



Micro and Small Entrepreneurs' adoption behaviour towards Digital Technologies: A cross- sectional study

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Abstract

This study aims to explain the adoption behaviour towards digital technologies of micro and small entrepreneurs. This cross-sectional study conducted an online survey among the 100 micro and small entrepreneurs, selected by applying convenience sampling technique. Multiple regression analysis was undertaken by using SPSS 25 to explain the adoption behaviour towards digital technologies. Performance expectancy and social influence have significant and positive impact on adoption behaviour towards digital technologies of entrepreneurs, whereas, facilitating condition and perceived feasibility have negative impact on adoption behaviour towards digital technologies. This research may provide new understanding and insights to this phenomenon of entrepreneurs' adoption intention of digital tools more particularly in post pandemic era. It will assist digital service provider to appreciate the entrepreneurs' intention towards digital technologies and facilitate service providers to customize their product and services in synchronization with the requirements of the micro and small businesses.

Introduction

MSMEs - The Growth Engines of the Economy

Globally, MSMEs are considered to be the growth engines of the economy. The Micro, Small and Medium Enterprises (MSMEs) contribute significantly to the Indian economy in terms of Gross Domestic Product (GDP), exports, and employment generation. According to the data released by Ministry of MSME,

there are around 633.88 lakhs MSMEs in India, which contributes approximately 30% towards our country's GDP and more than 40% of exports of the country. As per 73rd Round of National Sample Survey, MSME sector has offered around 11.10 crore jobs out of which 3.6 crore have been in manufacturing sector, 3.9 crore in trade and 3.7 crore in other services.

'Micro' sector with 630.52 lakh estimated enterprises accounts for more than 99% of total estimated number of MSMEs. 'Small' sector with 3.31 lakh and 'Medium' sector with 0.05 lakh estimated enterprises accounted for 0.52% and 0.01% of total estimated MSMEs, respectively. Out of 633.88 estimated numbers of MSMEs, 324.88 lakh MSMEs (51.25%) are in rural areas and 309 lakh MSMEs (48.75%) are in the urban areas. MSMEs are likely to play a pivotal role in achieving the vision of \$5 trillion economy by 2025. The development of this sector holds key to inclusive growth and plays a critical role in the sustainable development model of Atmanirbhar Bharat. This stage can be achieved only when technology adoption is the main focus for MSMEs ahead.

New MSME Classification

The distinction between the manufacturing and service enterprises has been removed by making the investment amount and annual turnover similar for enterprises engaged in both sectors. The classification of MSMEs as per Ministry of Micro, Small and Medium Enterprises, India (2020) is as follows:

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MSME - Merged Criteria: Investment and Annual Turnover

Classification	Micro	Small	Medium
Manufacturing Enterprises and Enterprises rendering Services	Investment in Plant and Machinery or Equipment: Not more than INR 1 crore and Annual Turnover; not more than INR 5 crore	Investment in Plant and Machinery or Equipment: Not more than INR 10 crore and Annual Turnover; not more than INR 50 crore	Investment in Plant and Machinery or Equipment: Not more than INR 50 crore and Annual Turnover; not more than INR 250 crore

Source: Website of Ministry of Micro, Small and Medium Enterprise (MSME)

COVID-19 pandemic and its impact on MSMEs

The MSME sector, more particularly, micro and small entrepreneurs segment have been one of the most vulnerable sectors during COVID-19 pandemic because of its size, scale of business and availability of financial resources. Studies and surveys revealed that approximately 95% firms were impacted adversely due to national lockdown imposed in April 2020 and 70% of businesses remained dislocated till August 2020. Even after progressive unlocking, reports suggest that almost 40% businesses remained disrupted till the end of February 2021. An average 11% decline in business volume of Indian MSMEs have been recorded because of lockdown in 2021, in comparison to 46% decline during nationwide lockdown in year 2020.

Creating a strong Digital Ecosystem

Digitization is becoming increasingly ubiquitous not only in our daily lives but also in the businesses. Presently, many processes are manual, which are inefficient and not scalable in 'micro' enterprises, hence, the need for technology adoption to stimulate and transform growth in the MSME segment, more particularly, in the micro and small enterprise segment has become imperative. Technology is increasingly seen as a business enabler and a vital tool for bringing in process efficiencies and a higher degree of standardization. In order to develop a competitive advantage to operate in the global market, a strong focus on implementing new-age technology, developing indigenous technology as well as technology collaboration with global partners is likely to play a crucial role. Technology plays a pivotal role for micro and small entrepreneurs to scale up their operations and become part of global value chain. Digitization is now more a priority over a choice for organizations to stay competitive and contemporary. According to McKinsey's 2019 Digital India Report, we stand as the second-fastest digital

adopter among 17 major digital countries studied, with an influx of global and local digital businesses in the region.

Innovation, automation and digitization have been the buzzwords in the business environment. The COVID-19 pandemic proved to be the biggest challenge in India, for every business irrespective of their size and mode of operation (Donthu and Gustafsson 2020: 284-289). Starting from micro business to large corporate firms, all are facing challenges in terms of low scale operation due to low demand in the market, lower profit margin, change in consumers' preferences and shortage of manpower during and post pandemic era. Due to social distancing, consumers are prioritizing the e-shopping over physical mode for purchasing. E-shopping, telemedicine and telework are considered new normal for almost all groups of people.

Digital payments, social media consumption, online shopping are the new ways consumers prefer to connect with brands or businesses. The large firms are very well conversant in digital strategies before pandemic and also accelerating the digital initiatives in the post-COVID era to address the new normal, while micro and small businesses are not so proactive to adopt digital strategies due to limited resources and the operational inefficiencies on account of the pandemic (Papadopoulos et al. 2020:1-4). The micro and small entrepreneurs can't ignore the digital needs of their business to serve the customers in post pandemic era. There are many low costs and easy to access digital tools being offered by tech companies to bridge the adoption gap of digital tools by micro and small entrepreneurs. The micro and small entrepreneurs are willing to adopt these digital tools by realizing the importance of digital first business environment emerged due to the current pandemic (Akpan et al. 2020 :1-18).

Developing research questions

There are few studies available on adoption intention of digital technologies by small and micro entrepreneurs in post pandemic context. This study aims to bridge the gap with the research objectives to identify the underlying factors responsible for adoption intention of digital technologies by small and micro entrepreneurs in post pandemic era. This research proposed a research question, “What are the factors influencing the adoption intention of small and micro entrepreneurs for digital tools?”

In this cross-sectional study, an attempt has been made to examine the impact of social and behavioral factors on adoption intention of small and micro entrepreneurs for digital tools in post pandemic era.

Review of Literature

Adoption Intention

In this study, Adoption Intention (AI) is the target variable. It can be conceptualized in the small and micro entrepreneur context as the degree to which an entrepreneur has formulated conscious action plan to adopt the new digital technologies to improve the business operation in digital first environment during post pandemic era (Stopford and Baden-Fuller 1994: 521-536).

Social Pressure

Social Pressure (SP), in the context of technology adoption can be defined as the degree to which a person believes that important peers think he or she should adopt the technology (Venkatesh et al. 2003: 425-478). According to a study by Venkatesh et al. (2003: 425-478), social pressure or social influence positively influences the intention to adopt information system. A study on entrepreneurs' adoption intention by Moghavvemi et al. (2016) refers that social pressure has a significant impact on intention to adopt new technology. An empirical analysis on adoption intention of innovative technologies by small, micro and medium enterprises by (Maracati et al. 2008:1579-1590) concludes that SP has a positive and significant impact on adoption intention. On observing the findings from prior studies on adoption

intention, we put forward the following hypothesis in the context of post COVID-19 pandemic scenario and adoption of digital technologies for micro and small businesses:

H₁: SP will have significant and positive impact on micro and small entrepreneurs' adoption intention of digital technologies.

Performance Expectancy

Performance Expectancy (PE) refers to the expected results in adopting and using digital and IT tools (Venkatesh et al. 2003:425-478). According to Moghavvemi et al. (2016), the PE for entrepreneurs can be defined as the degree to which as entrepreneur perceived that adopting digital technologies are useful for their job and provide support to achieve the set benefit in the business. According to Venkatesh et al. (2003:425-478), the PE is a strong predictor of adoption intention of new technology and by observing the findings, this study hypothesized that PE will be strong predictor of adoption intention of digital technologies by entrepreneurs in post COVID-19 business environment to boost their business again.

H₂: PE will have a positive and significant impact on entrepreneurs' adoption intention of digital technologies.

Facilitating Condition

Small and micro business entrepreneurs operate with limited resources, thus, scarcity of resources remains a challenge for these businesses (Schaper 2010). Due to pandemic, the small entrepreneurs are facing huge challenges in terms of availability of resources, so Facilitating Condition (FC) will be a key predictor of intention to adopt the new digital technology. FC can be defined as the degree the entrepreneur perceived that organizational and technical infrastructure should support the adoption of the technology. Several empirical analyses found that when an entrepreneur believes that the internal environment is ready to adopt the new technology, then there is more likelihood to use the technology [Alwadhi and Morris (2008:219-219); Venkatesh and Zhang (2010:5-27); Kijisanayotin et al. (2009:404-

416)]. So, in small and micro entrepreneurs' context, the resources and facilities are significant constraints so, we put forward the hypothesis as:

H₃: FC will have a negative and significant impact on micro and small entrepreneurs' adoption intention of digital technologies.

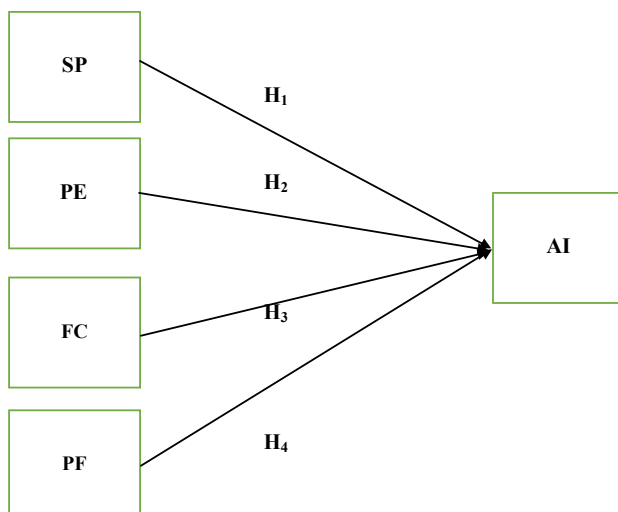
Perceived Feasibility

Perceived Feasibility (PF) refers to the belief of personal capacity to perform a job (Krueger and Brazeal 1994:91-104). In the context of the current study, PF can be conceptualized as the degree to which an entrepreneur perceived that he or she has the experience, capability and skill to operate the digital technologies required for the business and operational efficiency in post pandemic era (Moghavvemi et al. 2016). PF is a key factor which can predict an entrepreneur's perception towards his or her ability and skill to operate the digital technologies (Venkatesh et al. 2003:425-478). Hence, in line with above review, we put forward the following hypothesis:

H₄: PF will have a positive and significant impact on micro and small entrepreneurs' adoption intention of digital technologies.

Conceptual Framework

Figure 1: Determinants of adoption intention of digital technologies by Small and Micro Entrepreneurs



Methodology

A cross-sectional study has been conducted to explain digital tool adoption intention and behaviour of micro and small entrepreneurs in post COVID-19 era. Unlike longitudinal studies, which look at a group of people over an extended period, cross-sectional studies are used to describe what is happening at the present moment. This type of research is frequently used to determine the prevailing characteristics in a population at a certain point in time. Cross-sectional studies look at a population at a single point in time, like taking a slice or cross-section of a group, and variables are recorded for each participant.

Sample

This study employed a convenience sampling technique, which is a non-probabilistic sampling method used in quantitative research. This method of sampling is preferred by the researcher while the time and resources are limited for the study (Farrokhi et al. 2012 :784-791). In our study, time and resources are constraints and accessing wide target population is not possible, so researcher decides to adopt convenience sampling. An online survey was conducted among the entrepreneurs who operate in industrial areas of Bhubaneswar in the State of Odisha, India, as this area was convenient for the author to reach to small and micro entrepreneurs. A digital self-administered questionnaire was designed and sent to the entrepreneurs through the mail. Total 150 questionnaires were floated and 114 responses were captured and 100 usable questionnaires were considered for the data analysis and 14 questionnaires were rejected due to missing responses.

Method

A multiple regression analysis was conducted to test the conceptual model and predict the adoption intention (Chatterjee and Hadi 2015) and T- test was performed to test the hypotheses postulated in this study. In this study, we measured all the independent and dependent variables with single item. A Likert scale was used to capture the responses having scale value 1-strongly disagree to 5-strongly agree. Validity and reliability of each variable was also checked before hypothesis testing. SPSS-25 software package was used for the data analysis.

Data Analysis

Table 1: Descriptive Statistics

Characteristics		Percentage
Gender	Male	73%
	Female	27%
Age	18-25	35%
	25-32	30%
	32-39	12%
	>40	23%
Education level	Graduate	37%
	Post graduate	12%
	Under graduate	51%
Digital tools they want to adopt	Online payment system	52%
	E-commerce channels	16%
	Digital Marketing tools	20%
	Other digital tools	12%

Reliability and Validity of Measurement Model

Reliability of the instrument of this study can be checked by calculating Cronbach's alpha value. Alpha value for each variable between 0.7 to 0.9 is considered as satisfactory for good internal consistency of the instrument (Hair et al., 2017). Validity can be checked by the corrected item - total variable. T - test was performed to test the hypothesis.

Table 3: Result of Hypothesis Testing

Model 1	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	.772	.271		2.693	.008		
SP	.019	.065	.021	3.42	.000	.600	2.645
PE	.231	.055	.290	3.388	.001	.618	1.617
FC	-.064	.090	.080	2.492	.030	.445	2.247
PF	-.267	.064	.321	3.511	.001	.541	1.850

Dependent Variable: Adoption intention of digital tools, $P < 0.05$ at 95% significance level.

From the result of T-test, it is observed that all the proposed hypotheses are found to be statistically significant. The PE has highest effect on adoption intention and both SP and PE have positive impact on adoption intention, whereas FC and PF negatively affect the adoption intention

correlation value of each variable and it should be more than 0.50 (Wolfinger and Gilly 2003: 183-198).

Table 2: Cronbach's Alpha Values

Variables	Alpha values	Corrected item-total correlation
Social pressure	0.777	0.611
Performance Expectancy	0.833	0.517
Facilitating Condition	0.713	0.532
Perceived Feasibility	0.746	0.670
Intention to adopt	0.891	0.511

So, from Table 2, it is clear that variables are consistent to measure what actually the study intends to measure, as all the variables have alpha value more than 0.7. The value of total corrected item-correlation for all the variables is more than 0.5, indicating that all the variables are valid for the research.

Regression Analysis and Hypothesis Testing

Multiple Linear Regression analysis was performed through SPSS 25 statistical software package to test the proposed model and examined the relationship between independent variables and dependent

of digital tools by micro and small entrepreneurs. The Variance Inflation Factors (VIF) value for each variable is near to between 1-2, so, it signifies that there is moderate correlation between the predictors, hence, the predictors are free from the multi-collinearity.

Table 4: Regression Model Table

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.703 ^a	.496	.479	.64121
a. Predictors: (Constant), SP, PE, FC, PF				

From the above analysis, it can be concluded that the model is able to predict 49.6% of variance in adoption intention of digital tools by small and micro entrepreneurs in post pandemic era. The rest of variance which may be explained by the factors not included in this study.

Discussions and Findings

This study had set the objectives to explain the adoption intention of digital tools by small and micro entrepreneurs to serve the changing customer preference due to pandemic and its consequences on digital transformation. The changing scenario in market place and the emerged channels like e-commerce, online payments, and social media engagement are the priorities for large chunk of the customers due to social distancing. The new business norms like connecting with customers through e-commerce, adopting digital payment system and other technologies like cloud computing and Artificial Intelligence (AI) pushed the firms starting from the large conglomerate to micro business to adopt these digital tools. Small and micro entrepreneurs are not lagging behind in terms of adopting digital tools to match with their resources and business operations. The small entrepreneurs are willing to adopt different kind of digital tools to cater to the digital first market. The pandemic has been accelerating the digital consumption among the consumers so as to sustain and create value for the customers, the small and micro companies need to think about digital tools that enable them to do so. To adopt digital tools for their business operation, the entrepreneurs need to consider many organization level factors and cognitive factors.

In this study, we identified some factors like SP, PE, FC and PF which were previously studied by the researchers in different context to examine the impact

of these factors on adoption intention of technologies by entrepreneurs. We tried to study the impact of these factors on adoption intention of digital tools by micro and small entrepreneurs in post pandemic scenario.

The findings of the study reveal that all the hypotheses are statistically significant. The two predictors, namely SP and PE have positively and significantly influenced the adoption intention of digital tools by small and micro entrepreneurs (T-value = 3.42 and 3.388 for SP and PE respectively) and these findings are in line with the previous studies by (Venkatesh et al. 2003:425-478), (Moghavvemi 2016). The regression coefficient for SP is 0.019, which is weak effect as compared to other factors, whereas, PE has highest positive effect (0.231) on adoption intention as compared to other predictors of study taken together. Another two predictors namely FC and PF have significantly and negatively influenced the adoption intention of digital tools, that means, these two factors inhibit the adoption intention of digital tools by the entrepreneurs.

The small and micro entrepreneurs' adoption of digital tools in post pandemic may be influenced by the industry experts and other important peers for entrepreneurs, who consistently advise and motivate them to understand the importance of digital tools and their relevance in post pandemic era to do the business. The second variable, which positively influence the adoption intention in our study is PE, which refers to the expected outcomes from the digital tools and this factor largely contributes to the adoption intention in our study. Resources and facilitating condition are the most important factors to adopt digital tools and the skill to manage the digital tools. In our study, it is found that small entrepreneurs perceived negatively about their facilitating condition and feasibility to adopt digital tools.

This study may contribute to the gap of knowledge on adoption of digital tools by entrepreneurs in post pandemic era. The policy makers need to consider the two factors namely, perceived feasibility and perceived facilitating condition which inhibit the adoption intention of digital tools.

Policy Implications

The policy makers need to formulate action plan, by which the skill for new digital tools can be improved and developed among the small entrepreneurs so that it helps them to manage the digital tools and help the employees to manage it. The micro and small entrepreneurs need to learn the skills and should acquire the knowledge to handle the digital tools and build the required infrastructure to support the adoption of digital tools. The Central Government and State Government should provide loans and incentives to improve the digital infrastructure by small and micro entrepreneurs within their organization, so that it will be easy for them to adopt digital tools. The digital service provider firms like Amazon, Google and other technology startups, should customize their services by considering the factors like needs, skills and resource availability of small and micro entrepreneurs. This would facilitate them to achieve the business excellence.

Limitations and Scope for future study

No research can be completely free from the limitations and in this research some limitations are noted. The variables are uni-dimensional and predictors are limited in number. Sample size is also small as compared to prior studies. The future research can address the limitations by adopting other variables which may influence the adoption intention of digital tools by small and micro entrepreneurs and a larger sample can be taken for more robust findings. The future study can adopt multivariate data analysis techniques like Structural Equation Modeling (SEM) to explain the adoption intention with higher reliability and validity.

Conclusion

The post pandemic norm is about digital and technological advancement in business world. Starting from the large conglomerate to micro business one cannot ignore the new shift of market from physical to digital means of delivering value. The cash crunch, economic slowdown and change in preference of customers, pushed companies to cut cost by adopting technologies and delivering value through newly and rapidly emerging digital medium.

Large companies are faster and proactive in terms of digital technology adoption, whereas, small and micro entrepreneurs are not so proactive due to their business model and low scale operation. In our study, we identified the factors which influence the adoption intention of digital tools by small and micro entrepreneurs in post pandemic era.

The COVID-19 pandemic accelerated the process of digital transformation and created a milieu that will continue to promote innovations and encourage adoption behaviour of micro and small entrepreneurs towards digital technologies going forward. Post pandemic micro and small entrepreneurs need to adopt behavioural change toward technology adoption and its usage. There has been a major digital shift in channels for communication, marketing, payments, hiring, and all other business verticals. A digitally activated market ecosystem is capable of reducing cost, increasing work and operational efficiency, fostering product development and improving safety of workers. Going ahead, collaboration with research institutions, tech start-ups, or with existing foreign players may prove an effective business strategy for micro and small entrepreneurs in their adoption behaviour towards digital technologies.

Our findings reveal that both social influence and performance expectancy, positively and significantly influence the adoption intention of digital tools, whereas, facilitating condition and perceived feasibility have negative impact on adoption intention. By analyzing the findings, it can be suggested that micro and small entrepreneurs need to improve the skill and gain the experience to manage the digital tools effectively and should build an organizational structure and deploy required resources to adopt the digital tools which can give them a substantial advantage in post pandemic world.

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BANK QUEST THEMES

The themes for "Bank Quest" are identified as:

1. April - June, 2023: Competence based Human Resources Management in Banks
2. July - September, 2023: Digital disruption - Challenges and Opportunities