

Effects of Demonetization, GST & Covid-19 Pandemic in the Adoption of Digitalization by Rural MSMEs in India

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Abstract

Purpose: The turbulent times created by the recent uncertain events give only two solutions – either surrender or fight-out. It has been the story so far for the MSMEs in India. Three events that changed the business scenario include the implementation of demonetization & GST and the pandemic-related restrictions. Survival became the only viable factor for businesses. This study dwells deeper into these three events and their influence on the adoption of digitalization by MSMEs in rural India.

Methodology: Responses of the rural MSME owners were collected through a structured questionnaire containing multiple-choice questions on a 5-point Likert scale. To have better clarity, responses of 274 rural MSME owners were finally considered for the data analysis. For factor analysis of the data, the process of Principal Component Analysis (PCA) was adopted with the help of IBM SPSS 25.0. To find out the validity of the model, Structural Equation Modelling (SEM) was performed by using IBM AMOS 21.0.

Findings: It is found that the pandemic effect has the strongest significance followed by the demonetization effect on MSME owners towards the adoption of digitalization for their business. GST was implemented within a year of demonetization, so its effect is found to be non-significant.

Practical Implications: The results of the study will help the government as well as IT solution providers to chalk out their strategies, products, or reforms taking into consideration the particular problems faced by MSMEs related to demonetization and pandemic closure. The outcome will also help in better implementation of the ‘Vocal for Local’ initiative.

Originality: The results of the proposed study indicate that during all the three major events, the importance of digitalization has been witnessed by the MSMEs. These uncertain times have prioritized the use of digitalization not only for their survival but also to match the consumers’ demands during those periods. This study shows



the importance of digitalization and will help the cup to reach the lip and both the economy and the MSME owners will be benefitted from it.

Keywords: *Demonetization, GST, Pandemic, Covid-19, Digitalization, Vocal for Local, MSME*

1. Introduction

The world is gripped in uncertain times. The current pandemic has thrown us back several years. Almost every country is facing a huge economic crisis and unemployment is reaching a record high. The current situation in India is not healthy for its economic development. The production, sales, and operation of almost every business are yet to come to their full strength. We are still uncertain whether the situation is coming into control or going away farther leaving its destructive trail behind. In India, one important sector that is badly affected is the MSME (Micro Small and Medium Enterprises). This sector is considered as the backbone of Indian economy. The contribution of MSMEs in manufacturing Gross Domestic Product (GDP) is around 6.11 percent and services GDP is 24.63 percent. It gives around 33.4 percent of India's manufacturing output. With a constant growth rate of over 10 percent, this sector employs around 120 Crores people (CII, 2020). The two biggest economic reforms in India, in the form of Demonetization (2016) and Goods and Services Tax - GST (2017) and the destructive Covid-19 pandemic (2020) have crippled this sector. Many units are either fully closed or working with reduced strength or operations. This sector is the biggest employment provider in India and is present in almost every corner of the country. The current devastation of the pandemic has forced the government to change the classification of MSMEs. With effect from July 2020, the classification of MSMEs is based on two factors – Investment and turnover. Micro enterprises are those with an investment of less than 1 crore and a turnover of less than 5 Crores while small enterprises come under the category with an investment of less than 10 Crores and a turnover of fewer than 50 Crores. Finally, Medium enterprises are those with an investment of fewer than 50 Crores and an annual turnover of less the 250 Crores (MSME, GOI, 2020). Coming days will justify whether the change in the classification of MSMEs is effective in its revival or not. The government has come up with another idea called Creation and Harmonious Application of Modern Process for Increasing the Output and National Strength (CHAMPION). It is a technology-driven single window system to help and promote MSMEs. It will take care of the financing aspect, raw materials procurement, labor needs and the different permissions related to the smooth functioning of the units. It will also create new opportunities in both manufacturing as well as services sectors (GOI, 2020).

We are in an era where digital innovation has become an integral part of our day-to-day life. Better and affordable electronic devices and affordable high-speed internet



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is fuelling the growth towards a digital world. Artificial intelligence is present almost in every digital space. Ever growing customers' demand for better and affordable products and services, quick delivery, best after-sales services, etc. are the need of the hour. To keep pace with this demand each business entity must adopt digital means to improve its overall system. Digitalization is nothing but converting the whole business into a digital world with innovation in productivity, packaging, after-sales services, etc. A better-trained workforce with the right choice in innovation will help businesses to be at par with this race. Consumers' self-gratifying requirements can be fulfilled through the opportunities provided by digitalization (Sashi, 2012). Consumers' experiences are enhanced with the help of it (Rigby, 2011; Weill & Woerner, 2015). It also amplifies consumers' worth (Rintamäki et al., 2007; Grewal et al., 2009) and is the main instigator for innovation (Lusch & Nambisan, 2015; Nylén & Holmström 2015). To survive in this demand- centric race, MSMEs will have to accept innovation (Eisdorfer & Hsu, 2011). Innovativeness in SMEs can be noticeably referred to as the process to promote skills up-gradation in every aspect of innovation (OCED, 2018).

The government of India took the bold step of demonetization with a formal announcement on 8th November 2016. A cashless economy through digitalization was one of the main aims of this move alongside curbing black money, eradicating corruption, eliminating fake currencies, and stopping terrorism funding. Through this announcement, notes of higher denominations i.e. Rs. 500 and Rs. 1000 were recalled back through bank deposits or bank exchanges. The government expected that this move will help in increasing the tax base as well as enhancing the adoption of better and faster technologies (Kohli & Kumar, 2016). The larger mass of the people of India depends mainly on cash-centric transactions where non-cash users are only 10-15 percent of the whole population. The ratio of currency in use outside the banks to the Gross Domestic Product is 11.1 percent, higher than many emerging countries (Ashwini, 2016). Even MasterCard in its report titled "Cost of Cash in India" has shown India using cash in about 80 percent of transactions (Ramakrishnan, 2016). Cash is also used immensely while purchasing online through the use of cash-on-delivery feature and it accounts for around 17 percent of the total sales (Morgan, 2019). We have experienced that the use of cards for payments by the consumers and the use of Point of Sale (PoS) machines by the merchants has increased after demonetization. According to a report published by the Reserve Bank of India, after both demonetization and GST implementation, the credit supply gap to MSME has widened to approximately \$230 billion and it is same as 11 percent of our GDP (RBI, 2018).

After all the debates that spanned for over a decade, finally, GST was implemented from 1st July 2017. In simple words, it is a form of 'one nation, one tax', where almost all the state level and central level taxes merge to form a single tax system. This type



of tax system is in force in almost all major economies. GST was helmed as one of the most important economic reforms post-independence. But, the implementation was not proper as was evident from the different problems faced by the businesses. As it was a completely unique and new concept for the industry, the complex documentation related to it and the initial high tax rates for many goods and services posed as a challenging aspect for every business. Credit claims and “complex or unclear treatment” of common transactions was not aptly defined or taken care of at the initial stage which added to all the woes that the industry faced (PwC India Report, 2018). Unavailability of raw materials was also a known issue in the initial days of GST implementation. It presented a unified India where almost all the barriers related to different state taxes were abolished and free movement of goods became easier across the different state borders. The movement of trucks became faster. It allowed easier and faster movements of goods across the state which in turn lowered the required number of warehouses in different states. The multiple tax rate slabs implemented by GST makes it more complicated (FE Knowledge Desk, 2018). According to a report published on the completion of one year of GST implementation, issues with compliances, burdensome registration system, formulation of new cess, and refund problems were shown as the major hurdles that the business faced (ET Bureau, 2018).

The third shock to cause a severe effect on the industry came in the form of Covid-19. The previous two were economic reforms but the third one is a pandemic that engulfed the entire world’s economy. In 5 years, i.e., 2016, 2017, and 2020, these 3 major shocks took the role of a destructor or a constructor/opportunity giver for the MSMEs in India. In the case of demonetization and GST, business was slow but there was no complete business closure but it was completely different in this pandemic. Business closure became the need of the hour to contain the spread of the coronavirus. Businesses were closed to maintain the social distancing protocol being laid down by the government. To contain the spread of the virus, the Government of India initiated a series of lockdowns starting a 21-day complete lockdown from 25th March 2020. It was anticipated that the Indian economy lost approximately 32,000 crores per day during these lockdowns (The Hindu Business Line, 2020), the live industry’s loss was around 3,000 crores (Goyal, 2020). Daily wage earners and the informal sector faced the hardest times during these lockdowns (Das, 2020). Revenue from Information Technology (IT) sector also felt a decline of 2%-7% in the initial days and this virus’s impact on the Indian economy was anticipated to be about Rs. 8.8 trillion (Kumar, 2020). Tourism industries also took a major hit due to national and international travel restrictions (Muthukrishnan, 2020). We have yet to contain the spread of the virus till today. Airways and roadways are still not fully operational. Work from home or study from home is severely affecting our lives. Business is yet to be fully productive in terms of revenue generation. This pandemic has not only taken lives but also ruined families. Either the bread earner of the family died or



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the family had to incur huge medical expenses. Many businesses have closed down with unemployment touching record high. In these uncertain times, we are hoping for a normal life as early as possible. The usage of digital payments rose immensely for businesses selling groceries and pharmaceuticals products. Payments of utility bills online recharge and education through online platforms also witnessed a huge surge (Tafti *et al.*, 2020). Few positive effects of the pandemic- related restrictions included the increases of several activities on the online platform and the increase of e-commerce transactions (Dutt, 2020).

This paper tries to understand the impact of these 3 shocks from the root of the MSME sector i.e. the rural MSMEs. The role of innovation or the use of digitalization for the survival of MSMEs is being studied through this paper.

2. Literature Review

Our country is growing at a fast pace on every front. The current government is emphasising on ‘Make in India’ and ‘Made in India’ projects. This will not only increase the demand in the consumption perspective but also the employment perspective. With the growth in demand for better products at reasonable rates with the best value, innovation is becoming the only viable option through the better use of digitalization. MSMEs have the power to cater to both the above-mentioned demands. More the stronger the MSMEs will become the stronger we will see our economy and the financial status of the majority of the population. Reforms are very much necessary for a better working environment, but on the other hand, the support should also be there to cope with any changes. Maximum MSMEs are run by individual proprietors and they depend heavily on cash with limited cash reserves, small turnovers, and limited access to finances (Beyes and Bhattacharya, 2016). The impact of demonetization was therefore felt more by these small businesses that deal with more cash transactions. The Demonetization move was unexpected but this happened earlier in India in 1946 and 1978 (PWC, 2016). Four major reasons behind this bold move as given by our Prime Minister are: Firstly, the undeclared income would come under the radar of the income tax department. Secondly, the counterfeit currency would become useless. Thirdly, it will push the country to move from a cash economy to a cashless economy through the use of digital means of payment. Fourthly, it will help to generate more digital footprints to track the individuals in all the financial activities. This may also help the banking sector to strengthen its economic position. This has indeed increased the digital payments by individuals and is a positive step towards the digitization of our economy. But, this move has impacted almost every sector with auto sales going down by 4.7 percent, the decline in cement production, passenger vehicles also experienced a fall of nearly 2 percent, and the commercial vehicles sales also took the beating (Walkins, 2017). Among few studies conducted just after demonetization, there was a 46 percent decline in sales in



Amritsar (Sibbal, 2017) and the decline of earnings by small businesses was nearly 45 percent in Ranchi (Lahiri, 2016). The other instance is of the small traders or business-related with retail sector being impacted in Ghaziabad (Vij, 2017). These bold policies of the government give a boost to several innovations including digital payments and people get a ping to use it to overcome a cash-related crisis (Bhuvana and Vasantha, 2017). This type of move can also help in lowering the interest rates of the banks and the influx of huge funds will help the development of the economic perspective of the country (Kohli and Kumar, 2016). In the initial days, many labours and workers working in MSMEs lost their jobs but were again reinstated after the initial jitters were over (Bhagat, 2017). The cash crunch being created by this step has largely affected those cash-dependent sectors including micro or small businesses as well as the cottage industry (Tiwari and Tiwari, 2017). This reform despite facing several problems still can be treated as a success (Midthanpally, 2017; Kulkarni and Tapas, 2017). The effect of demonetization was more on unregistered firms. Few firms used the mode of digital mode of payment but due to rare instances of the usage of it, they switched over to the normal mode after the turmoil was over (Kurosaki, 2016). Demonetisation caused acute disruption in the cash-dependent business sector and this lasted for almost 2 months. The result of this economic policy was the largest monetary shock that ever occurred in India (Lahiri, 2020).

Going by the recent turmoil, the coronavirus outbreak is the biggest challenge that the whole world is facing. We are yet to fight it out completely. Business, education, health, employment, the economy, and almost everything related to our life are being impacted by the pandemic. India's economy is projected to lose more than \$348 million (Khosla, 2020). Manufacturing of electronics in China has dropped from 55 percent to 40 percent due to the quarantines and lockdowns related to this pandemic (Kumar, 2020). Even the education of almost 1.716 billion students is impacted and 'Online classes from home' has become a normal routine (UNESCO, 2020a). The number of confirmed cases of Covid-19 in the initial two months was more than the number of cases reached in eight months from SARS disease. It was declared a global pandemic in the 3rd month of the outbreak. Lockdowns were a normal phenomenon in almost every country with a complete shutdown of businesses in almost every sector. These lockdowns, on one hand, helped contain its spread but on the other hand a severe impact on individuals through job loss, loss of kith and kin, economic loss and loss in business which curtailed the production and revenues. As the manufacturing sector returned to partial operations sooner than the service sector and the loss is more in the service sector. The cash liquidity in 50 % of the smaller businesses is of less than 15 days whereas only 40 % have cash liquidity of approximately three weeks (Farrell et. al., 2020). A small business faces the problem more because of its poor level of preparedness, higher reliance on support from the government, and greater vulnerability from any financial or psychological impact (Runyan, 2020).



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Few of the past studies that highlighted the after-effects or preparedness or survival strategy of the businesses includes one of Phuket, Thailand. The study was conducted after the disaster in tourism industry and the author found that the savings of any business is one of the prime factors for their resilience (Biggs et al., 2012). Post-disaster recovery of businesses becomes one of the important aspects to fight with these uncertain times. Supply chain disruptions were found out as one of the factors after the Northridge Earthquake in 1994 (Dahlhamer and Tierney, 1998) and the East Japan Earthquake in 2011 (Tokui et al., 2017). The prolonged period of business disruption is the form of closure or interruptions in receiving or supplying raw materials or products that can also be a hindrance in the recovery process of SMEs (Tierney, 2007). After the recent SARS epidemic, it is found out that it mainly affected consumption and induced a demand shock. It led to an uncertain and volatile environment for those SMEs whose business got hampered with a change in the labour market or customer demand or supply chains (Lee and Warner, 2006). It was also found out that there was a change in purchasing pattern of the consumers with an increase in consumption of low-cost products (Liu and Black, 2011) and a decrease in consumption of luxury goods (Zhang et al., 2009; Forbes, 2017).

These economic reforms or the pandemic has sprung one important question for the industry, what does it need to survive in uncertain times? Nearly 53 percent of businesses in India were affected due to the lockdowns (The Indian Express, 2020) and these businesses are those having almost no savings or no cash flow for them so the support from the government becomes vital for their survival (Biggs et al., 2012). This type of crisis directly impacts the owners access to finance, their business strategies (Sonfield and Lussier, 2000), their approach to prospect identification (Pattinson, 2016), or their decision-making abilities (Laskovaia et al., 2019). They should always be ready to cope up with these uncertain markets and challenging operating conditions (Morris et al., 2008). With time, the burden seems to be getting heavier on the worldwide ecological system and even governmental financial reforms or advancement in innovations targeted towards sustainability cannot lower down these burdens (Cohen, 2020). Yet, support from the government is considered to be an important factor towards adopting technological business changes (Lin and Ho, 2009). After the devastation of the Rita and Katrina hurricanes, it was concluded that to rejuvenate businesses after any disaster, the government can devise tax-related incentives and help them through their reinvestments (Gotham, 2013). The financial bailout package that the government of India proposed during the pandemic was just 0.85 percent of its Gross Domestic Product (GDP) i.e. \$22 billion. As compared with the United States or the European countries or other developed or developing Asian countries, this scheme was much lower. It should have been 4-5 percent or higher looking into the effect of the pandemic in the country (Mahendra Dev, 2020). The



impacts of these discontinuous events are severe as it is difficult to predict the devastation it can create (Taleb, 2007; Turchin, 2008; Turchin 2016). These life-changing and stressful events create friction or alter consumption habits and this change helps them in managing the stress created by these events (Mathur et al., 2003). The ability to absorb supply chain disruptions by the micro-enterprises is less and they always miss out on getting any form of disaster-related aid (Prasad et al., 2014). The deficit in working capital is common with many SMEs (Psillaki and Eleftheriou, 2015; Lee et al., 2015). Businesses find it difficult to recover just after the pandemic with the continuance of their investments or with an increase in it as the consumption pattern just after any pandemic is uncertain (Joo et al., 2019). Small businesses in India faced the largest impact of the Covid-19 pandemic. Even the introduction of several policy measures could not boost their morale as they seemed helpless in the current situation. The government should focus on understanding the grass-root problems of the MSMEs and should try to implement the suggestions provided by them to revive this sector after the effects of the pandemic are over (Rathore and Khanna, 2021). The current situation can be tackled or handled with timely intervention from the government through their business-friendly policy measures (Tripathy and Bisoyi, 2021).

Though there can be uncertain events at an equally uncertain time MSMEs need to formulate an ecologically viable strategy for their business. Technology can help in this restructuring to deliver sustainability through enhanced production and consumption (Geels, 2014). In any kind of financial crisis, the innovativeness of SMEs is considered to be the key driver for their sustainability, growth, and competitiveness (Kakouris and Ketikidis, 2012; Kakouris et al., 2016). An entrepreneur, through the use of innovation in their business always plays an important role in helping and restructuring economy during or after the crisis (Devece et al., 2016). MSMEs adopt innovations mostly in their process because of the unavailability of a technically skilled workforce or the scarcity of required funds. But their adoption of innovation to face the challenges during difficult situations is quite evident (Sharma, 2017). Any uncertain event or economic reform can be interpreted as a hindrance or an opportunity for many MSMEs. The scarcity of funds or the high cost involved in current technologies sometimes inspires many entrepreneurs to take the business more competitively or sustainably by doing something different with their available resources (Sharma, 2014). Through the use of new techniques in producing new products to cater to the mounting demands of the consumers, technology innovation has become a necessity (Acs and Audretsch, 1990). Digitalization gives us virtual business opportunities in connection with the online business world having huge prospective customers (Worhach, 2000). The product-based business has been completely revamped to service-based business with the help of digitalization (Suarez et al, 2013).



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3. Research Gap

Several studies focus on the post-disaster needs of the SMEs after the impact of any disasters (Tierney, 1997; Chang and Falit-Baiamonte, 2002; Wedawatta and Ingirige, 2012; Dahles and Susilowati, 2015). These studies have focussed mainly on the impact of environmental or natural disasters and recovery from them, studies on the impact of the pandemic are rare. The study on the impact of demonetization, GST, and Covid-19 related pandemic taken together are hard to find. The adoptions of digitalization for the business are different in the entire three scenarios, but it is difficult to find any study focussing on these aspects.

4. Objective of the Study

The basic objective of this study is to find out and understand the most important event that directly or indirectly forced MSMEs to adopt digitalization for their business to survive. The study will try to find out whether any of the three major events made the MSMEs think of adopting digitalization for their business.

5. Conceptual Model and Hypotheses

5.1 Demonetization Effect

The scarcity of cash during demonetization has boosted digital payment and has also increased the usage of online platforms for selling and purchasing goods and services in India. In long term, demonetization will show its effect on the adoption of digitalization in India (Lodha et al., 2018). Demonetization will help the government realize its dream of ‘digital India’ through digitalization (Paulraj and Sudha, 2020).

H1: Demonetization effect has a significant effect on the adoption of digitalization for business

5.2 GST Effect

GST is completely related to tax reforms of business. It generally made the taxing system of firms more uniform and its implementation was for each business for purchasing and selling of goods or raw materials. Still, it paved the way for the firms to adopt digital means to carry out their financial transactions for better use of GST reforms. The implementation of GST will boost the proper usage of digitalization by businesses (Sahoo and Sahoo, 2020).

H2: GST effect has a significant effect on the adoption of digitalization for business

5.3 Pandemic Effect (Covid-19 Effect)

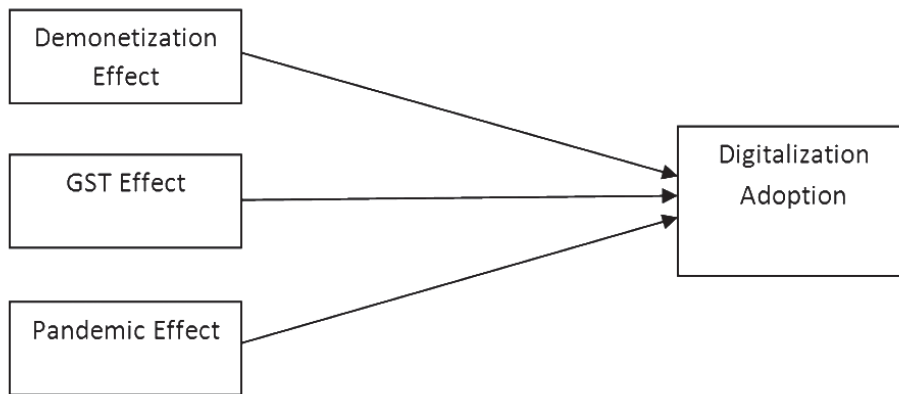
Partial or complete closure of business activities during the Covid-19 related



restrictions have crippled many firms. Loss in revenues has hurt businesses the most. They were back in business after the ease in restrictions. The restrictions and the fear of the spread of the disease have to lead many businesses to use or adapt digital means in conducting the business. Changes in the business scenario in terms of digital transformation will help the firms to battle it out with the effects of Covid-19 (Pedro Soto-Acosta, 2020). There is a surge in the digital transformation of business since the outbreak of Covid-19 (Almedia et al, 2020).

H3: *Pandemic effect has a significant effect on the adoption of digitalization for business*

Figure I: Proposed Conceptual Model



6. Research Methodology

In this exploratory study, both the qualitative and quantitative characterization of the research has been considered. Through a set of structured questionnaires covering all three events, the study tries to find out the main event which pushed the MSMEs to adopt or think of implementing digitalization for their business. Many multiple-choice questions under the four main constraints were provided for the response of MSME owners. All the responses were formulated on a 5-point Likert scale. The primary data were gathered through the use of an interview schedule (physically through field survey) and also with the help of Google forms in the online platform. The data were collected from 15th March 2020 to 15th September 2020. Among the collected data of 353 respondents, the data responses from 274 respondents were considered for the analysis required for this study. The data from the rest 79 respondents were either incomplete or repetitive.

For factor analysis of the data, the process of Principal Component Analysis (PCA) was adopted with the help of IBM SPSS 25.0. Through the use of IBM



AMOS 21.0, Structural Equation Modelling (SEM) was performed to find out the validity of the model.

7. Data Analysis

7.1 Demographic Profile

The total of 274 respondents included 94.2 percent male MSME owners and 5.8 percent female MSME owners.

Table 1: Gender

Gender		
	Frequency	Percent
Male	258	94.2
Female	16	5.8
Total	274	100.0

The respondents were from different age groups with 33.9 percent of the total in the 41-50 years age group being the maximum.

Table 2: Age

Age		
	Frequency	Percent
Up to 30 Years	13	4.7
31-40 Years	77	28.1
41-50 Years	93	33.9
51-60 Years	83	30.3
Above 60 Years	8	2.9
Total	274	100.0

The following table shows the educational qualification of the MSME owners being surveyed.

Table 3: Education

Education		
	Frequency	Percent
Primary	65	23.7
Secondary	81	29.6
Higher Secondary	67	24.5
Graduate	42	15.3
Post Graduate	19	6.9
Total	274	100.0



The following table shows the MSME category, 39.8 percent in the services sector and 60.2 percent in the manufacturing sector.

Table 4: MSME Category

MSME Category		
	Frequency	Percent
Services-Micro	103	37.6
Services-Small	6	2.2
Manufacturing-Micro	145	52.9
Manufacturing-Small	20	7.3
Total	274	100.0

The yearly revenue as was revealed by the respondents (not verified through their Income Tax returns receipt) is shown in the following table.

Table 5: Yearly Revenue

Yearly Revenue		
	Frequency	Percent
Prefer not to say	118	43.1
Up to 15 Lakhs	123	44.9
16-30 Lakhs	30	10.9
31-45 Lakhs	3	1.1
Total	274	100.0

7.2 Data Interpretation

7.2.1 Sample Size

To have an ideal sample for the study of item-to-response ratio, the minimum and maximum ranges are considered to be in the range of 1:4 and 1:10 respectively (Hinkin, 1995). As per the standard, the responses of 76 to 190 respondents need to be considered for the study. After removing the incomplete responses, 274 respondents out of 353 were considered for the study. This lies within the range of above-mentioned ratio.

7.2.2 Data Analysis

To analyze the data, PCA was carried out using IBM SPSS 25.0. Before proceeding further for the analysis, Harman's single factor test was conducted to check Common Method Bias (CMB). CMB happens when "instruments are responsible for the variation in responses rather than the actual predispositions of the respondents that the instrument tries to uncover". A data is without CMB only when the total variance



of a single factor is less than 50 percent” (Podsakoff *et al.*, 2012). The proposed study is not having much CMB as the total variance for a single factor of this study is 23.75 percent.

The calculated Kaiser-Meyer-Olkin (KMO) value and Bartlett’s test of Sphericity values show the appropriateness of the data included in this study. The KMO value for an appropriate factor analysis should be in the range of 0.5 to 1.0 (Hair *et al.*, 2006). The KMO shows the sampling adequacy and the suitability of the factor analysis.

Table 6: KMO and Bartlett’s Test

KMO and Bartlett’s Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.779
Bartlett’s Test of Sphericity	Approx. Chi-Square	3407.413
	Df	171
	Sig.	0.000

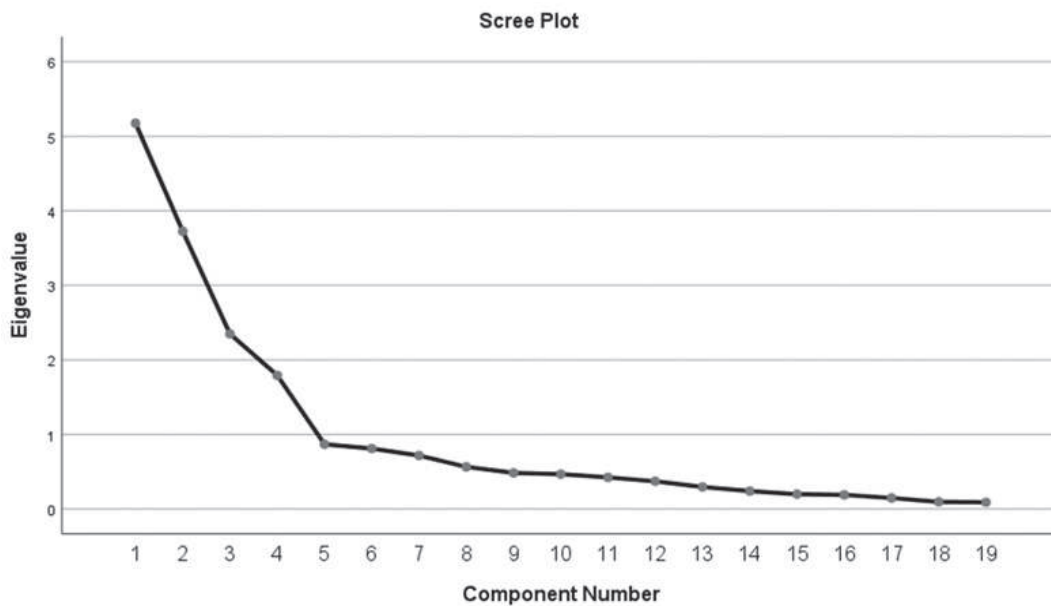
The proposed model elucidates 68.636 percent of the total sample variance which is more than the standard variance of 60 percent (Malhotra, 2011).

Table 7: Total Variance Explained

Component	Total Variance Explained								
	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.175	27.237	27.237	5.175	27.237	27.237	3.592	18.907	18.907
2	3.724	19.602	46.839	3.724	19.602	46.839	3.451	18.164	37.071
3	2.348	12.360	59.199	2.348	12.360	59.199	3.103	16.332	53.403
4	1.793	9.437	68.636	1.793	9.437	68.636	2.894	15.233	68.636

All 19 items were distributed to form 4 components. These components were selected based on one or more eigen values. This can be confirmed through the scree plot which shows that the number of components for our analysis is 4.

Figure 2: Scree Plot



Cronbach’s α value was checked to find out the reliability of the constructs. While considering the items for the analysis, a value of 0.7 or more is considered to be standard (Hair et al., 2006). The Cronbach’s value of the total data is 0.838 which is above the standard value.

Table 8: Cronbach’s α Values

Construct	Number of items	Cronbach’s α
Demonetization Effect	5	0.885
GST Effect	5	0.901
Pandemic Effect	5	0.840
Digitalization Adoption	4	0.856

By using the varimax rotation method, a rotated component matrix is used to club all the 19 items into 4 components. All the items considered for the analysis had a factor score of more than 0.5 which is the accepted criterion for analysis (Hair et al., 2006).



Table 9: Rotated Component Matrix

Rotated Component Matrix ^a				
	Component			
	1	2	3	4
GST_Effec1	0.883			
GST_Effec5	0.873			
GST_Effec3	0.862			
GST_Effec2	0.852			
GST_Effec4	0.746			
DE3		0.825		
DE4		0.809		
DE1		0.808		
DE5		0.799		
DE2		0.781		
Pan_Effec1			0.839	
Pan_Effec2			0.761	
Pan_Effec5			0.739	
Pan_Effec3			0.715	
Pan_Effec4			0.710	
DigiAdop5				0.900
DigiAdop2				0.888
DigiAdop1				0.845
DigiAdop3				0.612
Extraction Method: Principal Component Analysis.				
Rotation Method: Varimax with Kaiser Normalization.				
a. Rotation converged in 5 iterations.				

7.2.3 Data Normality

A normality check was conducted for all the items of the proposed study. It is one of the preconditions to conduct SEM (Byrne, 2016). The values of skewness and kurtosis for the items involved in the study must be below the threshold values which are three and eight respectively (Kline, 2011). It is found that the skewness and kurtosis values for all the items were less than the recommended values.

7.2.4 SEM Analysis

AMOS 21.0 was used to test the proposed model. In the SEM analysis, a two-step approach (Anderson and Gerbing, 1988) was applied. The first step involves the measurement of model and testing the reliability and validity of measuring scale using Confirmatory Factor Analysis (CFA). While the second step involves the testing

of the structural model using SEM analysis. The result generated from CFA using maximum likelihood estimation is χ^2 ($\chi^2 = 303.221$, $df = 140$, $\chi^2/df = 2.166$), which is statistically significant. The fitness of the measurement model generated in our analysis is given below. The fit indices are at par with the accepted level needed for the fitness statistics.

Table 10: Model Fitness

Fit Index	Measurement Model	Standard Level
CMIN/DF	2.166	<5.0
Goodness-of-fit index (GFI)	0.897	>0.9
Tucker-Lewis coefficient (TLI)	0.940	>0.95
Comparative fit index (CFI)	0.951	>0.95
Root mean square error of approximation (RMSEA)	0.065	<0.08

To check the reliability of the data, the Composite Reliability values of the latent variables were generated. A value of 0.60 and above is considered to be good for a standard analysis (Hair et al., 2006).

Table 11: AVE and CR values

Latent Variables	AVE	The square root of AVE	CR
Demonetization Effect	0.55	0.74	0.85
GST Effect	0.61	0.78	0.88
Pandemic Effect	0.50	0.70	0.83
Digitalization Adoption	0.63	0.79	0.87

The average variance extracted (AVE) demonstrates the overall variance in the planned indicators. Its value is considered to be standard when it is more than 0.5 (Hair et al., 2006). As the AVE values are above the required standard, it indicates the convergent validity of the variables.

The discriminant validity (DV) among the latent variables is also found to be above the required standard. The latent variables are said to be having discriminant validity when the square root of AVE of each of the latent variable is found to be more than their correlation value.



Table 12: Correlation Values

Latent Variables		Latent Variables	Estimate
Demonetization_Effect	<-->	GST_Effect	0.009
Demonetization_Effect	<-->	Pandemic_Effect	0.363
GST_Effect	<-->	Pandemic_Effect	0.09

7.3 Results and Discussions

The hypotheses of the proposed model are H1 (Demonetization Effect), H2 (GST Effect), and H3 (Pandemic Effect).

Table 13: Hypotheses Testing

Dependent Variable	Independent Variable	Regression Weights	S.E	t-value	p-value	Hypotheses Accepted/ Rejected
Digitalization Adoption	Demonetization Effect (H1)	0.151	0.066	2.296	0.022	Accepted
Digitalization Adoption	GST_Effect (H2)	0.06	0.057	1.053	0.292	Rejected
Digitalization Adoption	Pandemic_Effect (H3)	0.247	0.07	3.548	.0001	Accepted

The hypotheses of any given study are accepted depending upon both the t-value and p-value. For the acceptance of any hypothesis, the t-value is recommended to be within +/- 2 and the p-value should be below 0.05 (Byrne, 2013).

Demonetization Effect (H1) with a t-value of 2.296 and a p-value of 0.022 is accepted. Among the three economic reforms that have directly or indirectly affected the business, demonetization is considered to be the major one.

The scarcity of cash during demonetization gave a boost to the digital payment mode and also increased the usage of online platforms for the selling and purchasing of goods and services in India. Till the normalcy in cash circulation, the digital mode of payments was the only viable option. It was one of the major steps wherein the eagerness and benefits of using digital platforms along with the ease of using them, compelled both the consumers and businesses to adopt the digital means. Results indicate that demonetization has boosted up the adoption of digitalization and it has been justified by previous studies too (Lodha et al., 2018; Paulraj and Sudha, 2020).

GST Effect (H2) with a t-value of 1.053 and p-value of 0.292 is rejected. GST came into effect just after the demonetization. It is basically related to tax reforms in business. It



made the taxing system related to firms, more uniform as its implementation took care of both selling and purchasing of goods and raw materials. Still, it paved the way for the firms to adopt digital means to carry out their financial transactions for better use of GST reforms. The results show that there was no significant effect of GST on the adoption of digitalization in business. It contradicts the previous study (Sahoo and Sahoo, 2020).

Pandemic Effect (H3) with a t-value of 3.548 and a p-value of 0.0001 is accepted. Partial or complete closure of business activities during the Covid-19 related restrictions have crippled many firms. Loss in revenues has hurt businesses the most. They were back in business after the ease in restrictions. The restrictions and the fear of the spread of disease lead to the use and adoption of digital means for conducting the business. Results indicate that the Covid-19 pandemic has forced consumers as well as businesses to adopt digital platforms to fulfil their needs. Digitalization was the only viable means to counter the restrictions as well as the fear of the spread of disease. The results indicate that the pandemic has a significant effect on the adoption of digitalization and it is evident in previous studies too (Pedro Soto-Acosta, 2020; Almedia et al, 2020).

The path analysis values of the data show that H3 (Pandemic Effect) has the maximum significance in the MSMEs owners’ digitalization adoption process for their business to sustain the ever-changing market scenario with a value of 0.256 which is followed by H1 (Demonetization Effect) with a value of 0.157. The above two hypotheses proved that the owners were more reluctant to use digitalization in the current pandemic-related disruptions but demonetization gave them a push towards digitalization. As GST was implemented within a year of implementation of demonetization, so the hypothesis H2 (GST Effect) was less significant for the implementation of digital ways for the business. The results show that though demonetization was the initial major event that pushed the acceptance of digitalization for business, yet the pandemic effect gave a major push to it. Demonetization was a short-term effect where the cash circulation was back to normal after a few months of hiccups. But, the pandemic effect proved to be the worst nightmare for businesses as its effects were seen for a longer period with repeated lockdowns. We are yet to overcome the fear of this covid-19 pandemic.

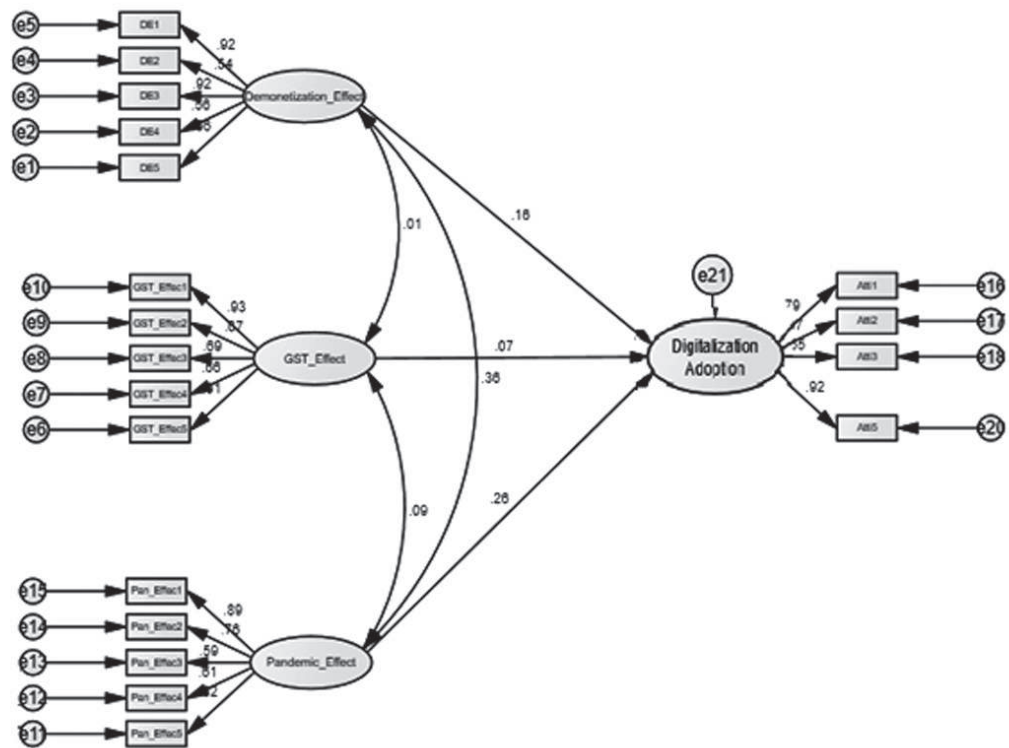
Table 14: Path Scores

Standardized Regression Weights: (Group number 1 - Default model)			
			Estimate
Digitalization_Adoption	<---	Demonetization_Effect	0.157
Digitalization_Adoption	<---	GST_Effect	0.066
Digitalization_Adoption	<---	Pandemic_Effect	0.256

The path analysis of the proposed study is shown below.



Figure 3: SEM Model



It shows the MSME owners have proper knowledge and understanding of the usefulness of digitalization for their business. It also shows that the recent advancement in innovations has made the use of technology in an easier way. The MSME owners perceive that digitalization is becoming user- friendly for them as well as for their business. The question that arises after the analysis of all the responses of the respondents is: If MSME owners understand the usefulness of digitalization and perceive it to be friendlier, then why the conversion from a non-digital platform to a digital platform is taking a long time or why is the number of digitalized MSMEs are not increasing proportionately? The majority of the owners are dependent and looking forward to get the government support. They want real support and not reel support.

8. Implications

8.1 Theoretical Implications

The present market scenario demands MSMEs to be equipped with technology-driven products or services to cater to modern-day customers. With the increasing competition to survive, the need to adopt digitalization in business is increasing day by day. Digitalization gives us virtual business opportunities by connecting to the online business world with huge prospective customers (Worhach, 2000). With the

help of digitalization, the product-based business has been completely revamped into service-based business (Suarez et al, 2013). The MSMEs have limited access to the latest technology (Ibrahim & Shariff, 2016). Also, they face another obstacle in the form of unskilful management (Arasti, 2011). The competitive advantage of MSMEs can be enhanced with the proper use of digital technology for business (Fauzi and Sheng, 2020). The optimization of “processes, managerial and strategic decisions, and customization” (Lumpkin & Dess, 2004; Watson et al., 2018; Kraus et al., 2019), creates various prospects with the use of digital technologies. In any kind of financial crisis, the innovativeness of MSMEs is considered to be the key driver for their sustainability, growth, and competitiveness (Kakouris and Ketikidis, 2012; Kakouris et al., 2016). To survive in this demand-centric race, MSMEs will have to accept innovation (Eisdorfer & Hsu, 2011). The results of the proposed study indicate that during all the three major events, the importance of digitalization has been witnessed by the MSMEs. These uncertain times have prioritized the use of digitalization not only for their survival but also to match the consumers’ demands during those periods.

8.2 Managerial Implications

From the practical viewpoint, it is evident from the analysis of this study that MSMEs have understood the importance of adopting digitalization for their business. The government should utilize both these circumstances to push further their endeavour of ‘digital India’. Both the events posed different challenges and hence proper schemes should be in place to counter the problems faced in both the situations. Digitalization will help India to fulfil its dream of becoming the 3rd largest country in terms of economy (Badam and Gochhait, 2020). The capabilities and performance of MSMEs can be easily and quickly enhanced through value creations with the use of digital technologies (Lumpkin & Dess, 2004; Nambisan, 2017). The success of ‘Digital India’ and the implementation of digitalization can be enhanced through better execution of different schemes and availability of resources in rural areas (Venkatesh and Lavanya, 2018).

9. Conclusions

In the last five years, MSMEs in India have faced three major disruptions in their business. In India, with the boom of e-commerce business and their services to almost every part of the country, many MSMEs are reaping the benefits while others are facing the heat from it. The local consumers are moving away from the local shops to virtual shops. The local shops cannot give too many alternatives for their products and also they cannot give large discounts that the consumers are getting through online shopping. Also, they are unable to provide multiple varieties of products, keeping the quality and the pricing intact as per the current demand. They do understand the need for them to shift their business from the old bring-and-mortar type to technology-savvy digitalized type. The three major disruptions have forced them to start from scratches.



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They are ready to change their way of running a business, subject to real support from the government. Relief from tax burden, intellectual and financial support, easy raw materials procurement support, more subsidies in electricity bills are a few of the important supports that they need from the government to fully concentrate on changing the way they run their businesses. They also want the government to prefer their products for use in local offices. It will not only increase their sales but also serve as a platform for advertisement.

10. Limitations

The pandemic-related travel restrictions have made data collection challenging and time-consuming. Also, many owners were reluctant to provide the data fearing that this may jeopardize their chances of getting financial support from the government. Given that a large number of MSMEs in India, the study could have been carried out covering more respondents but repeated lockdowns and lack of transportation means, have confined this study to a limited number of respondents.

11. Future Scope

Both the central and state governments are trying their level best to push the use of the digital mode of technology for business. But, there seems to be a gap between the cup and the lip. With the government's push for a "cashless economy", "Go Desi", "Make in India", or "Made in India" initiatives, this study and the further studies related to this can find out the reason for this gap. This will help the cup to reach the lip and both the economy and the MSME owners will be benefitted from it.

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