

# Demystifying the Impact of E-Commerce on Small & Medium Enterprises (SMEs) in India

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## Abstract

E-commerce is refers to online business or internet commerce. Small and Medium Enterprises (SMEs) are said to be the backbone and engine of India's economy to accelerate growth and economic development because SMEs are one of the important sectors which is having a major contribution to job-creating and poverty reduction by empowering the bottom of the pyramid.

The study attempted to determine the factors/determinants affecting the adoption of e-commerce in SMEs. This paper emphasizes on the analysis of the impact of e-commerce on SMEs in India. The study has been conducted in Delhi, NCR for the period of two years from 2018 to 2019 with a sample size of 200. For the purpose of data analysis, statistical techniques such as Exploratory Factor Analysis, ANOVA have been applied.

The result concludes that government initiatives were found to be the significant factors and advised that the government should implement some policies to ensure that adaptation of E-Commerce in SMEs.

**Keywords:** Consumers, E-commerce, online business, Retailers, Suppliers, SME.

## Introduction

In India has been also observed that after the economic reform and liberalized LPG policy since 1991, the economic growth has steadily accelerated and economy is growing- substantially. This growth has been driven by robust socio-economic policies of the government, an influx in the inflow of foreign currency reserves, increase in domestic income and rise in disposable income and consumption among many other positive attributes. One other major factor that is being touted as the backbone of India's economy is the SME sector. SMEs are said to be the backbone and engine of India's economy to accelerate growth and economic development because SMEs are one of the important sectors which are having a major contribution to job-creating and poverty reduction by empowering the bottom of the pyramid.

SME in India has emerged as one of the core and vibrant sector since last two decades because it contributes around 17 percent to the country's GDP. SMEs are that the establishment that has limited investments in fixed assets and relatively low operational costs and play a crucial role in providing large employment opportunities,

increase industrialization in rural and backward areas and reduces the regional imbalances and income disparities also.

The country's SME sector currently comprises of 1,157 industrial clusters and 6,000 micro-enterprise clusters.

It has been found that approx 28 percent of the Indian SMEs which are online today use E-commerce. SMEs having adopted E-commerce have reported approx 25 % higher revenue growth than their offline counterparts. Due to this exponential growth in e-commerce it affecting SMEs in the economy and it is changing the operating business in India. Nowadays, due to increase in mobile user and growing internet users has a direct correlation to the growth of e-commerce in the country due to which online business is increasing drastically day by day and as per the economic survey 2019-20 it has been expected that the e-commerce is a sector that may cross USD80 billion by 2020 and USD300 billion by 2030. Due to this exponential growth in e-commerce, it affecting SMEs in the economy and it is changing the way small and medium businesses operating in India.

### Literature Review

Arora, A. K., & Rathi, P. (2018) studied the determinants for the adoption of digitalization in SMEs in which they categorized various determinants into internal and external factors in which the researchers were applied the logistic regression and chi-square test to analyze the data and their results indicate the diversification, profitability, level of competition, managerial factors, and technological factors were significant for the adoption of digitalization

Lubna A. Husseina, Ahmad Suhaimi Baharudin (2017) has done the case study research strategy to investigate the phenomenon of low adoption in Jordanian SMEs in-depth and within its real-life context and the findings of the case studies showed that security, online payment, awareness of e-commerce and external IT support are barriers for adaptation of e-commerce adoption.

G. S. Bagale (2014) has tried to measure the impact of organizational factors on e-commerce and its execution in Indian SMEs and explored that organizational factors are having an intense impact on the Indian SME sector.

Jahanshahi, A. A., Khaksar, S. M. S., Paghaleh, M. J., & Pitamber, B. K. (2011) were tried to explore the application of electronic commerce among small and medium enterprises from a business perspective and analyzed the data was derived from a questionnaire by using which regression and ANOVA test and found that electronic commerce applications has a significant and positive impact especially in three sections: marketing, advertising

and customer support system on the business processes of Indian SMEs.

Chong, S., & Pervan, G. (2007) used statistical tools like regression modeling and multiple regressions of map out the factor that directly or indirectly impacts the adaptation of e-commerce in SMEs and finally identified several factors like a relative advantage, types of source of the information, the intensity of communication, the pressure of market competition, non-trading institutions were plays a significant role while the adaptation of e-commerce in SMEs.

Sutanonpaiboon, J., & Pearson, A. M. (2006) were tried to uncover the perceptions of an SME entrepreneur on e-commerce and also examined the various factors which may impact the adaptation of e-commerce and analyzed that there are various factors for the adaptation and non-adaptation of e-commerce and interpreted that organization is not ready to accept e-commerce because of cultural differences, technological advancement, availability of finance, and logistical reasons. Researchers were also found that organizational readiness is having strong influences on implementation of e-commerce.

Seyal, A. H., Awais, M. M., Shamail, S., & Abbas, A. (2004) has predicted the various factors that adopted in e-commerce among SMEs in Pakistan. Researchers have also studied the impact of organizational and environmental factors and found that perceived benefits, task variety, organizational culture and government support are one of the major factors which impact the e-commerce business whereas management support is least important in the adaptation of e-commerce.

Chong, S., & Bauer, C. (2000) has tried to investigate that how any SME can adopt e-commerce to implement it successfully to achieve competitive advantage and found that SMEs has tried to win effectively and efficiently in the global market. Such leverage is often impeded by the resistance and mismanagement of SMEs to adopt e-commerce proficiently.

### Objectives of the Study:

To identifies the major factors and impact E-commerce on SMEs in India.

To examine the variations in the perception of small scale entrepreneurs in relation to demographic variables and factors showing impact of E-Commerce on SMEs in India.

### Hypothesis:

Hypothesis 1: The perception of small scale entrepreneur of different age group does not differ about factors showing the impact of E-Commerce on SMEs in India.

Hypothesis 2: The perception of small scale entrepreneur of different gender group does not differ about factors showing the impact of E-Commerce on SMEs in India.

Hypothesis 3: The perception of small scale entrepreneur on the basis of years of experience in their business does not differ about factors showing impact E-Commerce on SMEs in India.

#### Scope of the Study

The present study is based on SMEs in the NCR region. The study has been conducted over a period of one financial year. From the SMEs, the data has been collected through questionnaires.

#### Data Collection:

The study included both primary data and secondary data in this research. Primary data collected with the help of structured a questionnaire based on a 5 point Likert scale

and secondary data has been retrieved from the research papers published in various journals and magazines.

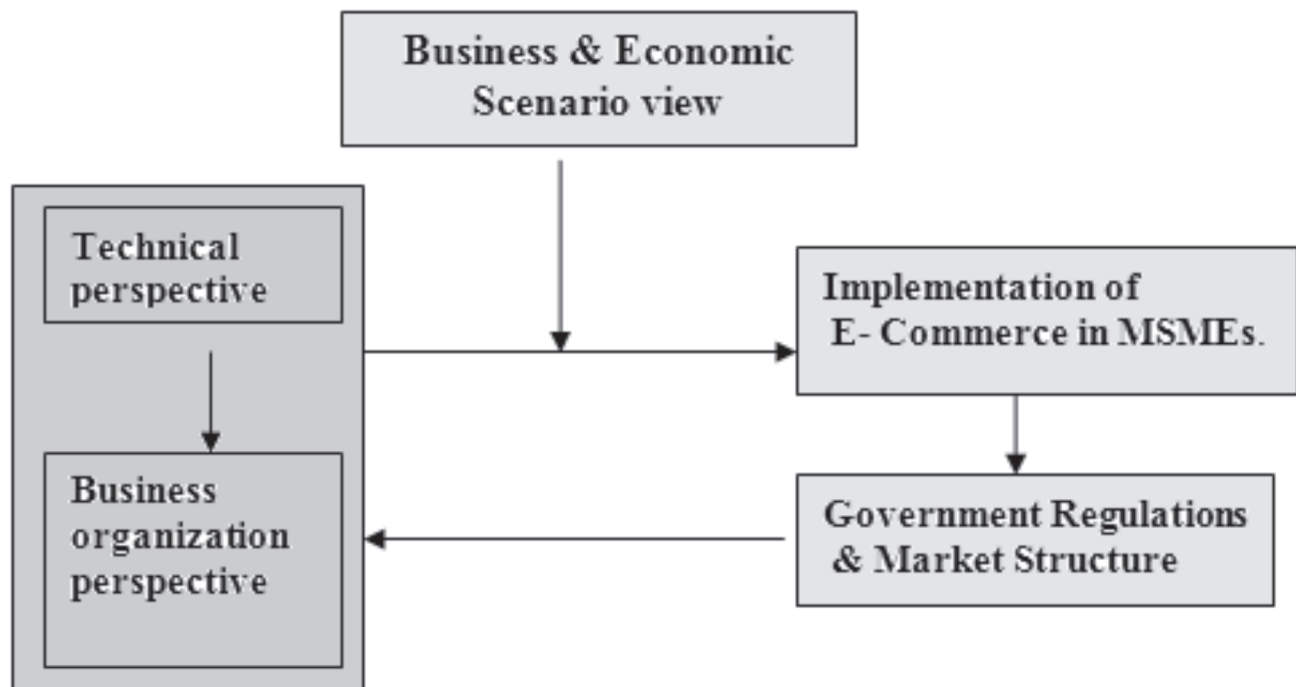
#### Sample Design:

On the basis of non-probability sampling, 150 respondents have been selected for the study. Out of total of 150 questionnaires distributed, total 150 have been collected and 120 are found complete in all aspects to conduct the analysis.

#### Analytical Tools:

Out of a total of 120 complete collected data, analysis of data is carried out by using Exploratory Factor Analysis, ANOVA other statistical tools to interrelate the result. The captured responses were entered, coded, and tabulated in SPSS software.

### Model of Organization & Environment Framework of SMEs.



(Source: Created by the author)

Figure-1: Model of Organization & Environment framework of SMEs

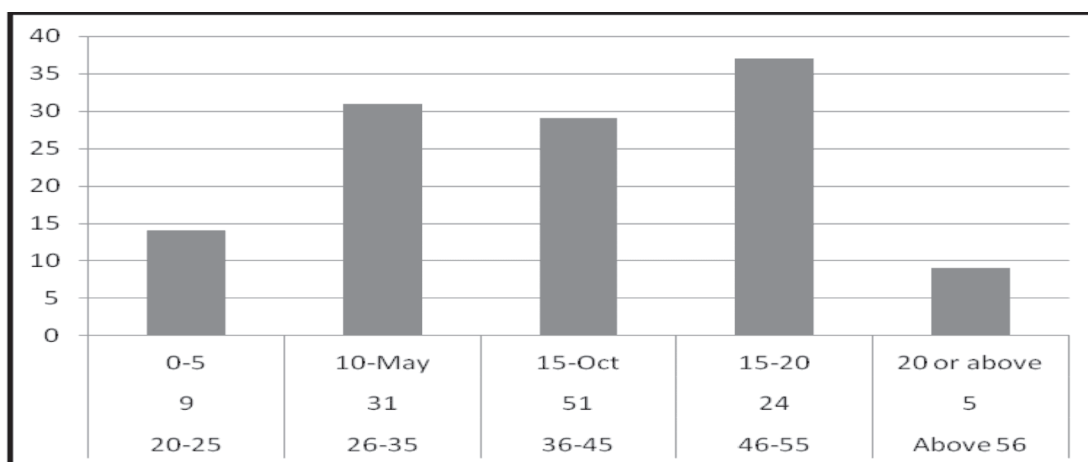
### Data Analysis and Interpretation

The data analysis is done on the basis of collected samples from the entire population based on the survey and respondents are chosen from the various demographic

profiles on the basis of age, sex, and duration of their business. Simple descriptive statistics methods are used to characterize and summarized the respondents' profiles. The demographic profile of the respondents has been presented in Table 1.

**Table 1: Respondent's(Entrepreneurs)Profile**

Variable	Description	No of Respondents
Age	20-25	09
	26-35	31
	36-45	51
	46-55	24
	Above 56	05
Gender	Male	98
	Female	22
Duration of Business	0-5	14
	5-10	31
	10-15	29
	15-20	37
	20 or above	09



**Figure 2: Mean Relationship between Age and Duration of the business.**

**Source: Created by the author**

In this study number of factors have been identified which are influencing e-commerce on SMEs in India. These factors are known as socio-economic factors. These factors include variables like Age, gender, and duration of business.

### Factor Showing Impact Of E-commerce On Smes In India

Total of 17 items are selected and has been used for the purpose of the study the impact of e-commerce on medium, small and micro enterprise in India as shown in table 2.

**Table 2: Items of impact of e- commerce on MSMEs in India**

Code	Description
A1	SMEs offer their product at a low price compare to other industries.
A2	Technology of big producers is better compared to SMEs and a strong R&D base.
A3	SMEs has a low-profit margin as compared to big producers.
A4	SMEs adopts innovative strategies to gain customer as compared to big players.
A5	SMEs offer quality and value-based products as compared to big producers.
A6	SMEs have participated equally competitive with big producers.
A7	SME creates more market opportunities as compared to big producers.
A8	Big Players have affected customer base of SMEs.
A9	Emergence of SMEs is a threat to big producers.
A10	Purchasing goods from big producers save time and money of customers.
A11	SMEs are forced to keep the lower prices as a result of competition.
A12	Big producers offer innovative products.
A13	Big producers have a bunch of product portfolios.
A14	Big producers offer more varieties of the product as compared SMEs.
A15	Big producers offer customized products.
A16	Worker at big producers is more intellectual and tech-savvy.
A17	Demand of SMEs has increased the pressure of big producers.

**(Source: Framed on the basis of observations of Authors)**

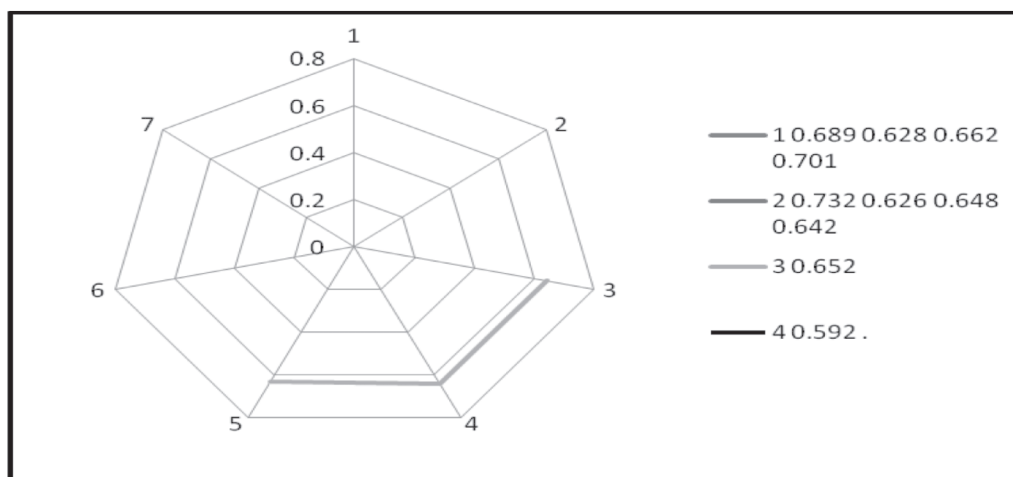
To identify the main factors, the factor analysis has been applied to analyze and interpret the responses of 120 respondents corresponding to 17 items. Factors have been extracted considering the Eigen value of each factor to be more than one. The variable has a loading of at least 0.4 has been considered for the purpose of further study and analysis. As a result one variable (Worker at big producers

is more intellectual and tech-savvy) has been deleted due to its loading value of  $< 0.5$ . The remaining 16 variables are yielded for the four-factor structure. The varimax rotation method has been applied to the external factors. The variable constituents of all extracted factors along with their factor loading have been presented in table 3.

**Table 3: Rotated Component Matrixes**

Items	Component			
	1	2	3	4
SMEs offer their product at a low price compare to other industries.		.732		
Technology of big producers is better compared to SMEs and a strong R&D base.				.592
SMEs has a low-profit margin as compared to big producers.		.626		
SMEs adopt innovative strategies to gain customer as compared to big players.	.689			
SMEs offer quality and value-based products as compared to big producers.		.648		
SMEs have participated equally competitive with big producers.	.628			
SME creates more market opportunities as compared to big producers.	.662			
Big Players have affected customer base of SMEs.			.652	
Emergence of SMEs is a threat to big producers.	.701			
Purchasing goods from big producers save time and money of customers.		.642		.
SMEs are forced to keep the lower prices as a result of competition.	.564			
Big producers offer innovative products.				.598
Big producers have a bunch of product portfolios.			.645	
Big producers offer more varieties of the product as compared SMEs.			.641	
Big producers offer customized products.			.631	
Worker at big producers is more intellectual and tech-savvy.				.337
Demand of SMEs has increased the pressure of big producers.			.758	

(Source: Created by authors on the basis of analysis)

**Figure-3: Relationship between producers and SMEs Demand**

(Source: Created by the Author based on Analysis)

As per the above description, this can be clearly notified that the demand of small enterprises are increasing day by day as large number of producers and SME innovation has direct co-relation.

**This effect the demand even in the same component of**

**variables.**

With the help of the above Rotated Component Matrixes Aggregate (add or average) the items that define (have high loadings for) each component and use this composite variable in further research.

**Table 4.**  
**FACTOR LOADING BASED ON ROTATIONAL MATRIX**

S. No.	Factors	Item	Loading
1	Level of Competition	SMEs adopt innovative strategies to gain customer as compared to big players.	.689
		SMEs have participated equally competitive with big producers.	.628
		SME creates more market opportunities as compared to big producers.	.662
		Emergence of SMEs is a threat to big producers.	.701
		SMEs are forced to keep the lower prices as a result of competition.	.564
2	Quality based Pricing Policy	SMEs offer their product at a low price compare to other industries.	.732
		SMEs have a low-profit margin as compared to big producers.	.626
		SMEs offer quality and value-based products as compared to big producers.	.648
		Purchasing goods from big producers save time and money of customers.	.642
3	Demand & Variety of Product	Big Players has affected customer base of SMEs	.652
		Big producers has bunch of product portfolio.	.645
		Big producers offer more varieties of the product as compared SMEs.	.641
		Demand of SMEs has increased the pressure of big producers	.758
		Big producers offer customized products.	.631
4	R&D and Innovations	Technology of big producers is better compared to SMEs and a strong R&D base	.592
		Big producers offers innovative products	.598
		Worker at big producers is more intellectual and tech-savvy.	.337

After taking into consideration the factor loading of variables against different factors, four factors have been explored. On the basis of the study of literature, these

factors have been named as Level of competition; Quality based Pricing Policy, Demand & Variety of Product and R&D and Innovations.



**Table 5 : The Frequency Analysis**

Frequency	Percent of satisfaction	Frequency	Percent of satisfaction
0.689	0.0031	0.652	0.0035
0.628	0.0037	0.645	0.0036
0.662	0.0034	0.641	0.0036
0.701	0.0030	0.758	0.0024
0.564	0.0044	0.631	0.0037
0.732	0.0027	0.592	0.0041
0.626	0.0037	0.598	0.0040
0.648	0.0035	0.337	0.0066
0.642	0.0036		
<p>The frequency analysis solve the equation of judging satisfaction level of the new business holder as per the schemes developed by government of India. With this table, we can justify that most of person are facing problems while gathering all the feasible requirement only one part of economy is in comfortable zone it could be of already maintain resources at their end.</p>			

**Level of Competition:**

A total of five items loaded on this factor, which was the maximum number of items on any factor in this study. The factor included following items: SMEs adopts innovative strategies to gain customer as compared to big players, SMEs have participated equally competitive with big producers, SME creates more market opportunities as compared to big producers, Emergence of SMEs is a threat for big producers, SMEs are forced to keep the lower prices as a result of competition.

**Quality based Pricing Policy**

A total of four items loaded on this factor, which was the maximum number of items on any factor in this study. The factor included following items: SMEs offer their product at low price compare to other industries, SMEs has a low-

profit margin as compared to big producers, SMEs offer quality and value-based products as compared to big producers, purchasing goods from big producers' save time and money for customers.

**Demand & Variety of Product**

Total of five items loaded on this factor, which was the maximum number of items on any factor in this study. The factor included following items: Big Players has affected the customer base of SMEs, Big producers have a bunch of product portfolio, Big producers offer more varieties of the product as compared SMEs, Demand of SMEs has increased the the pressure of big producers, big producers offer customized products as per latest technology.

**R&D and Innovations**

Total of three items loaded on this factor, which was the



maximum number of items on any factor in this study. The factor included following items: Technology of big producers is better compared to SMEs and strong R&D base, big producers' offers innovative products. A worker at big producers is more intellectual and tech-savvy.

#### **Comparison Between Perceptions of Different Entrepreneurs:**

To study the difference in the perception of different

retailers about factors showing the impact of E-Commerce on SMEs, the following hypotheses have been formulated.

#### **Factors Showing Impact Of E-commerce On Smes In India**

H1: The perception of small scale entrepreneur of different age group does not differ about factors showing the impact of E-Commerce on SMEs in India.

**Table 6**  
**Perception of Entrepreneur of Different Age Group**

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Age	<b>F1</b> Level of Competition	3.556	4	.801	1.193	.321
	<b>F2</b> Quality based Pricing Policy	2.261	4	.596	1.124	.311
	<b>F3</b> Demand & Variety of Product	4.959	4	1.562	1.897	.086
	<b>F4</b> R&D and Innovations	17.361	4	3.997	5.987	.000

As per table 6, the results indicate that the significance value of Level of Competition, Quality-based Pricing Policy, Demand for product and Variety of Products are higher than 0.05 whereas the value for R&D and Innovations is less than 0.05. It indicates that there is no significant difference in the perception of the entrepreneur of different age group about factors showing the impact of e-commerce on SMEs such as Level of Competition; Quality based Pricing Policy, Demand for a product, and a variety of Products. So, the hypothesis that the perception of small scale entrepreneur of different age group does not differ about factors showing the impact of E-Commerce on SMEs in India do not differ about factors such as Level of Competition, Quality based Pricing Policy, Demand for product and Variety of Products showing the impact of e-

commerce on SMEs in India whereas it is significant the difference in perception of entrepreneurs of different age groups about factor R&D and innovations. So, the hypothesis that the perception of an entrepreneur of different age groups does not differ about factors such as R&D and Innovations showing the impact of e-commerce on SMEs is rejected. Entrepreneur up to 35 years agree that SMEs is of a better quality of R&D and Innovations as compared small entrepreneurs whereas entrepreneurs above 35 years are neutral.

**Hypothesis 2: The perception of small scale entrepreneur of different gender, the group does not differ about factors showing the impact of an E-Commerce on SMEs in India.**

**Table 7**  
**Perception of Entrepreneur of Different Gender Group**

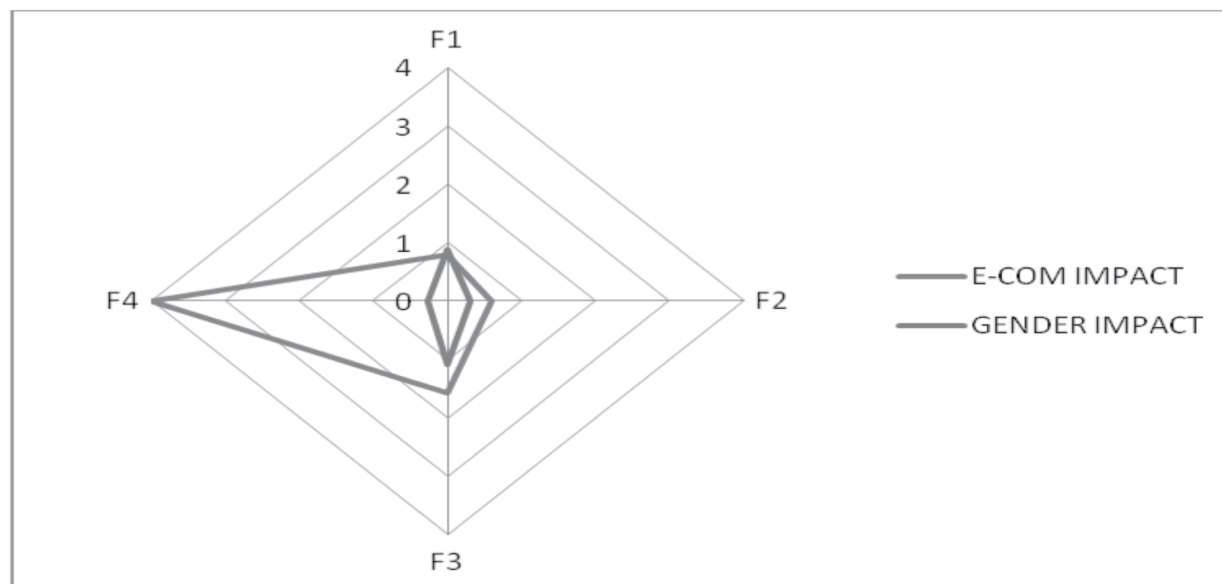
Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Gender	<b>F1</b> Level of Competition	.891	1	.891	1.611	.225
	<b>F2</b> Quality based Pricing Policy	.311	1	.311	.554	.354
	<b>F3</b> Demand & Variety of Product	1.091	1	1.091	1.565	.204
	<b>F4</b> R&D and Innovations	.269	1	.269	.358	.564

As per table 7, the results indicate that the significance value of Level of Competition, Quality based Pricing Policy, Demand for product and Variety of Products are higher than 0.05 whereas the value for R&D and Innovations is less than 0.05.

It indicates that there is no significant difference in the perception of the entrepreneur of gender group about factors showing the impact of an e-commerce on SMEs such as Level of Competition; Quality based Pricing Policy, Demand for product and Variety of Products. So,

the hypothesis that the perception of small scale entrepreneur of a different gender does not differ about factors showing the impact of E-Commerce on SMEs in India does not differ about factors such as Level of Competition, Quality-based Pricing Policy, Demand for product and Variety of Products showing the impact of e-commerce on SMEs in India, whereas there is a significant difference in the perception of an entrepreneur of different age groups about factor R&D and innovations is accepted.

**Figure4: Dependent Variable Analysis**



**(Source: Created by Author on the basis of analysis)**

In our study, we have analyzed F1, F2, F3 and F4 as the dependent analysis with the help of diagram we calculate the factor co-relation of all four variable, as it is clearly mentioned all the variable are co-related with each other hence we can say that if we increase more technological-based innovation for SME than we can achieve a better result by the second variable we can analyze that there is

no gender discrimination among gender but our above study had relieved that the younger age group between twenty to thirty are more result oriented as other.

Hypothesis 3: The perception of small scale entrepreneur on the basis of years of experience in their business does not differ about factors showing impact E-Commerce on SMEs in India.

**Table 8**  
**Perception of entrepreneur on the basis of years of experience in their business**

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
<b>Duration of Business</b>	F1	2.929	4	.732	1.069	.375
	F2	1.039	4	.260	.490	.743
	F3	15.661	4	3.915	5.193	.001
	F4	3.049	4	.762	1.000	.410

As per table 8, the results indicate that the significance value of the Level of Competition, Quality-based Pricing Policy, Demand for product and Variety of Products are higher than 0.05 whereas the value for R&D and Innovations is less than 0.05.

It indicates that there is no significant difference in the perception of entrepreneur of having different years of experience in their business about factors showing the impact of e-commerce on SMEs such as Level of Competition; Quality based Pricing Policy, Demand for a product, and Variety of Products. So, the hypothesis that the perception of small scale entrepreneur of different years of experience in their business does not differ about factors showing impact of E-Commerce on SMEs in India does not differ about factors such as Level of Competition, Quality-based Pricing Policy, Demand for product and Variety of Products showing the impact of e-commerce on SMEs in India whereas there is a significant difference in perception

of an entrepreneur of different age group about factor R&D and innovations are accepted.

### Hypothesis Testing

As per the given three hypotheses the following result is accumulated

The  $X^2$  value for level for completion at gender basis is 6.095 and the p-value is 0.192, hence it is concluded that gender-biased is unfair and entrepreneur dissatisfaction at the time of assessment for rescheduling on gender basis

The  $X^2$  value for providing assistance as per the government guidelines to the duration of business are 5.19 and the p-value is 0.381, hence it is concluded that there is no time limit on SME any age group member can take part

The  $X^2$  value for small scale entrepreneur on the basis of years of experience in their business does not differ about

factors showing the impact An E-Commerce on SMEs in India is 9.905 and the p-value is 0.042, hence it is concluded that e highly satisfied with their service.

By above hypothesis testing we have conceded that on the basis of gender people doesn't face problem to establish their business even type of research and development shows positive impact on SME

Level of completion and quality of product are directly correlated to each other hence if entrepreneur innovates something new than it would be clearly absorb in society .

### Conclusion

E-Commerce is a two-edged weapon that has both pros and cons in any economy. The government should take some steps so that E-Commerce does not have any negative impact on Small and Medium Enterprises in India. The government should implement some policies to ensure that e-commerce turns to be beneficial not only for the economy as a whole but also for customers and retailers in India.

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