

# A Study on Factors Affecting E-Commerce Adoption by SME's in Delhi

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**Abstract**—The advent of e-commerce in the industry worldwide is providing enormous opportunities for the large scale as well as small scale firms which include further expansion of their customer base, reshaping the relationships with customers as well as suppliers, etc. This study focuses on identifying the specific factors that hinder the adoption of e-commerce technology by SMEs in Delhi. It identifies the expected barriers faced by various SME's in adoption of e-commerce.

## 1. INTRODUCTION

It was in the year 1995 when internet took a new form in the trading and business world in India. This new commercialization form was called e-commerce. IRCTC was the first company to introduce e-commerce to India. This introduction was proved to be the boon to India. The acceptance of the e-commerce technology by Indians influenced other industries/ business players to enter into e-commercialization and increase their profits as well as give a new form to their existence. Prior studies have shown that several factors influence the adoption of e-commerce by SME's. There are about 30 barriers identified from various studies. SME's are increasingly using the internet for various purposes but on an average they have a limited understanding of the much greater benefits they can reap out of the e-commerce technology. This study emphasis on identifying and explaining the various factors that influence the adoption of e-commerce by Delhi SME's.

## 2. LITERATURE REVIEW

It has been observed from the previous studies that there is a difference in the adoption of E-Commerce technology by developed and developing countries as well as by large and small scale industries. Studies reveal the various e-commerce technology adoption barriers a medium and small scale firm in a developing country can face. The table below explains the various barriers identified from various literature study in a chronological order.

**Table 1: Review of barriers in the adoption of E-Commerce technology**

S. No.	Author	Barrier
1.	[5].	<ul style="list-style-type: none"> <li>• Technical</li> <li>• Organizational</li> <li>• Financial</li> <li>• Behavioral</li> </ul>
2.	[2].	<ul style="list-style-type: none"> <li>• Internal Environment</li> <li>- Organizational Culture</li> <li>- Financial Resources</li> <li>- Management Support</li> <li>- Appetite for risk</li> <li>- Skilled IT personnel</li> <li>• External Environment</li> <li>- Infrastructure</li> <li>- Government Policies and Regulations</li> </ul>
3.	[3].	<ul style="list-style-type: none"> <li>• Service Reliability</li> <li>• Internet Connection failures</li> <li>• Lack of user support.</li> <li>• Difficulty using website</li> <li>• Security and privacy issues</li> <li>• Supplier problem</li> <li>• High cost</li> <li>• Lack of knowledge</li> <li>• Lack of understanding</li> <li>• High maintenance costs</li> </ul>
4.	[8].	<ul style="list-style-type: none"> <li>• Skills and education</li> <li>• Government Policy</li> <li>• Cost of acquiring</li> <li>• Cost of maintenance</li> <li>• Owner's Attitude</li> </ul>
5.	[6].	<ul style="list-style-type: none"> <li>• Perceived benefits</li> <li>• Organizational readiness</li> <li>• External Pressure</li> <li>• No. of internet users</li> <li>• perceived cost</li> <li>• lack of awareness</li> <li>• online security concern</li> </ul>

6.	[4].	<ul style="list-style-type: none"> <li>External Barriers</li> <li>- Owner/ Manager Perspective</li> <li>- Firm Characteristics</li> <li>- Return and cost Investments</li> <li>Internal Barriers</li> <li>- Infrastructure</li> <li>- Social and cultural</li> <li>- Political</li> <li>- Legal</li> <li>- Regulatory</li> </ul>
7.	[10].	<ul style="list-style-type: none"> <li>Top management support and insight,</li> <li>Keeping pace with IT</li> <li>Customer demands.</li> </ul>
8.	[7].	<ul style="list-style-type: none"> <li>Technical Barriers</li> <li>Legal and regulatory Barriers</li> <li>Internet security</li> <li>Use of web portals</li> <li>Internet banking is limited</li> </ul>
9.	[9].	<ul style="list-style-type: none"> <li>Demand Side</li> <li>Supply Side</li> <li>Lack of understanding in service providers</li> <li>Most of the firms still follow traditional method of doing business</li> <li>There is lack of readiness in business partners.</li> </ul>
10.	[1].	<ul style="list-style-type: none"> <li>Organizational Context</li> <li>Technological Context</li> <li>Environmental Context</li> </ul>

knowledgeable and is far more responsible to take decisions. For the present study, a sample of 220 Delhi based SME's was randomly selected from retail and manufacturing sectors. The survey was conducted for almost a month i.e. May 2, 2015 to May 30, 2015.

#### 4. RESULTS AND DISCUSSION

Analysis of Section 1: This section indicates the extent of usage of internet resources by the 72 SME's in Delhi. As the graph indicates that the use of facebook by organizations for reaching the customers is maximum (52%) as compared to other resources.

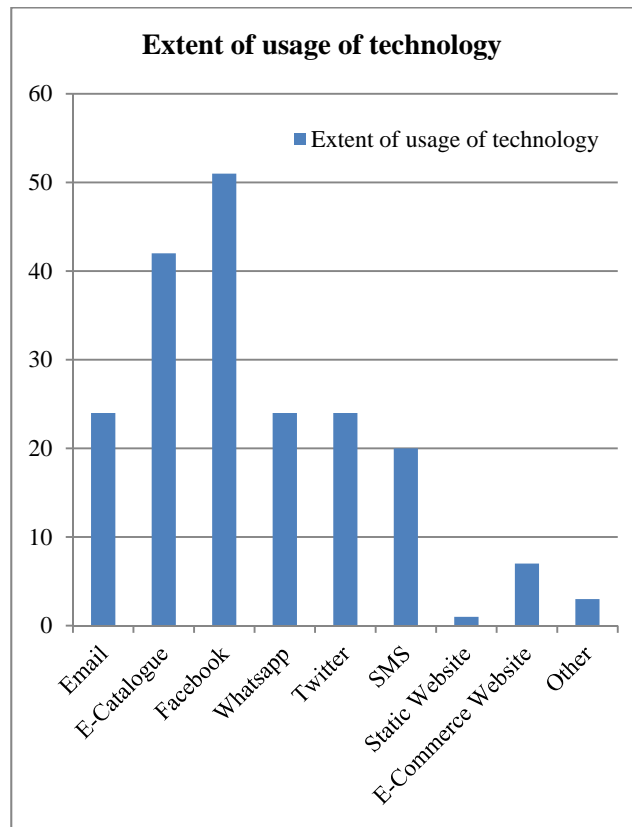


Fig. 1: Extent of usage of internet resources

#### 3. RESEARCH METHODOLOGY

The objective of this research paper is to identify the contextual factors that may influence the adoption of e-commerce among SME's in Delhi. For this study an online questionnaire is been used. The questionnaire designed for this research contains three sections. Data was collected by sending out questionnaire electronically through facebook and e-mail. Descriptive statistics and Chi square test was used to analyze using SPSS. Participants of the online survey were Delhi based SME's. Commerce and Chambers database, facebook was chosen to draw the samples. The SME's selected were based on certain criteria. The criterion was that the selected organization must have adopted at least one of the many internet usage services available for the purpose of business. The forms of internet should be one among the following: e-mail, facebook, twitter, static website, e-commerce website. The questionnaire was sent to the respondent who was preferably the owner manager or CEO of the organization. These criteria ensured that the respondents belong to the higher level in hierarchy. This in turn assured the response's validity as the participant is expected to be more

Analysis of Section 2: This section ranks. problem faced by the firms to adopt e-commerce technology. The analysis indicates that the greatest challenge faced by the organization is the high level of cyber crime or security issues.

Table 2: Ranking of the difficulties faced by the firms Analysis of Section III: This section tests the various hypothesis.

Barriers	Responses	Ranking
1. Delhi does not have the stable power supply to support E-commerce.	50	10
2. The telecommunication facilities are inadequate for successful use of E-commerce.	51	8
3. Lack of government direction on E-commerce.	49	11
4. Available E-commerce websites is not suitable for our product as they have to customize.	39	13

5. We do not trust transactions.	51	8
6. It is easy to market the product in Facebook/ Whatsapp than a personal website.	55	3
7. E-Commerce websites are difficult to use.	54	4
8. It is difficult to obtain payment using E-commerce.	57	2
9. There is high level of cyber-crime to use E-commerce.	59	1
10. Adoption of E-Commerce website is expensive.	53	6
11. There is involvement cost of training personnel to handle E-commerce.	52	7
12. It is difficult to arrange for delivery with on-line purchases.	54	4
13. The existing procedure is difficult to change.	44	12
14. There is no clear benefits from e-commerce adoption	38	14

Table 3: Summary of Test of Hypothesis.

	Hypothesis	p-value	p>.05	Interpretation
Investment by the organization and the factors	Ho: There is no relationship between the investment by the company and the organizational factors. H1: There is a relationship between the investment by the company and the organizational factors.	.035	No	Investment by the company has relationship with the organizational factors which hinder the adoption of e-commerce technology in the business process. In various researches it has been found that low investments company tends to save expenses in training costs which is mandatory to operate a fully fledged e-commerce website.
	Ho: There is no relationship between the investment by the company and the technological factors. H1: There is a relationship between the investment by the company and the technological factors.	.018	No	Hence, investment by the company poses some relationship with the technological factors. Researcher notes that as the firm grow high investment company include the latest technologies in their business process. But same is not the case with the small investment companies. Most of the respondents responded that adoption of e-commerce technology is expensive.
	Ho: There is no relationship between the investment by the company and the environmental factors. H1: There is a relationship between the investment by the company and the environmental factors.	.511	No	Hence, investment by the company has no relation with the environmental factors.
Age of the Company and the factors	Ho: There is no relationship between the age of the company and the organizational factors. H1: There is a relationship between the age of the company and the organizational factors.	.000	No	Hence, there is a relationship between the age of the company and the organizational factors. In previous studies it has been observed that the more experience a firm is the less is the organizational factors that affect the adoption of technology
	Ho: There is no relationship between the age of the company and the technological factors. H1: There is a relationship between the age of the company and the technological factors.	.020	No	Hence, there exists a relationship between the age of the company and the technological factor. It has been observed that the greater the age of the company the lesser is the challenge faced by the organization in terms of technology.

## 5. CONCLUSION

Small and medium business has proved to be a key driver of economic growth by increasing employment opportunities in the nation. SME's can reap large benefits of upcoming technologies like e-commerce. This is because e-commerce adds value in the business process as it helps to face the various challenges like geography reach, logistics. In addition to this SME's can also add efficiency gains. Besides these advantages most of the SME's are facing challenges. The challenges identified in the previous studies were grouped into three broad factors namely- environmental, organizational and technological. Also, the study provided the relationship between the various factors and the investment by the

company and between the various factors and the age of the company. Several strategies and support are coming into existence for easy adoption of e-commerce by SME's. The support includes Digital India and Vikas initiatives project started by Government of India. E-commerce is said to be an extension which is obliged to pave way for the new India or Digital India. Adoption of technology by SME's is just a part of the story. Of much greater importance is the use made out of it. SME's are increasingly using the internet for various purposes but on an average they have a limited understanding of the much greater benefits they can reap out of the e-commerce technology.

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