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# The effect of digital communication technologies in retail supply chain management: Evidence from Indian small retailers

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Indian retail industry held the second rank in A.T. Kearney's Global retail development index in Received: October 4, 2022 2021 and ranked 16th FDI confidence index. The retail industry provides ample job opportuni-Received in revised format: Octoties and contributes to the economic progress of the nation. After the advent of new innovation there are new technologies which have emerged in business and it also substantially changed Accepted: January 4, 2023 consumer behavior. Digital communication allows the user to transfer data from one end to another using digital technologies like e-mail, phone calls, video conferencing, and several instant message applications. Digital communication allows retailers to send personalized business information to their loyal customers and the customers respond to those messages, which Digital Communication technolin turn generate business for unorganized retailers. Digital communication not only improves Supply chain management the business of unorganized retailers but also the business image, Geographical spread, profita-Unorganized retailers bility, new customer acquisition, customer retention, and the like. Digital communication will transform the traditional unorganized retailer into an offline-to-online commerce model. Based on theoretical review this study identified constructs and proposed major determinants which influence technology adoption and its continuance among the unorganized retailers. This study assesses the digital communication technology usage in supply chain management among unorganized retailers with the constructs like experience, effortlessness, efficiency, enrichment, trust, security, digital infrastructure, satisfaction, and continuous intention to use. The results show that digital communication technology's effort, experience, and efficiency influence satisfaction. However, enrichment failed to influence satisfaction. Further, the results show that satisfaction and security influence continuous intention to use. However, trust and digital infrastructure failed to influence. Therefore, digital communication technology usage in supply chain management among unorganized retailers is substantially influenced by constructs like effort, experience, efficiency, satisfaction, and security.

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#### 1. Introduction

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The retail industry in India is one of the leading industries worldwide, and it is the fifth-largest global destination in the retail space. Indian retail industry held the second rank in A.T. Kearney's Global retail development index in 2021 and ranked 16th FDI confidence index. The retail industry provides ample job opportunities and contributes to the economic progress of the nation (RETAIL INDUSTRY REPORT, 2022). In addition, the Retail industry in India has transformed at a dynamic phase due to the entry of several organized retailers, e-tailers, and other Multinational corporations. Furthermore, the outbreak of COVID-19 has fueled transformation through multidisciplinary research and the emergence of new ideas and digital technologies in retail. It also accelerated the pace of the adoption of digital technologies among consumers. Some of the well-known digital technologies which are spread across retail industries are Contactless Engagements (nocontact deliveries, contactless payments, and mobile payments), Shift to Business to Commerce, Digital Platform for sales (social affirmations and brand building), Digital Communication (Business communication done through social media), Blockchain technology, RFID tag, Data analytics, Online grocery and Super apps (consolidating payments, Chat bot's,

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personalized shopping lists and recommendations). As per McKinney's consumer pulse survey, 94% of Indian consumers have tried a new shopping behavior since 2019, and most people have continued online shopping (RETAIL INDUSTRY REPORT, 2022).

All organizations face a radical change in their business operations and functioning due to recent advancements in digital technologies and the changes brought by COVID-19 in the retail industry. The existing studies are more concentrated on the aspects like consumer behavioral changes during the pandemic and technological interventions in retail. However, there is no doubt about the assistance of Innovative technologies and their support during the pandemic, especially in the retail Industry. In developed countries, the existing studies emphasize Human-machine interaction. Specifically, it gives more importance to Artificial Intelligence, Machine Learning, Data Analytics, Augmented Reality, Virtual Reality, and Mobiquitous technologies. During the past few years, India also faced a tremendous transformation in digital technologies with the help of the "Digital India" program, and affordable technologies supported the penetration of digital technologies. Studies also attempted in India to find the penetration reasons and behavioral intentions among organizations, consumers, and other stakeholders. In recent years Indian consumers have sought Omni-channel experiences, Trust, Convenience, and Personalization, and new digital technologies substantially fulfilled these. In addition, these new digital communication technologies have fulfilled the needs of retailers and their customers.

Digital communication allows the user to transfer data from one end to another using digital technologies like e-mail, phone calls, video conferencing, and several instant message applications (Asrani, 2022). In addition, digital communication plays a vital role in business, and it allows users to send discrete messages to their customers, wherein customers respond instantly. Digital communication in business provides several advantages: time saving, more accessible, cheaper, and faster (Asrani, 2022). Further, these communication technologies provide personalized service & assistance to their respective consumers. The retail industry in India has been transformed in several aspects with the help of digital technologies, and the Indian retail industry is subdivided into three types. Those are Organized Unorganized, and E-Commerce. The advent of Innovation bolsters organized and E-Commerce retail and transforms unorganized retail in India. Unorganized retail is a traditional form of retail in India, where it outnumbers organized retailers and E-tailers. The development of organized retail and E-Commerce poses a massive threat to unorganized retailers. Further, the outbreak of the novel coronavirus and its restrictions significantly reduced consumer volumes and customer interactions. It has compelled retailers to understand the importance and benefits of digital technologies, which in turn increases the adoption and usage among their consumers.

Unorganized retail is one of India's oldest forms of retail formats, and it still outnumbers organized retailers and e-tailers. Unorganized is so-called traditional retail, and some examples of unorganized retail stores are sole traders, mom & pop stores, Grocery stores, and Kirana stores. Unorganized retailers deliver highly personalized and interactive services to their customers, creating benefits for the local community and environment. The advent of Innovation and the outbreak of COVID-19 forced unorganized retailers to adopt several digital technologies, out of that one important technology is Digital Communication. Unorganized retailers use several types of digital communication in their business to improve their business processes in procurement, sales, advertisement, promotions, personnel, and customer relations. Further, digital communication technologies are feasible for adoption and usage among unorganized retailers.

Digital communication allows retailers to send personalized business information to their loyal customers and the customers respond to those messages, which in turn generate business for unorganized retailers. Digital communication not only improves the business of unorganized retailers but also the business image, Geographical spread, profitability, new customer acquisition, customer retention, and the like. Digital communication will transform the traditional unorganized retailer into an offline-to-online commerce model. This offline-to-online commerce model provides a sustainable competitive advantage for unorganized retailers in all critical times.

Technologies worldwide significantly transformed many industries in several aspects, and the retail industry is unavoidable. The global transformation of the retail industry is witnessed by the advent of new digital technologies used in the retail industry. Technologies like the Internet of things (IoT), Artificial Intelligence (AI), Virtual Reality (VR), Augmented Reality (AR), Internet connectivity, Interactive Chatbots, and Online communication transformed the retail industry and its allied business sectors in India. These technologies create a new way of communication and render a unique experience to their customers.

## 2. Literature Review and Hypothesis Development

#### 2.1 Experience

Experience is considered one of the most important dependent variables in this research. Experience provides several valuable judgments among retailers to continue particular technologies in supply chain management. The experience reflects pleasure and enjoyment, and it also records past data in business, where it assists the retailers in managing their business vendors effectively (Zhou, 2013). The experience reflects a balance between challenges and skills. In addition, retailers use digital communication not only for their business purpose but also this technology to promote their community welfare and for their purpose. Suppose the retailers need help with using digital communication, which will deliver a negative experience to the retailers. Several immersive technologies are available and provided by organized retailers & E-commerce players in

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the retail market (Wang, 2015). Thus, unorganized retailers are urged to use effective, efficient, available, and affordable digital communication technologies.

H1A. Experience is positively associated with satisfaction.

H1B. Experience is positively associated with continuous intention to use through satisfaction.

## 2.2 Effortless

An effort is required for any activity, where this research aims to map a cognitive and physical effort to use a particular digital technology related to digital communication (Nurdin, 2019). Digital Communication technologies require maximum cognitive effort and minimum physical effort to use the required technologies. In the UTAUT model, Effort expectancy is aimed to measure the association between effort and the rewards received from the effort. However, this research aimed to map the cognitive and physical efforts of digital communication technologies. According to Rahi et al. (2019), effort expectancy was positively influenced by intention, and several other studies also found a positive relationship with the adoption of new digital technology (Al-Qeisi, 2014; RYU, 2021).

H2A. Effortlessness is positively associated with satisfaction.

H2B. Effortless is positively influenced by continuous intention to use through satisfaction.

## 2.3 Efficiency

Efficiency aims to map the efficiency of technology while adopting digital communication technology among unorganized retailers would deliver several benefits in their supply chain management. In several studies, inefficient technologies affect business significantly and create ambiguity in technology adoption (Whittlesey, 2003; Managi, 2014). Thus, this study argues that efficiency is directly associated with satisfaction and indirectly influences continuous intention to use.

H3A. Efficiency is positively associated with satisfaction.

H3B. Efficiency is positively influenced by continuous intention to use through satisfaction.

## 2.4 Enrichment

Enrichment is considered one of the key determinants in this study, and technologies worldwide have a massive penetration due to their upgradation policies, especially in digital communication, which is unavoidable. In upgrading, several new features would be added to digital communication technologies, just for example- digital communication technology WhatsApp introduces community creation and WhatsApp pay in their application through upgradation (Kaewkitipong, 2016; Foroughi, 2019). However, several studies would not measure this particular construct in this research. However, this study considers this aspect and aims to map the continuous usage of such technologies after upgradation.

H4A Enrichment is positively associated with satisfaction.

H4B Enrichment is positively associated with continuous intention to use through the satisfaction

#### 2.5 Trust

In technology adoption studies, trust is associated with security, and it is aimed to understand the adopters' willingness to take risks while adopting new technologies. Trust is an anchor in technology adoption studies, especially among adopters. In certain studies, the result unveils that product-related factors, social influence-related factors, and security influenced trust (AlHogail, 2018). In another research, trust represents the adopters' willingness to assume the risk of disclosing information (Mayer, 1995). It shows that minimum-risk technologies would create more trust in the technology. Several studies unveil the relationship between trust and behavioural intention to use such technologies in managing the supply chain (Nath, 2022). Thus this study's hypothesis

H5 Trust is Positive influences Continuous intention to use technologies

#### 2.6 Security

Security is another important determinant in digital communication, where the users need to believe in a high level of security while using the technology (Yenisey, 2005). Security is considered an essential construct in digital communication adoption among retailers. Further, Multinational organizations spend millions of dollars for inter & Intra organization communications. However, small retailers can only invest a small amount in digital communication. Thus, small retailers adopt Social Media, Communication applications like WhatsApp business and telegram, E-mails, and Freeware (Schweitzer, 2001). These technologies have minimum security, and they will also affect continuous usage. Thus, this study's hypothesis is that.

H6 Security will positively influence continuous usage intention to use.

# 2.7 Digital Infrastructure

Digital Infrastructure is required for digital communication technologies, mainly with an internet connection. Digital Infrastructure in India is significantly improved after the launch of the "Digital India" program. This program aims to create a digitally knowledgeable & empowered society, and it also aims to reduce the digitally divided population. Further, the availability of digital infrastructure will assist in penetrating such digital communication technologies across the nation. Thus, this study's hypothesis is that.

H7 Digital infrastructure positively influences continuous intention to use.

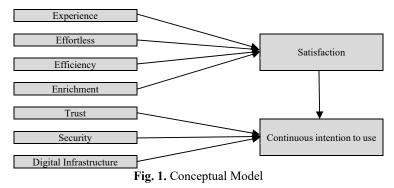
## 2.8 Satisfaction

Satisfaction is the most important determinant in technology adoption studies, and it was first incorporated into the Technology Continuance Model. In any technology, user satisfaction is an anchor variable, and if the user is satisfied with the particular technology, the user will continuously use that particular technology in business. In addition, the user can adopt the same technology with extended features in the existing technology (Chen, 2009). Further, the user will spread positive word of mouth about a particular technology in their business circle. Several research studies found that satisfaction significantly influences continuous intention to use and substantially impacts continuous intention to use the technology.

H8 satisfaction has a positive influence on continuous intention to use.

#### 3. Research Methodology

This research prepares a valid questionnaire and collects primary data from small retailers in India. Due to accessible digital communication technologies, most retailers adopt digital communication technologies in their business extracted from this research. This study collects data from 456 retailers out of 534 questionnaires, and the response rate is 85.05 percent. Further, this study circulates the instruments with researchers and industry experts. The changes are incorporated into the questionnaire. In order to enhance the validity of the instrument, this study conducts a pilot study and tests the questionnaire. The results are found satisfactory. During data collection, we understand the importance of digital communication in the supply chain for small retailers, and it assists the retailers in fixing the market price across the market. Further, digital communication creates flexibility in price changes, and it also assists retailers in managing their supply chain effectively. This study adopts a descriptive research design and conducts structural equation modeling with SMARTPLS software. Smart PLS is used for hypothesis testing, and the results are exhibited below.



#### 3.1 Descriptive statistics

This study conducts descriptive statistics, and the statistics are displayed here. Most of the retailers who participated in this study are males, and the retailers are 25 - 35 years of age. Further, most retailers participating in this survey have completed their school-level educational qualifications. In standard deviation, the Continuous usage fourth statement has the highest standard deviation—further, all the values related to excess kurtosis and skewness are lesser than the suggested value. Excess kurtosis measures the distribution of event outcomes and has many outlier results. In addition, excess kurtosis above 0 indicates the heavier distribution and below 0 indicates the lighter distribution. Further, an excess value above 1 or below -1 represents a sizable departure from normality. Skewness measures the data distribution, and the skewness value greater than 1 or less than -1 represents a highly skewed distribution. A value between more than 0.5 and less than 1 or more than -0.5 and less than -1 is moderately skewed. A value between 0.5 to -0.5 represents that the data is distributed relatively symmetrical. The majority of the data in this data belongs to the category of reasonably symmetrical. The symmetrical distribution is essential to obtain relevant results.

#### Table 1 Statistics

Name	Missing	Mean	Median	Observed min	Observed max	Standard deviation	Excess kurtosis	Skewness
Gender	0	1.177	1.000	1.000	2.000	0.382	0.974	1.719
Age	0	2.646	2.000	1.000	5.000	1.031	-0.692	0.296
Education Qualification	0	2.156	2.000	1.000	5.000	1.244	0.114	0.983
Experience_1	0	2.885	3.000	1.000	5.000	1.189	-0.782	0.263
Experience_2	0	2.708	2.000	1.000	5.000	1.181	-0.935	0.318
Experience_3	0	2.740	3.000	1.000	5.000	1.166	-0.991	0.044
Experience_4	0	3.698	4.000	1.000	5.000	1.138	0.105	-0.760
Experience_5	0	3.208	3.000	1.000	5.000	0.989	0.676	-0.827
Effort_1	0	2.677	2.000	1.000	5.000	1.159	-0.071	0.864
Effort_2	0	2.562	2.000	1.000	5.000	1.526	-1.550	0.290
Effort_3	0	2.146	2.000	1.000	5.000	1.436	-0.497	1.005
Effort_4	0	2.333	2.000	1.000	5.000	1.441	-0.693	0.754
Effort_5	0	2.833	3.000	1.000	5.000	1.389	-1.446	0.044
Efficiency_1	0	2.281	1.000	1.000	5.000	1.390	-1.398	0.404
Efficiency_2	0	2.365	1.000	1.000	5.000	1.494	-1.384	0.438
Efficiency_3	0	2.490	3.000	1.000	5.000	1.216	-0.854	0.289
Efficiency_4	0	3.656	4.000	1.000	5.000	0.674	3.412	-1.107
Efficiency_5	0	2.865	3.000	2.000	4.000	0.885	-1.697	0.272
Enrichment_1	0	2.479	2.000	1.000	4.000	1.164	-1.473	0.031
Enrichment_2	0	2.031	2.000	1.000	4.000	1.159	-1.282	0.550
Enrichment_3	0	3.708	4.000	1.000	5.000	1.154	0.412	-0.894
Enrichment_4	0	3.510	4.000	1.000	5.000	1.173	-0.218	-0.577
Enrichment_5	0	3.438	4.000	1.000	5.000	1.337	-1.143	-0.342
Trust_1	0	3.708	4.000	1.000	5.000	1.154	0.412	-0.894
Trust_2	0	3.510	4.000	1.000	5.000	1.173	-0.218	-0.577
Trust_3	0	3.438	4.000	1.000	5.000	1.337	-1.143	-0.342
Trust_4	0	3.510	4.000	1.000	5.000	1.216	0.385	-1.242
Trust_5	0	3.333	4.000	1.000	5.000	0.986	0.470	-0.915
Security_1	0	2.500	2.000	1.000	5.000	1.331	-1.210	0.337
Security_2	0	2.229	2.000	1.000	5.000	1.254	-0.465	0.746
Security_3	0	2.802	3.000	1.000	5.000	1.230	-1.328	-0.330
Security_4	0	2.312	2.000	1.000	5.000	1.202	0.581	1.129
Security_5	0	3.448	4.000	1.000	5.000	1.274	-0.725	-0.711
Satisfaction_1	0	3.260	3.000	1.000	5.000	1.175	-0.434	-0.484
Satisfaction_2	0	3.344	4.000	1.000	5.000	1.180	-0.414	-0.584
Satisfaction_3	0	3.469	4.000	1.000	5.000	1.108	-0.026	-0.643
Satisfaction_4	0	3.385	4.000	1.000	5.000	1.103	-0.063	-0.675
DI_1	0	3.760	4.000	1.000	5.000	1.239	-0.191	-0.865
DI_2	0	3.365	4.000	1.000	5.000	1.226	-0.603	-0.491
DI_3	0	2.750	2.000	1.000	5.000	1.465	-1.417	0.263
DI_4	0	2.729	3.000	1.000	5.000	1.425	-1.248	0.294
VS_1	0	3.625	4.000	2.000	5.000	0.927	-0.595	-0.533
VS_2	0	3.448	4.000	1.000	5.000	1.088	-0.798	-0.283
VS_3	0	4.115	4.000	2.000	5.000	1.009	-0.145	-0.976
VS_4	0	3.812	4.000	1.000	5.000	1.073	0.336	-0.951
VS_5	0	3.812	4.000	1.000	5.000	1.236	0.743	-1.250
BI_1	0	3.542	4.000	1.000	5.000	0.900	2.785	-1.736
BI_2	0	3.417	4.000	1.000	5.000	1.161	-0.140	-0.830
BI_3	0	3.521	4.000	1.000	5.000	1.199	-0.085	-0.879
BI_4	0	3.375	4.000	1.000	5.000	1.252	-0.659	-0.584
BI_5	0	3.802	4.000	1.000	5.000	1.272	0.131	-1.102
BI_6	0	3.833	4.000	1.000	5.000	1.222	-0.026	-0.962
CIU_1	0	3.323	3.000	1.000	5.000	1.229	-0.603	-0.471
CIU_2	0	2.667	3.000	1.000	5.000	1.397	-1.402	0.104
CIU_3	0	2.510	3.000	1.000	5.000	1.377	-1.366	0.233
CIU_4	0	2.594	2.000	1.000	5.000	1.504	-1.251	0.423
CIU_5	0	3.240	4.000	1.000	5.000	1.420	-1.108	-0.479

# 3.2 Reliability

Table 2 measures Cronbach's alpha value, composite reliability, and Average variance extracted. Cronbach's alpha value aims to measure the internal consistency of the data, where the constructed values are in the range of 0.770 - 0.958, which is more than the suggested value of 0.700 (Spiliotopoulou, 2009). In addition, composite reliability is also aimed at measuring the internal consistency in scale items, and the value of composite reliability is more than the suggested value of 0.700 (Farrell, 2009). In the classical theory of statistics, the average variance extracted is aimed at assessing the amount of variance captured in each construct, which is associated with measurement error. Further, the average variance extracted value

is less than 0.500, indicating that the items explain more errors than the variance in your construct. In addition, the average variance extracted value in the measurement model needs to hold more than 0.500 (Sukendro, 2020). In this study, all the average variance extracted values were more than the threshold value.

## Table 2

Reliability, Composite Reliability Value, and Average Variance Extracted					
Description	Cronbach's alpha	Composite Reliability	Average Variance Extracted		
CIU	0.893	0.899	0.757		
DI	0.821	0.756	0.564		
Efficiency	0.771	0.911	0.652		
Effort	0.958	0.979	0.856		
Enrichment	0.947	0.953	0.835		
Experience	0.770	0.917	0.584		
Satisfaction	0.844	0.898	0.569		
Security	0.755	0.908	0.521		
Trust	0.787	0.925	0.568		

#### 3.3 Discriminant Validity

Discriminant validity is aimed at measuring the constructs that should not be interrelated, meaning the constructs should not be overlapped. In addition, several existing studies suggested the possibility of measuring the same dimension with different constructs, which reduces the discriminant validity. Discriminant validity should be relatively low (correlations between distinct constructs), and convergent validity should be relatively high (correlations between similar constructs). This study's discriminant validity is less than the suggested value of 0.700 (Cable, 2002).

#### Table 3

Discriminant Validity

	CIU	DI	Efficiency	Enrichment	Effort	Experience	Satisfaction	Security	Trust
CIU									
DI	0.276								
Efficiency	0.248	0.181							
Effort	0.265	0.105	0.459						
Enrichment	0.058	0.170	0.117	0.053					
Experience	0.324	0.312	0.481	0.456	0.072				
Satisfaction	0.152	0.214	0.693	0.496	0.098	0.564			
Security	0.235	0.203	0.662	0.458	0.120	0.575	0.608		
Trust	0.244	0.233	0.504	0.409	0.088	0.430	0.066	0.596	

## 3.4 Hypothesis Test Results

Table 4 shows the test results of the hypothesis, and the results unveil that satisfaction was significantly influenced by Experience, Effort, and Efficiency. Further, Continuous Intention to Use was significantly influenced by Trust, Security, Digital Infrastructure, and Satisfaction. Hypothesis 1A shows that experience significantly influences satisfaction, and the values are (T-statistics - 2.278, P-value is 0.023, which is less than 0.05). Hypothesis 2A shows that effort significantly influences satisfaction, and the values are (T-statistics - 3.594, P-value is 0.000, which is less than 0.05). Further, hypothesis 3A shows that satisfaction substantially influences efficiency, and the values are (T-statistics -6.512, P-value is 0.000, less than 0.05). However, hypothesis 4A shows that enrichment is substantially influenced by satisfaction, and the values are (T-statistics -0.352, P-value is 0.725, which is more than 0.05). In hypothesis 5, it shows the trust results have no significance with Continuous intention to use, and the values are (T-statistics -1.104, P-value is 0.270, which is more than 0.05). Further, in hypothesis 6 & 8, Security and Satisfaction is significantly influenced by continuous intention to use, and the values (Tstatistics -2.629, P-value -0.009) and (T-statistics 3.019, P-value -0.003) both are less than 0.05. Finally, in hypothesis 7, Digital Infrastructure has no significant relationship with Continuous Intention to use, and the values are (T-statistics – 3.019 and P-value -0.066) more than 0.05. However, it established a significant relationship with a 10 percent significance level.

#### Table 4

Hypothesis Test Results

Hypothesis Number	Description	T statistics	P Values	Decision
H1A	Experience $\rightarrow$ Satisfaction	2.278	0.023*	Supported
H2A	Effort $\rightarrow$ Satisfaction	3.594	0.000*	Supported
H3A	Efficiency $\rightarrow$ Satisfaction	6.512	0.000*	Supported
H4A	Enrichment $\rightarrow$ Satisfaction	0.352	0.725	Not Supported
H5	Trust $\rightarrow$ CIU	1.104	0.270	Not Supported
H6	Security $\rightarrow$ CIU	2.629	0.009*	Supported
H7	DI → CIU	1.838	0.066	Not Supported
H8	Satisfaction $\rightarrow$ CIU	3.019	0.003*	Supported

#### 3.5 Moderation Test Results

In hypothesis 2B, the results show that effort has significantly influenced Continuous Intention to use through satisfaction, and the values are (T-statistics – 1.990, P-values – 0.047, which is less than 0.05). Further, hypothesis 3B result indicates that enrichment substantially influenced Continuous Intention to use through satisfaction, and the values are (T-statistics – 2.821, P-Value – 0.005, which is less than 0.05). Finally, hypothesis 4 B's result unveils that experience substantially influenced Continuous Intention and (T-statistics – 3.100, P-value -0.002, which is less than 0.05). However, efficiency does not significantly influence continuous intention to use through satisfaction.

#### Table 5

Hypothesis Test Results

Hypothesis Number	Description	T statistics	P Values	Decision
H1B	Efficiency $\rightarrow$ Satisfaction $\rightarrow$ CIU	0.377	0.706	Not Supported
H2B	Effort $\rightarrow$ Satisfaction $\rightarrow$ CIU	1.990	0.047*	Supported
H3B	Enrichment $\rightarrow$ Satisfaction $\rightarrow$ CIU	2.821	0.005*	Supported
H4B	Experience $\rightarrow$ Satisfaction $\rightarrow$ CIU	3.100	0.002*	Supported

#### 4. Practical Implications

#### 4.1 Impact on satisfaction

This study identified that satisfaction is substantially influenced by Experience, Effort, and Efficiency. It explains that the user's experience enhances the user's satisfaction and supports digital communication technology usage in supply chain management among unorganized retailers. It assists the user in communicating the product prices in the market based on market demand. It also supports unorganized retailers to procure products in bulk quantities from suppliers based on market demand. Sometimes a group of retailers use digital communication technologies and communicate market demand & procure products from suppliers in bulk, substantially assisting the retailers' business. Further, the efficiency of digital communication technology in business is attracting retailers and spreading positive word of mouth among other retailers, which enhances the penetration of such technologies among unorganized retailers.

Satisfaction also substantially influences effort, and digital communication technologies require very minimum effort, which is also user-friendly. In addition, these technologies provide tremendous flexibility in communication. It assists the user in sending images, text, voice, and location-sharing details conveniently with less physical and cognitive effort. Further, the users can create a separate group and share the necessary procurement details in their groups. Furthermore, the technology also provides enormous flexibility in immediately changing the prices of the products based on market demand. However, enrichment in technology does not support satisfaction, which means the upgradation in the existing technology creates a massive barrier to usage in the initial stages of digital communication technology acceptance. However, after familiarizing such features, the unorganized retailers would adopt them into their business. Further, spreading fake messages and business on communication platforms creates a considerable barrier and threat to unorganized retail businesses.

#### 4.2 Impact on Continuous Intention to Use

Continuous intention to use digital communication technologies is substantially influenced by satisfaction and security. However, trust and digital infrastructure failed to influence continuous intention to use. Digital communication technology usage creates satisfaction among unorganized retailers and leads to continuous usage of such communication technologies in their business. Further, Digital communication technologies like WhatsApp business, Email for business, Facebook business page, Instagram business page, blogs, YouTube channels, and the like provide extended security features for the unorganized retail business. In addition, those technologies provide updated security features for unorganized retail businesses, which assist retailers in maintaining their supply chain management efficiently and effectively. In addition, the existing digital infrastructure is significant at 10 percent. However, it has no significant relationship at 5 percent, which indicates that the existing digital infrastructure needs to be improved to use digital communication technologies across nations. Furthermore, trust has no significant relationship with continuous intention to use, indicating that communication technologies need to earn trust among unorganized retailers. Although the security features are updated in communication technologies, due to the unavailability of tailor-made services for unorganized retailers, it needs to earn trust among unorganized retailers.

#### 5. Conclusion

This study assesses the digital communication technology usage in supply chain management among unorganized retailers with the constructs like experience, effortlessness, efficiency, enrichment, trust, security, digital infrastructure, satisfaction, and continuous intention to use. The results show that digital communication technology's effort, experience, and efficiency influence satisfaction. However, enrichment failed to influence satisfaction. Further, the results show that satisfaction and security influence continuous intention to use. However, trust and digital infrastructure failed to influence. Therefore, digital communication technology usage in supply chain management among unorganized retailers is substantially influenced by constructs like effort, experience, efficiency, satisfaction, and security. Digital communication technologies deliver a wide range of services in an unorganized retail business, which assists the unorganized retailers in facing the competition from

organized and e-commerce players. However, digital communication technologies still need to create trust among unorganized retailers, enhancing the continuous usage intention across several unorganised retailers.

#### References

- AlHogail, A. (2018). Improving IoT Technology Adoption through Improving Consumer Trust. Technologies, 6(3), 64.
- Al-Qeisi, K. D. (2014). Website design quality and usage behavior: a unified theory of acceptance and use of technology. *Journal of Business Research*, 67(11), 2282-2290.
- Asrani, C. &. (2022). Diffusion and adoption of digital communications services in India. *Information Technology for Development*, 1-23.
- Cable, D. M. (2002). The convergent and discriminant validity of subjective fit perceptions. *Journal of applied psychology*, 87(5), 875.
- Chen, S. C. (2009). Determinants of satisfaction and continuance intention towards self-service technologies. *Industrial Management & Data Systems*, 109(9), 1248-1263.
- Farrell, A. M. (2009). Factor analysis and discriminant validity: A brief review of some practical issues. Aston University, 1-9 (https://publications.aston.ac.uk/id/eprint/7644/1/factor\_analysis\_ANZMAC\_2009.pdf).
- Foroughi, B. I. (2019). Understanding the determinants of mobile banking continuance usage intention. Journal of Enterprise Information Management, 32(6), 1015-1033.
- Kaewkitipong, L. C. (2016). Using social media to enrich information systems field trip experiences: Students' satisfaction and continuance intentions. *Computers in Human Behavior, 63*, 256-263.
- Managi, S. H. (2014). Efficiency or technology adoption: A case study in waste-treatment technology. *Resource and energy Economics*, 36(2), 586-600.
- Mayer, R. D. (1995). An integrative model of organizational trust. Academy of management review, 20(3), 709-734.
- Nath, A. S. (2022). Antecedents of blockchain technology adoption intentions in the supply chain. *International Journal of Business Research*, 21(4), 564-584.
- Nurdin, N. P. (2019). Understanding digital skill use from the technology continuance theory (TCT). In 2019 6th International Conference on Information Technology, Computer and Electrical Engineering (ICITACEE) (pp. 1-6). USA: IEEE.
- Rahi, S. O. (2019). ntegration of UTAUT model in internet banking adoption context: The mediating role of performance expectancy and effort expectancy. *Journal of Research in Interactive Marketing*, 13(3), 411-435.
- RETAIL INDUSTRY REPORT. (2022). New Delhi, India: IBEF.
- RYU, J. S. (2021). Performance Expectancy and Effort Expectancy in Omnichannel Retailing. *The Journal of Industrial Distribution & Business*, 12(4), 27-34.
- Schweitzer, E. O. (2001). Digital communications for power system protection: Security, availability, and speed. 7th International Conference on Developments in Power Systems Protection (DPSP 2001) (pp. 94-97). Amsterdam, Netherlands: IET digital library.
- Spiliotopoulou, G. (2009). Reliability reconsidered: Cronbach's alpha and paediatric assessment in occupational therapy. *Australian Occupational Therapy Journal*, *56*(3), 150-155.
- Sukendro, S. H. (2020). Using an extended Technology Acceptance Model to understand students' use of e-learning during Covid-19: Indonesian sport science education context. *Heliyon, 6* (11), e05410.
- Wang, K. (2015). Determinants of mobile value-added service continuance: The mediating role of service experience. *In-formation & Management*, 52(3), 261-274.
- Whittlesey, N. (2003). Improving irrigation efficiency through technology adoption: when will it conserve water?. In Developments in Water Science, 50, 53-62) (https://doi.org/10.1016/S0167-5648(03)80007-2).
- Yenisey, M. M. (2005). Perceived security determinants in e-commerce among Turkish university students. *Behaviour & Information Technology*, 24(4), 259-274.
- Zhou, T. (2013). Understanding continuance usage of mobile sites. *Industrial Management and Data systems*, 113(9), 1286 1299.



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