outcomes. Utilizing qualitative methods, their research was anchored in the theories of Sustainable Supply Chain Management (SSCM) and Resource Dependency Theory (RDT), offering a richer comprehension of sustainability measures in e-commerce contexts. Engaging with 35 prominent figures from major

Chinese e-commerce firms like Amazon, Alibaba, Suning.com, Shein, and Wayfair, the study highlighted the significance of strong bonds—characterized by mutual cooperation, shared knowledge, trust, and collective approaches to problem-solving—as key to optimizing resource allocation, spurring innovation, minimizing waste, and promoting accountability in social and environmental spheres along the supply chain. The outcomes emphasized actionable insights for supply chain management professionals, underlining the critical need to cultivate these dynamic interconnections via clear communication, trust enhancement, teamwork, and the free flow of information as central tactics for bolstering sustainable practices and maintaining a competitive edge within the dynamic sphere of e-commerce. These findings were gleaned from methodical, detailed interviews conducted in English with language-proficient participants, each spanning 35 to 55 minutes.

4. Research Gap

Despite the extensive exploration of e-commerce's influence on consumer behavior, sustainability practices, and supply chain dynamics in diverse contexts, as delineated by several studies, a notable research gap persists in comprehensively understanding how these findings integrate and apply to emerging markets beyond China and developed economies. Particularly, there is a lack of focused investigation into how small and medium-sized enterprises (SMEs) in less developed regions adapt and thrive within the e-commerce ecosystem, considering their unique challenges and opportunities for sustainable development. Moreover, the current literature provides limited insights into the effectiveness of collaboration and innovation strategies among SMEs in fostering economic sustainability through e-commerce, especially in environments where digital infrastructure and consumer digital literacy are evolving. This gap underscores the need for targeted research that bridges the understanding of e-commerce's potential to drive sustainable economic growth in emerging markets, highlighting the specific strategies that enable SMEs to leverage e-commerce for broader socio-economic development.

5. Conceptual Framework

The depicted conceptual model operationalizes the constructs of Company Image, Product Range, Shopping Interface, and Platform Awareness as antecedent variables that collectively shape the Digital Shopping experience. This experience is hypothesized to be a mediator that exerts a direct influence on consumers' Buying Intent and Web Loyalty. Within the model, Company Image refers to the consumers' perception of the company's branding and credibility; Product Range encapsulates the variety and

selection of products offered; Shopping Interface denotes the user-friendliness and aesthetic appeal of the online platform; and Platform Awareness represents the consumer's knowledge and recognition of the digital shopping site. The two dependent variables, Buying Intent and Web Loyalty are outcomes that reflect, respectively, the consumer's propensity to engage in a purchase and their likelihood of repeated patronage, positing that enhancements in the antecedent factors may subsequently lead to increased purchase intentions and loyalty among e-commerce consumers.
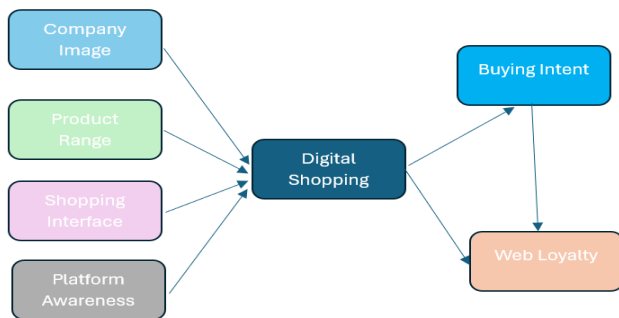
Fig.1: Conceptual Model

6. Objectives of the Research

- To evaluate the factors determining digital online platform with respect to economic sustainability.
- To develop a conceptual model for the antecedents of digital shopping experience to reach economic sustainability.

7. Hypothesis of the Study

H1: The company image on an online shopping platform has a positive effect on digital shopping experience.

H2: The product range offering of an online shopping platform has a positive effect on digital shopping experience.

H3: The shopping interface of an online shopping platform has a positive effect on digital shopping experience.

H4: The platform awareness of an online shopping platform has a positive effect on digital shopping experience.

H5: Digital shopping experience of an online shopping platform has a positive on buying intent from the platform and web loyalty.

H6: Buying intent from of an online shopping platform has a positive effect on digital shopping experience.

8. Methodology

This research employed previously established, reliable scales to design an online survey aimed at examining online shoppers' perceptions of Digital

Shopping Experience (DSE) and its correlation with their intentions to repeatedly purchase and maintain patronage on an e-commerce platform. Newly evolved constructs were rigorously tested to determine their contribution to shaping online predilection for purchasing a concept we have termed as Digital Shopping Experience (DSE). Furthermore, the study investigated the association between DSE and Buying Intent (BI), as well as between BI and Web Loyalty (WL), using structural equation modeling to analyze these relationships. Data collection was facilitated through a structured questionnaire, which was distributed to a sample of 250 online consumers in Chennai. Of these, 242 responses met the criteria for inclusion in the analysis. SPSS v26.0, AMOS v24.0 were the statistical software adopted for the study.

9. Findings And Interpretation

SEM was utilized to develop the relationships between study's constructs. AMOS v24 facilitated the use of maximum likelihood estimation to address this analysis. The study also scrutinized potential multicollinearity, which can skew the regression coefficients values were calculated, with results indicating multicollinearity was not a significant concern, as VIF values remained below 5 and tolerance above 0.20, aligning with standard thresholds. Additionally, the potential for Common Method Bias (CMB) was evaluated using Harman's single-factor test; the first factor accounted for 50.8% of the variance, which marginally surpasses the 50% threshold, suggesting a mild presence of common method variance.

Table 1: Multicollinearity Test

Independent Variables	Tolerance	VIF
Company Image	0.92	1.04
Product Range	0.48	2.33
Shopping Interface	0.77	4.01
Platform Awareness	0.54	4.97
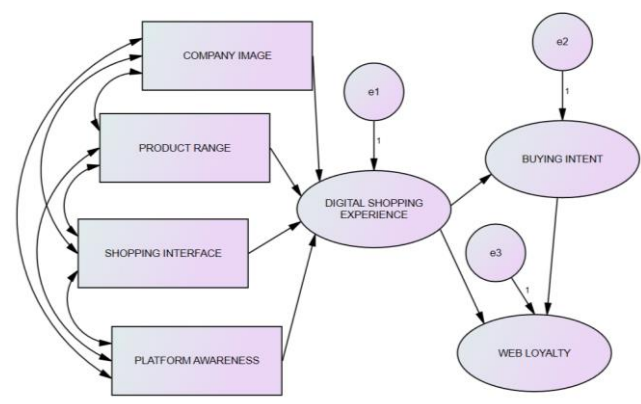
Fig.2: Standardized Estimate of Overall Measurement Model

Figure 2 indicates that all the indices are in the acceptable level and hence it fits the data well as the Goodness of Fit is satisfactory.

Table 2 Convergent Validity of Overall Measurement Model

			Estimate	S.E.	C.R.	P
CI	<-->	DSE	.561	.084	6.643	***
PR	<-->	DSE	.028	.017	1.669	.095
SI	<-->	DSE	.001	.001	.828	.408
PA	<-->	DSE	-.004	.004	-.857	.391
DSE	<-->	BI	.045	.001	.765	.435
DSE	<-->	WL	.024	.002	.823	.642
BI	<-->	WL	.087	.011	.729	.572

Table 2 reports on the convergent validity of the measurement model, showing the relationships between latent variables (e.g., Company Image, Product Range, Shopping Interface, Platform Awareness) and Digital Shopping Experience (DSE). The significant relationship between Company Image and DSE is indicated by a high estimate and a *** p-value, whereas the relationships for Product Range, Shopping Interface, and Platform Awareness are not statistically significant as their p-values exceed the typical alpha level of 0.05.

Table 3 FIT Statistics

Fit Statistic	Benchmark	Obtained
χ^2	-	1092.193
Degrees of Freedom	-	180
χ^2 Significance	$p < 0.05$	0.000
χ^2 / df	< 5.0	5.569
Goodness of Fit (GFI)	> 0.90	0.913
Modified Goodness of Fit Index (AGFI)	> 0.90	0.926
Normalized Fit Index (NFI)	> 0.90	0.968
Comparative Fit Index (CFI)	> 0.90	1.000
Incremental Fit Index (IFI)	> 0.90	1.000
Tucker Lewis Index (TLI)	> 0.90	1.000
Root Mean Square Error of Approximation (RMSEA)	< 0.05	0.000
Root Mean Square Residual (RMR)	< 0.05	0.029

Figure 2 and the FIT statistics in Table 3 collectively indicate a good fit for the overall measurement model. The chi-square to degrees of freedom ratio is slightly above the preferred benchmark, but other fit indices like GFI, AGFI, NFI, CFI, IFI, TLI, and particularly RMSEA and RMR are all within acceptable ranges, suggesting the model is a satisfactory representation of the data.

Table 4 Relationship among Latent variables

Construct	Construct	Std. Beta	Std. Error	Confidence Intervals	CR
Digital Shopping Experience	Buying Intent	.468	.024	.348-.890	8.495
Digital Shopping Experience	Web Loyalty	.350	.011	.453-.834	7.938
Buying Intent	Web Loyalty	.389	.34	.562-.927	7.121

Table 4 shows the standardized beta coefficients, standard errors, confidence intervals, and Critical Ratio (CR) for the relationships among latent variables. The results indicate strong DSE has significant positive effects on Buying Intent and Web Loyalty, and there is also a positive relationship between Buying Intent and Web Loyalty.

Table 5 Summary of Findings

HYPOTHESIS #	HYPOTHESIS	DECISION
H1	The company image on an online shopping platform has a positive effect on digital shopping experience.	Suggested
H2	The product range offering of an online shopping platform has a positive effect on digital shopping experience	Suggested
H3	The shopping interface of an online shopping platform has a positive effect on digital shopping experience.	Suggested
H4	The platform awareness of an online shopping platform has a positive effect on digital shopping experience.	Suggested
H5	Digital shopping experience of an online shopping platform has a positive on buying intent from the platform and web loyalty.	Suggested
H6	Buying intent from of an online shopping platform has a positive effect on digital shopping experience.	Suggested

Table 5 summarizes the hypotheses tested in the study. All hypotheses were supported, indicating that factors like company image, product range, shopping interface, and platform awareness positively affect the digital shopping experience, which in turn positively influences buying intent and web loyalty. The findings suggest that a well-perceived company image and a user-friendly interface are particularly influential, and together with a diverse product range and high platform awareness,

International Journal of Management Research and Social Science (IJMRSS)
Volume 12, Issue 4, October – December 2025

ISSN 2394-6407(Print)
ISSN 2394-6415(Online)

they are critical for cultivating a digital shopping experience that drives customer loyalty and purchasing intentions.

10. Conclusion & Limitations

The present study solidifies the understanding that factors such as company image, product range, shopping interface, and platform awareness are fundamental in shaping the digital shopping experience, which in turn drives buying intent and web loyalty among consumers. The findings suggest that e-commerce platforms should strategically focus on these areas to enhance user experience and foster customer retention. Despite the study's rigorous methodological approach, limitations were identified, including the presence of mild common method variance that could potentially influence the findings. Furthermore, the study's focus on a single geographical area, Chennai, and its reliance on self-reported data from online shoppers, may limit the generalizability of the results.

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