

Indian Rural MSMEs and their perception towards innovation and creativity in uplifting their business

Shafique Ahmed, Samiran Sur, Silky Vigg Kushwah

Abstract: *The modern world is inclined towards the comfort of digitalization through creative ideas and innovation. Interest in modern living and a tech-savvy lifestyle has made innovation the most important parameter for business. With the increase in business competition and from global competitors, low-cost innovative products are taking the center stage. Also, uncertain financial or natural interruptions are forcing the company to adapt to better means of producing products or providing services for their survival. Recent tension with India's biggest importer and the government's push for 'vocal for local' initiatives have made innovation a compulsory aspect to be better or at par with the importing country's product and pricing to cater to the growing demand of the domestic consumers. The study is focused on the backbone of India's economy i.e., MSMEs. Rural MSMEs are far behind their urban counterparts in the adoption of innovation in their business. The study was conducted using the responses of 223 rural MSMEs in India. IBM SPSS and AMOS were used to know the factors behind the MSMEs' adoption of innovation. The study will help the government, scholars, academicians, and institutions providing support for business innovation to chalk out a better process to cater to the needs of these MSMEs in understanding and implementing innovation in their business.*

Keywords: Innovation, Creativity, MSME, Rural Business, Small Business, Entrepreneurship

JEL codes: M130, M150, O31, O33

1. Introduction

The whole world is in the grip of the Covid-19 pandemic. It is almost a year that every country is fighting this pandemic and trying to survive. It has affected almost every sphere of humanity, directly took lives and caused financial testability. With closed cities and restrictions everywhere, migrant labours returned to their respective villages, this created a huge shortage of labours needed to run many businesses (Singh, 2020). The impact of Covid-19 was felt the most by the small businesses. It brought devastation not only for humanity but also for the survival of the business, their employees, or their revenue generation capability (ILO, 2020). The severity of Covid-19 has forced the government to have extended lockdowns, this disrupted the supply chain of both the raw materials and finished goods and also the availability of workforce was also uncertain during these times (Tripathi, 2020).

Unemployment was on the rise as MSMEs had to lay off their labours due to their inability to provide timely wages to them (Singh, 2020). The labour crisis which will arise due to this ongoing pandemic will be more severe than the crisis that set off due to Spanish flu in 1918

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where the prices related to wages, goods and services increased by 5 percent (Barro, Ursúa, & Weng, 2020). As per the survey by International Labour Organization (ILO), 70 percent of businesses had to close their business operation. Half of them have temporarily closed due to the Covid-19 related protocols and the rest half had to close due to the spread of the disease among their employees (ILO, 2020). Neither the owners nor the employers or any external stakeholders had any previous experience related to the handling of any crisis as vast as being created by Covid-19 (Tripathi, 2020). According to ILO, the impact of Covid-19 was felt both in the demand and supply chain of the business (Dutt, 2020). Covid-19 alone brought a triple crisis for the MSME sector with the crisis in demand, supply, and labour (Singh, 2020).

MSMEs in India depend on China for its supplies needed for many essential and industrial inputs or components. Due to Covid-19 related restrictions for imports, Indian MSMEs are hit hardest both in scarcity of raw materials and in the increase in these raw materials (Singh, 2020). Almost 75 percent of entrepreneurs being surveyed felt that the reduction in revenues will continue to hit them for the whole year. Nearly 90 percent of the businesses are directly experiencing the impact of Covid-19 in their scarcity in cash flows for their business (ILO, 2020). The protocols for lockdowns were different based on the containment zones and this severely impacted the supply chain in the remote areas for rural MSMEs (Tripathi, 2020). As many MSMEs have liquidity issues, this sudden stoppage in their revenue generation has made it impossible for them to manage their working costs for a longer period (Singh, 2020). The earnings of the MSMEs fell by 20-50 percent with micro and small enterprises facing the main burnt (Tripathi, 2020). The survey of ILO also revealed that 76.2 percent of the total workforce working in the informal sector in India could face the possibility of poverty due to the prolonged impact of Covid-19 (Dutt, 2020). Either MSMEs had to lay off their workforce or had to close their business due to the failure to pay their rent or production-related expenses (Tripathi, 2020). The negative impact of Covid-19 from almost every front will lead to the closure of many firms especially micro-enterprises (Singh, 2020).

Innovation in MSMEs is the urgent need to tackle this pandemic and they should start implementing it without bothering more about their cash utilization and this can only help them to go far and survive (Dewan, 2020). Digital transformation of business and the adoption of innovation became the new norm not only to survive this Covid-19 situation but also to come out of this mess in a stronger way (Nwokeabia, 2020). Innovation along with the proper use of digital marketing strategy will help SMEs to sustain this turmoil and any uncertain events in future too (Radhakrishnan, 2020). The utilization of low-cost innovation can help MSMEs to find a way out and survive this pandemic (Garg, 2020). According to a report by McKinsey Global Institute (MGI), the use of technology after this pandemic can increase the global economy by adding revenues of approximately \$1 trillion by 2025 (Gurnani, 2020). To compensate for their business losses and to cope up with the decrease in consumer demands, there was a positive inclination for MSMEs towards digitalization for business (Senegal, 2020)). It was found out that innovation was the best viable option to deal with the devastation caused by this pandemic and to move ahead (Nwokeabia, 2020). Most MSMEs have lagged in the adoption of digitalization (Dutt, 2020). One of the positive effects of this pandemic is the increase in the usage of digital payments amongst MSMEs in India during the pandemic (Goyal, 2021). There was a rise in e-commerce activities as well as the use of online platforms during the lockdowns as well as in recent times (Dutt, 2020). Social media plays a pivotal role in a better and effective marketing and communication campaign of SMEs having a financial crunch (Kumar & Ayedee, 2020).

In the 21st century, people are becoming more reliant on comfort from innovative products and services. This comfort can be fulfilled by getting the products or services as per the current trends of requirements, having a class of its own, different from the old-styled or old-fashioned genre, small yet powerful and beautiful and within a normal price bracket. This change in demand has compelled businesses to use innovation in producing their products through new techniques or designs (Acs & Audretsch, 1990). Innovation is defined as “the effective application of process and products new to the organization and designed to benefit it and its

stakeholders” (Wong, Tjosvold, & Liu, 2009). It is considered as a process of transforming opportunities into ideas and using these ideas in practical use (Flynn, Dooley, O'sullivan, & Cormican, 2003). Creativity can also be termed as the first step needed before any innovation (West & Farr, 1990; Amabile, et al., 1996). (Santarelli & Vivarelli, 2007) have found that following others is the prime focus for individuals doing business whereas innovation becomes an inferior option. Entrepreneurship and innovation compliments each other in the success of any business (Flynn et al., 2003; Zhao, 2005). In India, the MSME sector is considered a vital sector for its economic advancement. The vast majority of these MSMEs are rural-based. This chapter focuses on the perception of rural MSMEs in understanding innovation and creativity for their business.

The current market and financial scenario and the government's push for local products or the ‘Make in India’ and ‘Made in India’ initiative coupled with the importance of MSMEs in the economic development demands MSMEs be competitive. And this competitiveness is fuelled by innovation. In a developing country like India, it becomes difficult for the government to cater to the demands related to innovation and to support businesses in their innovation endeavour (Becheikh, Landry, & Amara, 2006). The decision to be innovative depends on the choice or needs of the entrepreneur’s attitude as the push or intervention from the government. This paper studies the perception of the MSMEs especially the rural enterprises towards employing creativity and innovation for their business. There are several better aspects associated with the usage of technology but all these things only become possible through the timely support of the owners in different businesses (Kumar & Ayedee, 2021).

The impact of Covid-19 and the current need of the business to adopt innovation and creativity needs to be discussed in a broader sense to understand the perception of MSMEs in a better way. The subsequent sections also highlight the need for the proposed study and the main objectives of the study. It also shows the effect of embracing innovation and creativity in business in uplifting the current status of the business. The importance of technology usage is visible during pandemic days. Though adoption of technology is not at par with the need of it, yet, the push it got for this pandemic phase will help in a better relationship between the technology and MSMEs. The usage of technology or any innovative platform is cost and time-efficient and there is a huge improvement of these MSMEs in every aspect (Kumar, Pujari, & Gupta, 2021). One of the positive outcomes of this covid-19 pandemic is that the inclination of MSMEs towards the acceptance and usage of innovation increased a lot. In the past, though they have faced many hurdles, and many hindrances were active too in the present scenario, yet, adoption of innovation was more a necessity for survival (Shaikh, Kumar, Syed, Ali, & Shaikh, 2021).

Research gap

Several studies discussed above mentioned the role of the government in promoting innovation for business. It has already been discussed about the need for innovation in sustaining the global and domestic competition and a prime important aspect for survival. Yet there are limited studies that focus on rural MSMEs and their perception towards innovation in three major aspects – their choice of innovation, their need for it, and the push needed in the form of government intervention to embrace innovation.

Objectives

The purpose of the present study is to understand the attitude of MSMEs in embracing innovation and creativity for their business through the three dimensions of CNG (Choice, Need, or Government support/intervention) of three major questions.

- I. Whether the decision of implementing Innovation and creativity in business depends on the choice of the MSME owners?
- II. Whether the decision of implementing Innovation and creativity in business depends on the need of the MSME owners?

III. Whether the decision of implementing Innovation and creativity in business depends on the intervention or support from the government?

2. Methods

Literature Review - Innovation and Creativity

In the current scenario, it is quite evident that rural business lags in understanding the changing needs of the consumers. The choice for running their organization and using innovation to solve their problems is pushed to the brink (Nurzal & Hastuti, 2009). Many studies have pointed out those enterprises that survive this race and those who are at the forefront are those embracing innovation (Nurzal & Hastuti, 2009). Firms generally embrace technology to produce something new or something improved than their current product (Bhavani, 2002). Innovation in enterprises can be viewed into three distinctive categories – one type of enterprise starts their business with innovation as their pillars, one achieves it later on in their business span and the third are those on whom innovation is pushed to be embraced (Michaelides, 2016). In this fast-changing market scenario with new problems and risks popping up every moment along with the immense opportunities, no enterprise has assured a place of a leader unless mobilize their available resources and channelizes them to be ready to compete with the change before the impact is heavy on their business (Okpara, 2007). The use of technology can enhance the competitiveness of any business and can help them in cost reductions, improvements in productivity, etc. (Clarkson, 2005). Businesses should embrace constant innovation to taste success. They should be ready to provide any solutions to the problems they face and should increase their ability to provide ever-changing consumers with any type of new products or services. They should always be looking for the next opportunity among the unknown hidden darkness that can engulf any existing business (Rosenbusch, Brinckmann, & Bausch, 2011).

Creativity and innovation are frequently used with the same breath yet there lies a difference and similarity in their meaning and usage. Suryana and Si (2006), defines creativity as "thinking something new." "Creativity is the ability to develop new ideas and to discover new ways of solving problems in facing the opportunity" (Suryana & Si, 2006). A new insight of any proposed situation gives birth to an idea which can be called creative (Kneller, 1965). Creativity demands one to see out of the set boundary and to come out with a relevant and unusual idea by changing one's approach towards the defined problem which in turn redefines the problem (Kneller, 1965). It can bring something new into existence. One interesting way to understand creativity is pointed out by (Wyckoff, 1991), wherein it is considered as an act of "seeing things that everyone around us sees while making connections that no one else has made." Thompson (2001) discusses the current situations where creativity is the new normal. People with controlled freedom, controlled internal commitment, rewards centric work in a competitive environment but not all-out competitive enhances creativity. In the present scenario, all business activities require creativity followed by the process of innovation as creativity alone cannot dwell on the mantra of success.

Innovation and Indian MSMEs

We are in an era with a fast-changing technological and economical environment and technological up-gradation is the only way out of these changes and can be a pillar for their survival (Xia, 2012). Innovation is the key factor in India, a developing country, to enhance the competitiveness of the business as it is the only way to keep the business running (Siu, Lin, Fang, & Liu, 2006). Innovation is employed in any business after they see some specific desired outcomes from it may be in the form of reduced costs or produced goods or enhancement in productivity or maintaining with the regulatory compliances or staying ahead in the competition etc. These gains are the main motivators for MSMEs to innovate (Pachouri & Sharma, 2016). In India, though there are a huge number of MSMEs yet they fail to create a position for themselves for competing in both markets – Global and Domestic, as most of them are technologically backward (Kshetri, Palvia, & Dai, 2011). Successful MSMEs have the flexibility to adapt to different circumstances and are always ready to implement new ideas.

They are always ready to innovate themselves to be better equipped to have an edge in the race to survival (Chang & Shih, 2004). The potential of unrealized innovation is huge in MSMEs across all the sectors (Choung, Hameed, & Ji, 2012).

MSMEs face the dilemma to decide about innovation for their business. Either they embrace it when the need arises or embrace it when the government intervenes or some innovate out of their own choice. The better strategy among these three is to innovate out of their own choice. It shows that the business is ready to face any risks or challenges openly and is ready to adapt itself to any changes. They are future centric and innovative culture helps them to survive and be a success (Michaelides, 2016). The high cost of technology is always a factor for the adoption of it and many firms don't use it due to financial and technical incapability. It is the point where government support and assistance is required (Link & Siegel, 2007). In a developing country like India, there is always a shortage of skilled staff and finances to undertake any kind of sophisticated work (Rao, 2007). MSMEs are somewhat incapable to manage their financial resources related to investment in the future endeavour (Ahmed & Sur, 2017). Government intervention helps in managing these issues and in turn, increases the innovation uses among the MSMEs (Pachouri & Sharma, 2016). Through the implementation of several policies and schemes, the government encourages the use of innovation in the business (Sharif & Baark, 2011). These types of policies that deal with the current situation, and give an edge in future endeavours increase the competitiveness in the industry (Nyasha & Odhiambo, 2019). The government has cited several reports pointing out minimal use of innovation in MSMEs are the argument to intervene by encouraging businesses and supporting or assisting them in any kind of obstacles (Nurzal & Hastuti, 2009). The National Innovation System theory cites government as one of the important aspects of increasing the innovation capacity of the business (Nelson, 1993).

Importance of adopting innovation and creativity for business

Though creativity is considered to be necessary as the initial ignition for innovation yet it is not the only circumstance for innovation (Okpara, 2007). It is the product of creative insight. It is achieved only with a serious and thoughtful process of change of "mindsets, strategies, structures, systems, and cultures" (Michaelides, 2016). The rationale behind the use of innovation by any enterprise is to survive the competition or to have a strategic edge to be ahead of the competition (de Fretes, 2020). An intricate and interrelated set of activities not necessarily in any preset order is considered as the process of innovation (Nurzal & Hastuti, 2009). It is generally promoted or embraced to increase the productivity of the business, to get a cost-benefit of the produced goods or services, and to enhance the competitiveness of their product both in the international and national market (Hult, Hurley, & Knight, 2004). For entrepreneurs, innovation is argued to be an instrument of its success (Drucker, 2014). In short, when something new is added to the already established product or services can be termed as innovation. These new ideas are transformed to get new value as to be innovative or any kind of value addition requires creativity. When new ideas and knowledge are combined to transform into new value, innovation takes place. In general terms, the prerequisites of a successful venture through innovation depend on the skills of the entrepreneur and the management of the business, the quality and dedication of the workforce, and a viable financial and business environment (Pachouri & Sharma, 2016). Innovation revolves around the people related to the business, their work culture, the process being employed, and the technologies being used for their production (Sharif & Baark, 2011). Successful entrepreneurs convert any type of market opportunity into "workable, profitable, and marketable ideas" through the use of innovation (Okpara, 2007).

The world we live in is transforming to be a technology-assisted place wherein almost every day to day affairs is technology-driven. Comfort, time-saving and cost-saving is becoming basic need coupled with modern product or services for the choices in our life. This has pushed competition among enterprises to a new level. Creativity and innovation are becoming the new norm for each business to sustain this race. This can be logically termed as a revolution for all businesses around the world. Fierce competition both with national and international

companies, handling the rising cost of employees, labour, power, and costs of materials, adaptability with new and more advanced, and the use of artificial enabled mechanization are the major challenges being faced by enterprises (Okpara, 2007). All these daunting challenges need to be viewed and executed positively by the entrepreneur and the management of the enterprises not only to survive this competition but also to prosper (Okpara, 2007). Economic changes, financial stability, unavailability of easy and inexpensive finances are pushing the firm's liquidity to the extreme point of failure and closure. These challenges have made the importance of the need for creativity and innovation in business processes and production a mandatory thing not only to survive but also to produce successful products and benefits for the consumers and to get rewarded (Thompson, 2001). With the fast-paced world, any new form of advanced technology will be very beneficial as it can help our works in a faster way than humans used to work (Kumar, Syed, & Pandey, 2021).

Role of Government in promoting Innovation

There is a polarized view of the discussion related to government intervention in any economy. Many think that government intervention may also bring favouritism in their resource allocation coupled with corruption can make the market unhealthy for many small businesses (Wang J. , 2018). White and Wade (1988) point out that the role of the state should be more on a strategic front in "taming market forces and harnessing them to a national economic interest." To create a healthy culture in innovatively conducting business, the government through its policies facilitates and influences the innovation measures and also lets private investments in establishments (Sharif & Baark, 2011). Government plays multiple roles and becomes an important agent towards making the business technology-driven and helping the adoption of business innovation (Wang J. &., 2007; Stacy, 2007; Sharif M. N., 2012; Zhu, 2014; Gao, Yu, & Lyytinen, 2014). The role of the government can be in different forms like their investment in Research and Development (Hsu, 2005; Lee & Park, 2006), they can also play the role of mediator and facilitator for smooth market competition and cooperation (Funk & Methe, 2001). With the use of innovation and creativity, MSMEs can be part of the digital revolution in India. The more digitalized these MSMEs will be the less dependent we will be on other countries for fulfilling the demands of the consumers. One of the boosters in the adoption of innovation is the timely support of the government in many different aspects. Support in the form of intellectual and financial indirectly induces MSMEs towards innovation (Ahmed & Sur, 2021).

Data was collected from 223 MSME owners covering rural parts of the country. A survey was conducted with a structured questionnaire having multi-choice questions. The constructs of the questionnaire were formed by taking into consideration all the factors discussed in the prior researches in the review of literature. The study initially had 28 questions. All the questions were constructed in line with the research studies and articles discussed in the review of the literature and conceptual model sections. The questions related to 'innovation by choice' (Rao, 2007; Okpara, 2007; Kshetri, Palvia, & Dai, 2011; Michaelides, 2016), questions related to 'innovation by need' (Siu, Lin, Fang, & Liu, 2006; Thompson, 2001; Xia, 2012; de Fretes, 2020; Ackah, Adu, & Ohene-Manu, 2014) and questions related with 'innovation by government intervention' (Nurzal & Hastuti, 2009; Link & Siegel, 2007; Zhang & Liang, 2012; Chang & Shih, 2004; Lin & Ho, 2010) are derived from the studies discussed in the above section. To refine the questions, a pilot study was conducted with 25 MSMEs. The outcome of the pilot study was further discussed with experts from both the academics and industry to finally come out with 20 questions for the proposed study. Responses from all respondents were collected on a Likert scale. Principal Component Analysis (PCA) was done in IBM SPSS 25.0 to analyse the data. Further, to establish the validity of the model and the hypotheses of the study, AMOS 21 was used to perform Structural Equation Modelling (SEM).

Conceptual Model and Hypotheses

I) Innovation and creativity by choice

Through it, an institution establishes itself as a learning organization that is always ready for any kind of change. Innovation by choice is considered to be the best available option wherein

the business is open to any kind of risks and opportunities with an innovation culture imbibed in their organizational process (Rao, 2007; Okpara, 2007; Kshetri, Palvia, & Dai, 2011; Michaelides, 2016).

H1: Innovation by choice has a significant effect on the perception and attitude of MSMEs to adopt innovation

II) Innovation and creativity in business is by the need

The current uncertain financial environment, high level of competition, and changes in consumers' demands have pointed out the need for innovation and creativity for business (Siu, Lin, Fang, & Liu, 2006; Thompson, 2001; Xia, 2012; de Fretes, 2020).

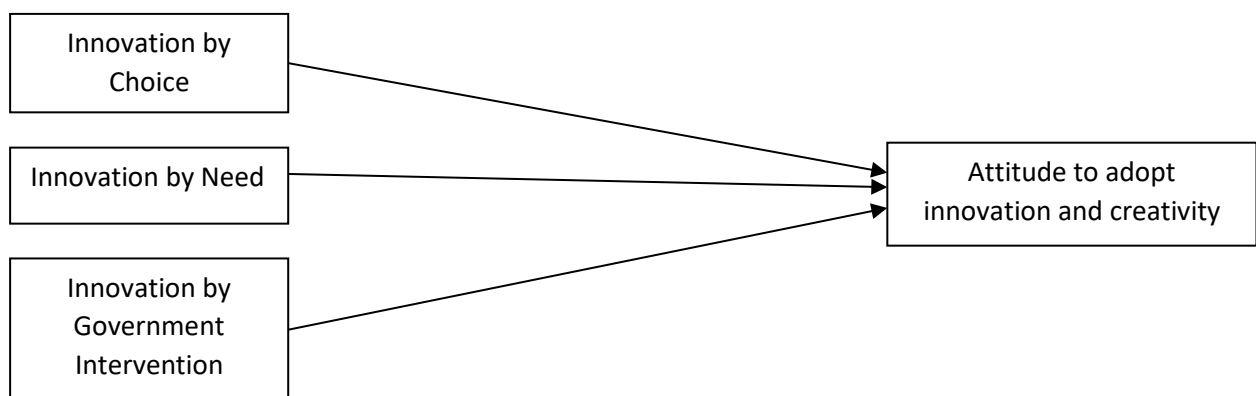
H2: Innovation by need has a significant effect on the perception and attitude of MSMEs to adopt innovation.

III) Innovation and creativity in business is because of Government support or intervention.

Due to the high financial costs involved in embracing innovation coupled with uncertain market scenarios, government intervention in encouraging the use of technological advancement is proving to be a vital aspect for the economic advancement of the country (Chang & Shih, 2004; Link & Siegel, 2007; Nurzal & Hastuti, 2009; Lin & Ho, 2010; Zhang & Liang, 2012; Ackah, Adu, & Ohene-Manu, 2014). The result from the direct government intervention is evident from the success of 'Asian Newly Industrialized Countries (NICs) (Wade, 2003; Appelbaum, Bailey, Berg, Kalleberg, & Bailey, 2020).

H3: Innovation by government invention has a significant effect on the perception and attitude of MSMEs to adopt innovation.

Fig. 1 Author's Proposed Model of study



Demographic Profile

A total of 223 MSMEs were considered for our study. Among them, 93.7 percent were controlled or run by a male owner and the rest 6.3 percent i.e. 14 MSMEs were run by a female entrepreneur.

Table 1 Gender

	Frequency	Percent
Male	209	93.7
Female	14	6.3
Total	223	100.0

(Authors' own)

Our study population consisted of maximum respondents falling in the age category of 41-50 years. 80 respondents i.e. 35.9 percent consisted of the highest group of our study.

Table 2 Age

	Frequency	Percent
Upto 30 Years	9	4.0
31-40 Years	62	27.8
41-50 Years	80	35.9
51-60 Years	64	29.7
Above 60 Years	8	3.6
Total	223	100.0

(Authors' own)

About 78 percent of the respondents have education till higher secondary with 13.5 percent graduate and 9 percent postgraduate.

Table 3 Education

	Frequency	Percent
Primary	53	23.8
Secondary	67	30.0
Higher Secondary	53	23.8
Graduate	30	13.5
Post Graduate	20	9.0
Total	223	100.0

(Authors' own)

Among the total respondents, 132 respondents were from the manufacturing sector and 91 were from the services sector.

Table 4 MSME Category

	Frequency	Percent
Services-Micro	87	39.0
Services-Small	4	1.8
Manufacturing-Micro	116	52.0
Manufacturing-Small	16	7.2
Total	223	100.0

(Authors' own)

A total of 88.3 percent of respondents of our study have shown their yearly revenue in less than 15 lakhs with only 3 respondents showing their revenue in the 31-45 lakhs category.

Table 5 MSME Revenue

	Frequency	Percent
Prefer not to say	95	42.6
Upto 15 Lakhs	102	45.7
16-30 Lakhs	23	10.3
31-45 Lakhs	3	1.3
Total	223	100.0

(Authors' own)

Data Interpretation

Sample Size

The proposed study was measured on a Likert scale. The required sample size of our study was calculated using an a-priori sample size calculator. By adjusting the anticipated effect size (0.10), desired statistical power level (0.95), and probability level as (0.05), the minimum required sample came as 175. As the study used 223 respondents for the analysis, it satisfied the minimum requirements for the sample (Nitzl, 2016). Also, the number of final respondents was decided to be within the “range of a minimum of 1:4 to a maximum of 1:10 concerning the questions” (Hinkin, 1995). As per that calculation, the number of respondents should have been 80 to 200. Our study is having 223 respondents which are way above the standard rate.

3. Results

The calculated Kaiser-Meyer-Olkin (KMO) of our study is 0.786 which is more than the prescribed limit (Hair, Black, Babin, Anderson, & Tatham, 2006).

Table 6 KMO and Bartlett's Test

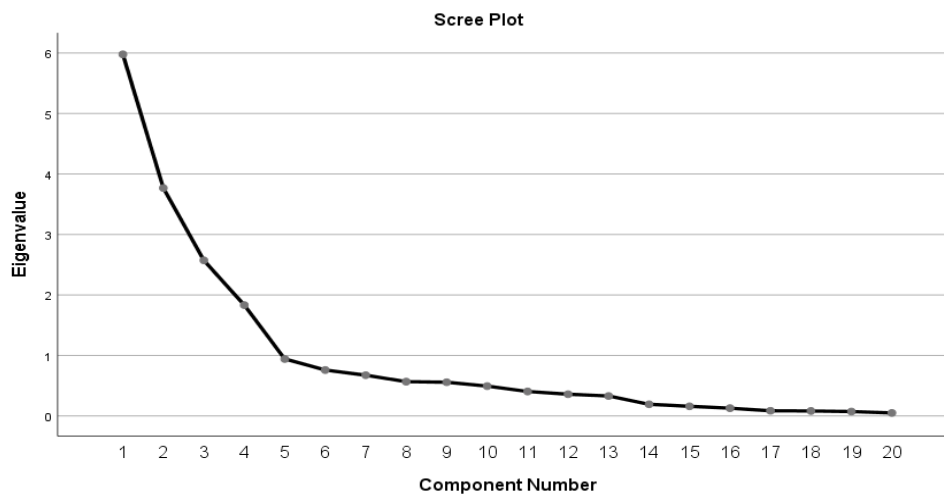
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.786
Bartlett's Test of Sphericity	Approx. Chi-Square	3670.952
	Df	190
	Sig.	.000

(Authors' own)

The Cronbach's Alpha of our study is 0.866 and the variables are 0.858, 0.905, 0.911 and 0.875 respectively which is more than the desired level (Hair, Black, Babin, Anderson, & Tatham, 2006).

The Scree plot also confirms the number of the component to be used for the study as 4 (Eigenvalue more than 1).

Fig. 2 Scree Plot



(Authors' own)

The Total Variance Explained also confirms the number of the extracted component as 4 with a cumulative percentage of 70.745.

Table 7 Total Variance Explained

Component	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	5.977	29.886	29.886	5.977	29.886	29.886	3.729	18.644	18.644
2	3.767	18.836	48.723	3.767	18.836	48.723	3.677	18.385	37.029
3	2.572	12.862	61.585	2.572	12.862	61.585	3.480	17.398	54.427
4	1.832	9.160	70.745	1.832	9.160	70.745	3.264	16.318	70.745

(Authors' own)

PCA shows the 4 components being extracted for our study. The factor loading score of each construct to be considered and accepted for the analysis of the study have a factor loading score of more than 0.5 respecting the established level (Hair, Black, Babin, Anderson, & Tatham, 2006).

Table 8 Rotated Component Matrix

	Components			
	1	2	3	4
Need4	0.853			
Need2	0.844			
Need3	0.839			
Need1	0.829			
Need5	0.803			
Choice1		0.892		
Choice5		0.879		
Choice3		0.861		
Choice2		0.836		
Choice4		0.766		
Atti5			0.914	
Atti2			0.911	
Atti1			0.881	
Atti4			0.609	
Atti3			0.604	
Govt_Sup1				0.867
Govt_Sup2				0.835
Govt_Sup4				0.701
Govt_Sup5				0.694
Govt_Sup3				0.694
Extraction Method: Principal Component Analysis				
Rotation Method: Varimax and Kaisar Normalization				
a. Rotation converged in 5 iterations				

(Authors' own)

The fitness of the data being derived through confirmatory factor analysis (CFA) is at par or above the required level for the validity of the data adequacy.

Table 9: Model Fit Index

Fit Index	Measurement Model	Standard Level
CMIN/DF	2.180	<5.0
Goodness-of-fit index (GFI)	0.869	>0.9
Tucker-Lewis coefficient (TLI)	0.938	>0.95
Comparative fit index (CFI)	0.948	>0.95
Root mean square error of approximation (RMSEA)	0.073	<0.08

(Authors' own)

Composite reliability of the latent factors is more than the limit of 0.6 (Hair, Black, Babin, Anderson, & Tatham, 2006). The convergent validity of the data is established as the calculated

average variance extracted (AVE) is more than 0.5 (Hair, Black, Babin, Anderson, & Tatham, 2006).

Table 10: AVE and Composite Reliability

Latent Variables	AVE	Composite Reliability
Choice	0.61	0.884
Need	0.61	0.879
Govt. Intervention	0.54	0.848
Attitude	0.61	0.879

(Authors' own)

It is evident from CFA and path analysis that H3 i.e Government Intervention is highly significant towards the attitude to adopt innovation and creativity for the business followed by H2 i.e need for innovation for the business. H1 i.e innovation by choice is not significant towards the adoption process as rural MSMEs are not ready to adopt innovation for their business by their own choice.

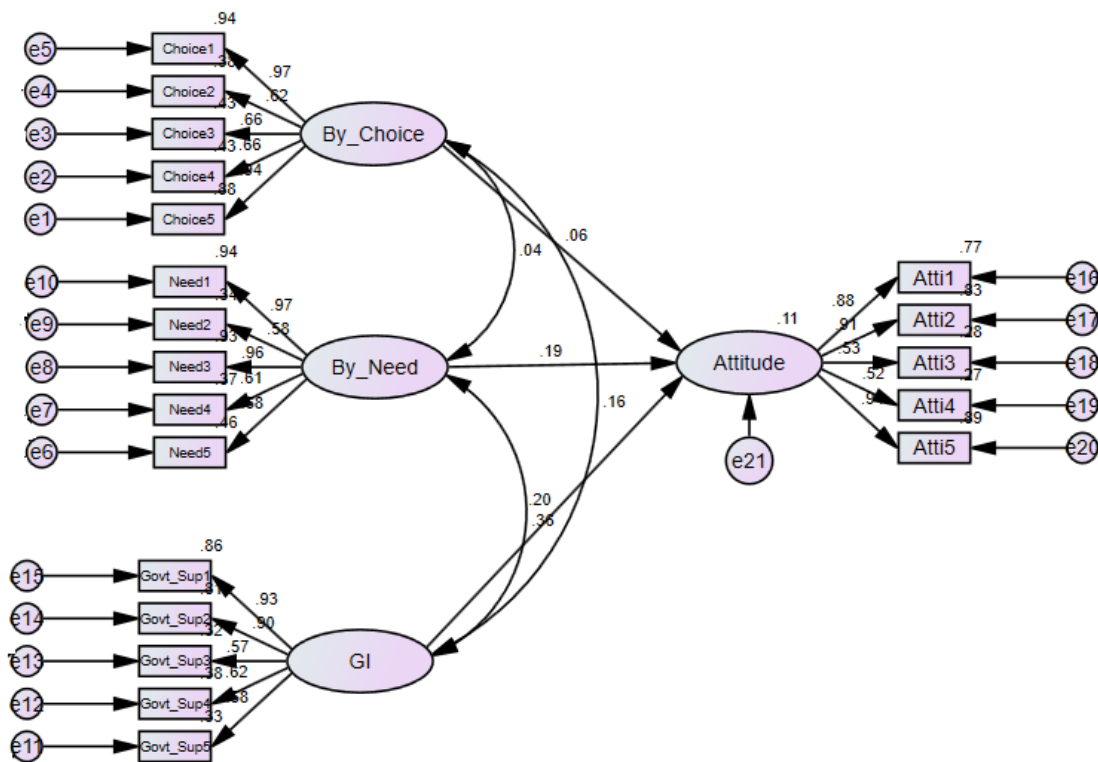
Table 11: Standardized Regression Weights

			Estimate
ATTITUDE	<---	Choice (H1)	0.060
ATTITUDE	<---	Need (H2)	0.186
ATTITUDE	<---	Govt Intervention (H3)	0.204

(Authors' own)

The path analysis extracted from the SEM with the use of Amos is shown below.

Fig. 3: SEM Analysis



(Authors' own)

4. Conclusion

The result of the study related to rural MSMEs differed from many previous studies. There are a limited number of studies highlighting the importance of innovation and creativity in uplifting MSMEs in India, whereas studies on rural MSMEs are rare. Previous studies have not measured the perception of rural MSME owners by taking into account all the three constructs namely choice, need and government intervention. The result of the study related to rural MSMEs shows that rural business owners have a negative perception when ‘innovation by choice’ becomes an option. It is different from the previous studies (Rao, 2007; Okpara, 2007; Kshetri, Palvia, & Dai, 2011; Michaelides, 2016), whereas ‘innovation by need’ as an option is positively significant and goes on par with previous studies (Siu, Lin, Fang, & Liu, 2006; Thompson, 2001; Xia, 2012; de Fretes, 2020). The most important factor in the adoption of innovation and creativity for their business is ‘innovation by government intervention’ as also shown through the result of the analysis and is also evident in previous studies (Chang & Shih, 2004; Link & Siegel, 2007; Nurzal & Hastuti, 2009; Lin & Ho, 2010; Zhang & Liang, 2012; Ackah, Adu, & Ohene-Manu, 2014).

It is evident through the analysis that, innovation as a choice is not the primary option for the rural MSMEs in India. Their decision is driven by the need for it or by the intervention of the government through different schemes and support. Due to the cost involved in using innovation for their business, many MSMEs are hesitant to use technology as their first option. Also, rural MSMEs are more concerned about their consumer's purchasing power. Through innovation, though they can give better products yet the price associated with it may decrease their sales. Almost all rural MSMEs understands the need for innovation for their business and the reach of e-commerce in each corner of the country have increased their interest in them. But, due to lack of expertise and lass of skilled workforce, they are reluctant to take the risks of an investment in either their process or production. The government's push for ‘Made in India’, ‘Make in India’ and ‘Vocal for Local’ can only become a true success when MSMEs produces products or provide innovative services. Though there may be many hurdles and limitations in the usage of technology, yet, businesses, especially in rural areas should find a way to implement things that will not only help them in the present scenario but also in the future. They should be more vocal about their plights in front of the respective governments to get their support in their future endeavour (Yaja & Kumar, 2021). The reach and popularity of e-commerce and its immediate benefits have given MSMEs enough evidence to adopt and be a part of this innovation-friendly digitalized wave (Ahmed & Sur, 2021).

Recommendation

The analysis of the study and the interaction with the respondents during data collection has given a clear picture of the perception of MSMEs towards innovation for their business. Firstly, the government should educate the MSMEs related to the importance of innovation. Secondly, they should give them the assurance of support covering all corners of their business. And thirdly, they should reach the rural MSMEs and uplift their business. To increase the domestic consumption of the country made products as well as to increase the export, the government should support MSMEs in providing financial and intellectual support as well as several tax benefits to increase the use of innovation and creativity in business.

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