



AIUB

Office of
Research and Publications

Current Status of E-Commerce Adoption by SMEs in Bangladesh: An Empirical Study

Dr. MM Obaidul Islam, AKM Kamrul Haque, Dr. Bikash Barua

AIUB Journal of Business and Economics

The article is an extended version of the paper presented in the 2nd AIUB International Conference on Business and Management-2021
Volume: 18 Issue Number: 1 ISSN (Online): 2706-7076

December 2021

Citation

Islam, M.M.O., Haque, A.K.M.K., Barua, B. Current Status of E-Commerce Adoption by SMEs in Bangladesh: An Empirical Study. (2021) AIUB Journal of Business and Economics, 18 (1), 75-98.



Copyright © 2021

American International University-Bangladesh

Current Status of E-Commerce Adoption by SMEs in Bangladesh: An Empirical Study

*Dr. MM Obaidul Islam**
Associate Professor
Faculty of Business Administration
American International University-Bangladesh

AKM Kamrul Haque
Sr. Asst. Professor
Faculty of Business Administration
American International University – Bangladesh

Dr. Bikash Barua
Associate Professor
Department of Business Administration
Prime University, Bangladesh

The article is an extended version of the paper presented in the 2nd AIUB International Conference on Business and Management-2021

Corresponding author*:
e-mail: obaidul@aiub.edu

Current Status of E-Commerce Adoption by SMEs in Bangladesh: An Empirical Study

Abstract

This empirical study aims to understand the current status of e-commerce adoption by SMEs in Bangladesh. The survey method is used to collect the data. The sample size for this study is 326 SMEs. The descriptive statistics and crosstabs are used in this study for data analysis. The statistical software Minitab 16 is used to analyze the data. The descriptive statistics indicates that the ICT adoption by SMEs in Bangladesh in general is progressing. In terms of overall ICT adoption, more than two third of SMEs in the country have adopted PC or laptop and internet. The e-commerce adoption (measured by website adoption) by SMEs in the country is in a moderate state. More than half of sampled SMEs have adopted e-commerce (web sites ownership). However, further data analysis indicates like other developing countries, among the adopters group majority of them use their web sites only for promotion and marketing purposes and in some extents provide the customer support & services and options for online order processing. Usage of advanced e-commerce applications are almost absent. We suggest, with relevant support, SMEs with low capital, can capitalize the “new normal” business environment during Covid-19 pandemic and likely to adopt more e-commerce. Without any doubt we believe the sharp rise in growth of SMEs if they can integrate adopt advanced e-commerce tools with their business activities during this unpredictable future of Covid-19 pandemic. The empirical findings of this study will fill up the existing gap in the theoretical knowledge and will help researchers, practitioners, and policy makers to better understand the current trend of e-commerce usage among the SMEs in the country and act accordingly. Policy implications of this research and direction for the future research are also discussed.

Keywords: E-Commerce Adoption, Web Site, SMEs, Bangladesh

1. Introduction and Background of the Study

Bangladesh is a densely populated country situated in the South East Asia. This study empirically investigates the current status of e-commerce adoption by small and medium enterprises (SMEs) in Bangladesh. Like many countries around the world, SMEs in Bangladesh play a very important role in the economic development in the country. According to Rashid (2012), SMEs are the single largest industrial sector of the Bangladesh economy. “SMEs are renowned for vehicles of economic growth, labor intensive, poverty alleviation, enhancing the standard of life” (Rashid, 2012). In terms of statistics, the country's SME sector contributes about 25 percent to the country's total GDP (Rashid, 2012). Further, it is estimated that 95 percent of the total establishments in the country is SMEs (Radhid, 2012). In different statistics, SMEs including micro enterprises (MSMEs) comprise over 99 per cent of all industrial units in the country (Zaman & Islam, 2011).

On the other hand, e-commerce created an opportunity for SMEs to compete with large organizations as well as access in the global market. The importance of ICT for SMEs in Bangladesh also has recognized by “Digital Bangladesh Vision 2021” slogan. According to Karim, (2010), one of the top most priorities of “Digital Bangladesh Vision 2021” strategy is “using ICTs to promote access to markets by the disadvantaged producers and SMEs”. Further, SMEs among others are considered important users for the “ICT Roadmap of the Government of Bangladesh” (Ministry of Science and ICT, 2008). SMEs can use e-commerce as a business tool to compete in the global market and ultimately bring economic benefits to the country. For instance, “the SMEs could improve the trade balance with the increase of exports and decrease of imports” (Huy et al., 2012) in Bangladesh.

However, literature review shows that though numerous studies have been undertaken and carried out on this issue from other countries perspective. Research on e-commerce related issues in Bangladesh is very imminent and fragmented. A very few attempts have been undertaken to carry out e-commerce related research in the country. According to the literature review and to the best of my knowledge, no extensive or remarkable attempts have been made in studying the current status of e-commerce adoption by SMEs from Bangladesh perspective. There are few studies (e.g. Jamil & Ahmad, 2009, Bhoumik et al., 2012, Hossain et al., 2013, Harun and Choyti, 2019) have been undertaken to understand the current status of e-commerce in

Bangladesh in general. However, most of them are conceptual in nature and studied from customers point of view. They did not produce any statistics in relation to e-commerce adoption. Hence, there is a lack of knowledge about the usage of e-commerce in the context of SMEs in Bangladesh from which the SMEs of Bangladesh can learn. Therefore, this study aims to understand the current status of e-commerce adoption by SMEs in Bangladesh. This study will contribute to fill up the knowledge gap in the domain and add the value to the literature. It could provide insights regarding the current situation of e-commerce usage among SMEs in the country.

2. Literature Review

2.1 E-Commerce

Conceptually, at the very beginning, people were thinking whether the traditional way of doing business can be transformed into a new way of doing business through internet. Hence, at the beginning people started to use e-commerce as a business tool for information search and sharing. Consequently, people started to think about e-commerce as a process of buying and selling goods and services over the internet. However, literature review shows that different scholars defined e-commerce in different way. Some definitions are narrower (e.g. Huy et al., 2012) than others (e.g. Pratima, 2011). Further, scholars defined e-commerce in terms of business functions or its activities and ICT devices they use for business functions or activities. These business activities include, online customer service, collaboration within the functional areas of organization and co-ordination & transaction with business partners over the private networks. Furthermore, from developing countries perspective, a more widely and issue specific definition of e-commerce is provided by Pratima (2011). To study the e-commerce adoption in 37 developing countries, Pratima (2011) defined e-commerce as

“Online product and information transfers and transactions facilitated by the internet or any value-added electronic network to include participation by businesses, consumers and/or the government. E-commerce services to include online search, online/e-procurement, online auctions and bidding, online government and non-governmental activities, online health information, online education, online product sales, online services such as social networks, file sharing, instant messaging, downloads and browsing”.

In addition, scholars (e.g. Pratima, 2011) defined e-commerce regardless of devices, connectivity and purpose: PCs, laptops, mobile handheld devices, personal digital assistance (PDA), cell phones, smart phones, palm-pads, wired or wireless, narrowband or broadband or many similar devices are used for business or pleasures. This means, e-commerce covers wider range of activities whether commercial or personal regardless of users, purposes and tools. Though, all of these definitions differ in some way, they each seem to share ultimately the same view.

Historically, the internet began in 1969 as a Department of Defense experiment of USA that involved networking for computers to facilitate communications in the event of a nuclear war (Azam, 2007, Kenneth et al., 2012). However, Internet has been commercialized in 1993 (Azam, 2007).

2.2 Business Applications of E-Commerce

The classical application of e-commerce is the “transformation of key business processes through the use of internet” (Schineder, 2004). This includes business to business (B2B) and business to customers (B2C) e-commerce and different functional areas of business. A comprehensive review of business applications of e-commerce in SMEs related literature shows that after the second wave of e-commerce scholars (e.g. Sulaiman, 2000, Jahanshahi et al., 2011, 2012, Zaiied, 2012) have reviewed different business functions or activities of e-commerce. These can be grouped as (1) electronic advertising (2) electronic marketing (3) customer support service (4) order & delivery and (5) online payment. However, according to literature review most SMEs have not fully adopted e-commerce applications. Studies of e-commerce in relation to SMEs have reported that e-commerce adoption by SMEs in developing countries is very low and limited to the basic e-commerce applications particularly of e-mail or web presence only. For examples, very low level and limited to basic applications of e-commerce were found in Sri Lankan SMEs (Gunawardana, 2018), Tourism Industry in Nepal (Aishan, 2020) Malaysian SMEs (Hashim & Noor, 2014), Indian SMEs (Jahanshahi et al., 2012, FICCI, 2013), Indonesian SMEs (Hasan et al., 2020) and SMEs in Vietnam (Huy et al., 2012). Further, according to ERIA (2018) (cited in OECD, 2019), 56 percent of SMEs in South East Asian (SEA) countries have adopted “basic level of ICT adoption”. This includes emails, PC etc. According to the same report, only 34 percent of SMEs of SEA have adopted an “intermediate level” which includes website adoption. On the otherhand, only 10 percent

SMEs of SE countries are at an “advanced level” such as CRM, automation, central server etc. Bangladesh is not exceptional. To study the “Critical Success Factors (CSF) on e-Commerce Adoption in Bangladesh SMEs”, Billal et al., (2019) noted that “the SMEs role in the adoption process of e-commerce still limited”. According to these studies, most of the SMEs have not implemented advanced e-commerce applications such as integration or enterprise solutions. A large number of SMEs use their websites as additional tool for advertising and marketing activities. Basically, these websites provide information about the firms, products & services they offer or for information sharing and customer support services to some extent. Advanced business activities such as online payment processing and collaboration with business partners are very limited. This could be due to the fact that SMEs suffer from financial resources as advanced applications of e-commerce require huge investment.

2.3 E-Commerce Research Literature from Bangladesh Perspective

As mentioned earlier, literature reveals that no extensive or remarkable e-commerce research works have been done from Bangladesh standpoints. Little efforts have been given on this regard. Generally, research on e-commerce in the context of Bangladesh can be grouped as (i) Internet adoption (e.g. Azam, 2007) (ii) E-Banking adoption (e.g. Khan et al., 2021, Baten, 2010, Hasan et. al., 2010, Nupur, 2010, Khanam et. al., 2005, Ali, 2010) (iii) E-Learning (e.g. Mahmud, 2010) (iv) Present status of E-Commerce (e.g. Jamil & Ahmad, 2009, Bhounik et al., 2012, Hossain et al., 2013) (v) E-Commerce Framework (e.g. Laisuzzaman et al., 2010, Rajan et al., 2011, Karim et al., 2018) and (vi) Online shopping (e.g. Howlader et al., 2012, Islam 2018) and (vii) E-Commerce/ICT adoption by SMEs (Billal et al., 2019, Karim et al., 2018, Haque et al., 2015, Mirza & Habib 2016, Harun & Choyti, 2019, Azam & Quddus, 2009, Hoque et al., 2015). However, these papers did not produce any statistical data in relation to e-commerce usage by SMEs in the country. Present status of e-commerce adoption related papers is mainly conceptual in nature and mostly focuses on consumers behavior.

3. Methods and Materials

The definition of small and medium enterprises (SMEs) for this study has been obtained based on the number of employees. These are (i) small service and trading enterprise is a firm that employs less than 25 persons and small manufacturing enterprise is a firm that employs less than 100 persons

(including micro enterprises) and (ii) medium service and trading enterprise is a firm that employs less than 100 persons and manufacturing firm is an enterprise that employs less than 250 persons defined by the central bank of the country (Bangladesh Bank, 2011).

We have measured e-commerce adoption in terms of use of web site or not use of web site for any business activities. This includes both B2B and B2C activities conducted via World Wide Web. An enterprise can be using e-commerce currently or planning to use it in the future (Huy et al., 2012). Based on the actual use and the intention to use (use in the future or not use in the future) e-commerce, first, we classify SMEs in our samples into two binary categories namely adopters and non-adopters (1=if adopted, 0=otherwise) (Huy et al, 2012). Adopters are those firms which are currently using at least a web site for any business activity (Iddris, 2012 & McCole & Ramsey, 2005). Further, to better understand the level of e-commerce adoption, as studied by Liew (2009), Zaied (2012) and Jahanshahi et al., (2011, 2012) the adopter groups further categorized in terms of e-commerce applications. These are as follows: Promotion & Marketing - Statistic web site is used only for promotion and marketing purposes, i.e. firms provide the basic information of the products and services through their web sites. Customer Support Service - The firms use interactive web site for providing the customer support services such as online queries, feedback, FAQ, form entry by users etc. Order & Delivery - The firms use interactive web site for product selection, online order & delivery processing etc. and Enterprise Solution - This include e-SCM, e-CRM, automation etc., i.e. web sites are linked with suppliers, customers, distributions, financial institutions and back office systems. On the other hand, to understand the e-commerce adoption plan, the non-adopters category is further broken down as follows:

1. SMEs planning to engage in e-commerce within one year (Huy et al., 2012);
2. SMEs have a plan to use e-commerce but cannot make a decision when it is and
3. SMEs that do not plan to use e-commerce at all (Huy et al., 2012).

The population for this study is all SMEs in Bangladesh. The survey method has been employed to collect the primary data. The surveyed sample of this study is SMEs in Bangladesh. Our sample size is 326. This sample size is appropriate as sample size larger than 30 and less than 500 are appropriate for most research (Sekaran & Bougie, 2011). Statistical software Minitab 16

has been used to analyze the data. The target respondents for this study are top management (e.g. CEO/owner) of the firms. To assess the current status of e-commerce applications among the SMEs in Bangladesh, descriptive statistics and crosstabs have been used to describe the basic ICT usages, evaluate the e-commerce adoption and the plan of adoption. Finally, findings are discussed in the light of similar previous studies.

4. Data Analysis and Findings

The sample profiles such as the SMEs and respondents' profiles are presented in the first section. The current status of e-commerce adoptions is discussed in the last section. This includes PC & internet adoption, web sites adoption, the level of e-commerce applications and future plan for e-commerce adoption.

4.1 Profiles of SMEs

Total 18 categories of SMEs are identified (table 1). Respondents are from all areas of enterprises. Collectively, three sectors (i. manufacturing ii. wholesale, retail trade, repair of motor vehicles & motorcycles and iii. information & communication) have been accounted for more than fifty percent (51.23 percent) of the surveyed sample. The largest proportion is 24.23 percent by manufacturing sector. The wholesale, retail trade, repair of motor vehicles & motorcycles represent 17.49 percent. Mining and quarrying have not participated in this study. Further, 50 percent of the surveyed SMEs are enterprises with 25 employees. While only 11.96 percent of the SMEs are enterprises with 151 to 250 employees. Among the sampled SMEs, 40.80 percent reported that they are doing business with both customers and business (B2C & B2B), followed by 32.82 percent with customers (B2C), while 26.38 percent are making business with other businesses (B2B). The table also shows that the majority (59.2 percent) of SMEs are in the business for more than five years. Furthermore, more than one third of SMEs (35.89 percent) reported that they are doing business for more than 10 years. The data reveals that the largest proportion (39.57 percent) of the SMEs have sales turnover of 50 lac taka or more and only about 23.01 percent of SMEs have less than 10 lac taka per year. About 5.52 percent (18 SMEs) of SMEs were reluctant to disclose their annual sales turnover. The same table shows that about 16.26 percent of firms have no computer literate employees. On the otherhand, 39.57 (129 SMEs) percent firms have 1 to 5 computer literate employees. While, 19.25 percent SMEs

employed more than 20 computer literate employees. This indicates that a substantial number of SMEs have employed computer literate people in their firms. This could be the indication that a good number of firms might be using at least computer (PC or laptop) in their business activities.

Table 1: Surveyed SMEs Profile

Sectors	No. of firms	Percent
Agriculture	12	3.681
Mining & quarrying	0	0
Manufacturing	79	24.233
Electricity, gas, steam & air-conditioning supply	8	2.454
Water supply, sewerage, waste management & remediation activities	4	1.227
Construction	19	5.828
Wholesale, retail trade, repair of motor vehicles & motorcycles	57	17.485
Transportation & storage	11	3.374
Accommodation & food services activities (hotel, restaurant, cafes)	12	3.681
Information & communication	31	9.509
Financial & insurance activities	21	6.442
Real estate activities	19	5.828
Professional, scientific & technical	8	2.454
Administrative & support activities	4	1.227
Public administration & defense, compulsory social security	3	0.920
Education	15	4.601
Human health & social work	17	5.215
Arts, entertainment & recreation	6	1.840
Total	326	100.00
Employee size		
≤25	163	50.00
26-50	47	14.42
51-100	56	17.18
101-150	21	6.44
151-250	39	11.96
Total	326	100.00
Primary business focuses		

Business to Business (B2B)	86	26.38
Business to Customers (B2C)	107	32.82
Both B2B & B2C	133	40.80
Total	326	100.00
Number of years in business		
<2	35	10.74
2-5	98	30.06
>5-10	76	23.31
>10-15	47	14.42
15+	70	21.47
Total	326	100.00
Annual sales		
≤10	75	23.01
>10-20	42	12.88
>20-30	23	7.06
>30-40	17	5.21
>40-50	22	6.75
50+	129	39.57
Missing	18	5.52
Total	326	94.48
Number of computer literate employees	No. of firms	percent
None	53	16.26
1-5	129	39.57
6-10	42	12.88
11-15	25	7.67
16-20	15	4.60
20+	62	19.02
Total	326	100.00

4.2 Respondents Profile

Among the respondents, 86.81 percent of are male and 13.19 percent are female (table 2). The age distribution shows that the majority of the respondents (81.59 percent) are found to be between 20 to 40 years old. A small proportion (4.30 percent) of the decision makers is over 50 years of age. In terms of education as shown in the table 44.48 percent of the respondents hold bachelor degrees and about 41.41 percent of the respondents hold master degrees. This means, more than 85 percent of the

respondents are at least graduates. The gender, age and education distributions of the respondents indicate that like other neighboring countries (e.g. India, Sri Lanka, Vietnam, Malaysia, Singapore), there is a male dominance in Bangladesh who are fairly young in age and most of sampled entrepreneurs are at least graduates. Further, according to this table, almost 68.40 percent of the respondents are owners and 31.60 percent are managers. This finding indicates that “most SMEs are run by a manager who is usually a decision maker and at the same time the owner of the firm” (Demirbasetal, 2011). We could remark that the majority of the respondents (66.87 percent) have been in the current business for less than 5 years. Only about 15 percent of the respondents have been in the current business for more than 10 years.

Table 2: Respondents Profile

Gender	No. of firms	Percent
Male	283	86.81
Female	43	13.19
Total	326	100.00
Age of the respondents		
<20	9	2.76
20-30	64	19.63
>30-40	202	61.96
>40-50	36	11.04
Over 50	14	4.30
Missing	1	0.31
Total	326	100
Education level of respondents		
Below SSC	1	0.31
SSC	14	4.29
HSC	29	8.89
Bachelor	145	44.48
Master	135	41.41
PhD	1	0.31
Missing	1	0.31
Total	326	100
Employment positions		
Owner/CEO	223	68.40
Manager	103	31.60
Total	326	100.00

Number of years in current positions		
<5 years	218	66.87
5-10	58	17.79
>10-15	24	7.36
Over 15	24	7.36
Missing	2	0.62
Total	326	100

4.3 Current Status of E-Commerce Adoption

4.3.1 PC and Internet Adoption

In terms of overall ICT adoption (table 3.1) majority (83.74 percent) of the SMEs have adopted computer (PC or laptop) in their business, while 76.69 percent SMEs have internet connection. This applies, 16.26 percent SMEs (i.e. $326-273=53$ SMEs) are not connected with the computer (PC or laptop) while 7.05 percent SMEs (i.e. $273-250=23$ SMEs) are connected with computer but not internet.

Table 3.1: Overall ICT adoption

	No. of firms		
	Yes (%)	No (%)	Total (%)
PC/Laptop Adoption	273 (83.74)	53 (16.26)	326 (100)
Internet adoption	250 (76.69)	76 (23.31)	326 (100)

This finding indicates that the ICT adoption in general is progressing. A number of SMEs have adopted at least a computer (PC or a laptop). This means a substantial number of sampled SMEs in the country understand the importance of ICT which could help them to operate their business more efficiently and effectively.

Table 3.2: Company's Internet Experience

Internet experience (years)	No. of firms	Percent
<2 years	61	18.71
2-4	78	23.94
>4-6	51	15.64
>6-8	14	4.29
>8-10	17	5.21
Over 10 years	29	8.90
Not using	76	23.31
Total	326	100.00

Furthermore, the majorities (58.29 percent) (table 3.2) of the SMEs have been adopted internet for less than 6 years while only 8.90 percent has been adopted it for more than 10 years. This means that the majority of respondents are relatively new with internet experience which is about five years. This is perhaps not surprising since e-commerce is still relatively new business practice in Bangladesh and firms intend to adopt a “wait-and-see” attitude before adopting new technologies (Teo & Ranganathan, 2004).

4.3.2 Website Adoption

Table 3.3 shows that more than half (51.53 percent) of the total enterprises have websites. This means that 25.15 percent of sampled SMEs (i.e. 250-168=82 SMEs) (from table 3.1) are connected with internet but do not have any website.

Table 3.3: E-Commerce adoption profile

Profiles	No. of firms	Percentage
Adopters (website ownership)	168	51.53
Non-adopters	158	48.47
Total	326	100.00

To contextualize this finding, e-commerce adoption (measured by website adoption) by SMEs in Bangladesh is in a moderate state. Though this is a new study in the country, this finding can be justified by the conceptual study of Bhoumik et al., (2012). Without producing any statistical data and size or types of the firms, Bhoumik et al., (2012) argued that “traditional retailers and catalogue companies of Bangladesh have created websites”. This could be an indication of increasing interest in the use of e-commerce shown by commercial entities in the country.

4.3.3 Sector wise E-Commerce Adoption

E-Commerce adoption with respect to sectoral distribution is presented in the table 3.4. This table shows that among the e-commerce adopters firms, 13.19 percent are manufacturing, 5.82 percent are wholesale, retail trade and repair of motor vehicles & motorcycles. Further, 7.36 percent are information & communications SMEs. This applies, out of 79 surveyed manufacturing SMEs, 43 (13.19 percent of total sample) of them have adopted websites, while out of 247 surveyed non-manufacturing SMEs, 125 (38.35 of total sample) of them have adopted websites. That is within the manufacturing group, 54.43 (i.e. $\frac{43}{79} \times 100$) percent of them have adopted

websites, while, this value is 50.61 (i.e. $\frac{125}{247} \times 100$) percent within non-manufacturing SMEs.

Table 3.4: E-Commerce adoption: manufacturing SMEs vs. non-manufacturing SMEs

Sectors	No. of firms		
	Adopters (%)	Non- Adopters (%)	Total (%)
Agriculture	5 (1.534)	7 (2.147)	12 (3.681)
Manufacturing	43 (13.190)	36 (11.043)	79 (24.233)
Mining & quarrying	0	0	0
Electricity, gas, steam & air-conditioning supply	4 (1.23)	4 (1.23)	8 (2.454)
Water supply, sewerage, waste management & remediation activities	3 (0.920)	1(0.307)	4(1.227)
Construction	10 (3.067)	9 (2.761)	19 (5.828)
Wholesale, retail trade, repair of motor vehicles & motorcycles	19 (5.828)	38 (11.656)	57 (17.485)
Transportation & storage	3 (0.920)	8 (2.454)	11 (3.374)
Accommodation & food services activities (hotel, restaurant, cafes)	8 (2.454)	4 (1.227)	12 (3.681)
Information & communication	24 (7.362)	7 (2.147)	31 (9.509)
Financial & insurance activities	16 (4.908)	5 (1.534)	21 (6.442)
Real estate activities	9 (2.761)	10 (3.067)	19 (5.828)
Professional, scientific & technical	6 (1.840)	2 (0.613)	8 (2.454)
Administrative & support activities	2 (0.613)	2 (0.613)	4 (1.227)
Public administration & defense, compulsory social security	0	3 (0.920)	3 (0.920)
Education	7 (2.147)	8 (2.454)	15 (4.601)
Human health & social work	6 (1.840)	11 (3.374)	17 (5.215)
Arts, entertainment & recreation	3 (0.920)	3 (0.920)	6 (1.840)
Total	168 (51.534)	158 (48.466)	326 (100)

4.3.4 E-Commerce Adoption and Primary Business Focuses

Table 3.5 shows that among the e-commerce adopters group, 13.80 percent of them are involved with B2B; 15.03 percent are B2C and as many as 22.70 percent of them are involved with both B2B & B2C.

Table 3.5: E-Commerce Adoption: Primary business focuses

Primary Focus	No. of firms		
	Adopters (%)	Non adopters (%)	Total (%)
Business to Business (B2B)	45 (13.80)	41 (12.58)	86 (26.38)
Business to Customers (B2C)	49 (15.03)	58 (17.79)	107 (32.82)
Both B2B & B2C	74 (22.70)	59 (18.10)	133 (40.80)
Total	168 (51.53)	158 (48.47)	326 (100)

4.3.5 Business Applications of E-Commerce

The number of firms that belong to each category and their corresponding percentages along with non-adopters' group are presented in the following table (table 3.6).

Table 3.6: Current status of e-commerce applications

	No. of firms	Percent
Non-Adopters	158	48.47
Promotion & Marketing	82	25.15
Customer Support Service	43	13.19
Order & Delivery	42	12.88
Enterprise Solution	1	0.31
Total	326	100

Table shows that majority sampled SMEs (82) which is 25.15 percent of total sampled SMEs (48.82 percent among adopters group) use their web sites only for promotion and marketing purposes. SMEs in this category provides the basic information regarding products and services for their current and potential customers. On the other hand, 43 sampled SMEs which is 13.19 percent of total sample (25.61 percent among adopters group) have the provision for customer support and services and 42 SMEs which is 12.88

percent of total sample (25.00 percent among adopter group) use their web sites for placing online order and delivery options. Only one SMEs has a website and the firm has implemented some kind of enterprise solutions (e.g. coordinating procurement with suppliers).

Though initial results of e-commerce adoption indicates that SMEs in Bangladesh are at a fairly moderate state but subsequent analysis show that the advanced level of e-commerce usage among the SMEs in Bangladesh is very low. This means, adoption of enterprise solution is not progressing. Again, we cannot compare the results due to lack of relevant studies in the country. However, these findings can be justified with some e-commerce related research in other areas from Bangladesh perspective (e.g. Bhoumik et al., 2012, Howlader et al., 2012, Laisuzzaman et al., 2010). These researchers without producing any statistical data, types and size of the firms, argued the following in general: in Bangladesh (a) "web sites mainly provide information about the organization and its products and services" and "there are very few web sites where financial transactions can be completed" (Bhoumik, 2012) (b) "Bangladesh is far away to adapt with the main stream of e-commerce application" (Laisuzzaman et al., 2010) and (c) "commercial use of internet is still limited in Bangladesh" (Howlader et al., 2012). (d) "the SMEs role in the adoption process of e-Commerce still limited" in Bangladesh (Billal et al., 2019). Hence, we can contextualize that most SMEs have not implemented advanced e-commerce applications such as enterprise solutions. A large number of SMEs are using websites mainly for additional marketing tools. Basically, these websites provide information about the firms and the products & services they offer or for information sharing and customer support services to some extent.

4.3.6. E-Commerce Adoption Plan:

Table 3.7 shows that, about 33.44 percent of the SMEs have a plan to implement e-commerce in the future, while about 15 percent of the SMEs have no plan at all.

Table 3.7: E-Commerce adoption plan

Plan	No. of firms	Percentage
Currently using (website adopters) *	168	51.53
Have a plan within one year	74	22.70
Have a plan but cannot make decision when it is	35	10.74
No plan at all	49	15.03
Total	326	100.00

* From table 3.3

5. Concluding Remarks and Recommendations

This empirical research indicates that e-commerce adoption by SMEs in Bangladesh is at least at moderate state. Little more than half of the SMEs in the country have adopted at least a website for their basic business functions. They use their websites for advertising, marketing and customer support services to some extent. Full functionality applications of e-commerce such as integration with business partners (e.g. suppliers) is almost absent. However, in other side of the coin, one of the most important advantages of SMEs in Bangladesh is that majority of the decision makers are young in age and at least graduates. We argue that at least graduates of these young entrepreneurs have better understanding of the e-commerce benefits can bring and have better exposure to the information society. The full functionality applications of e-commerce will help SMEs to cost reduction, operational efficiency, better customer services, better inventory management and market expansion. To compete with large firms in domestic market as well as in international market, institutional support is necessary for SMEs to speed up the use of e-commerce in the country. This support should include developing strategic planning, motivation & training and finance. “Since small and medium enterprises are the strength point of a dynamic economy or resources, increasing development of ICT has provided suitable ground for the improvement of the organizations performance” (Jahanshahi et al., 2012). Further, we already witness the contribution of SMEs in the country economy in terms GDP contribution and industrial employment generation. Hence, we believe providing relevant support on the priority basis to SMEs in the context of advanced e-commerce applications will not only improve the performance of the firms but also economic sustainability of the country.

We believe, SMEs have been struggling to survive due to covid-19 pandemic. However, this pandemic can open a great opportunity for SMEs. With relevant support, SMEs with low capital, can capitalize the “new normal” business environment during Covid-19 pandemic and likely to adopt more e-commerce. We believe integration of advanced functional business activities through e-commerce (e.g. e-CRM, e-SCM etc.) is the most important priorities demand in the current business environment under the unpredictable future of Covid-19 pandemic. Without any doubt we can imagine the sharp rise in growth of SMEs if they can adopt advanced e-commerce tools with their business activities during this pandemic. The empirical findings of this study will close the knowledge gap and help researchers, practitioners and policy makers to better understand the current trend of e-commerce usage among SMEs in the country and act accordingly. For further research, focuses on the following areas can be given: (1) benefits of e-commerce (2) inhibitors and influential factors of e-commerce adoption (3) impact of Covid-19 pandemic on e-commerce applications. Further, comparative study between manufacturing SMEs and non-manufacturing SMEs can be undertaken.

References

Aishan, P.K.W. (2020). A Study of E-commerce Adoption by Nepalese Tourism Website: Contain Analysis, *Journal of Tourism, Hospitality and Sports*, Vol. 46. Available at: www.iiste.org (Accessed June, 2021)

Alderete, M.V. (2020). Electronic commerce contribution to the SME performance in manufacturing firms: A structural equation model, *Contad. Adm vol.64 no.4*. Available at: http://www.scielo.org.mx/scielo.php?script=sci_arttext&pid=S0186-10422019000500014 (Accessed June, 2021)

Ali, M.M. (2010). E-Business and online banking in Bangladesh: An analysis, *AIUB Business and Economics, Working Paper No. AIUB-BUS-ECON-2010-03*, pp.1-26.

Azam, M.S.(2007). Internet Adoption and Usage in Bangladesh, *Japanese Journal of Administrative Science*, vol. 20, no. 1, pp. 43-54.

Azam, M.S. and Quaddus, M. (2009). Adoption of e-Commerce by the SMEs in Bangladesh: The Effects of Innovation Characteristics and Perceived Risk, ANZMAC, November, 30-December, 02, pp. 1-9.

Bangladesh Bank (2011). SMESPD Circular No.01, dated June, 19, 2011.

Baten, A.M. (2010). E-Banking of Economical Prospects in Bangladesh, Journal of Internet Banking and Commerce, vol. 15, no. 2 (August). pp. 1-10.

Bhowmik, R. (2012). The present e-commerce situation in Bangladesh for B2C E-Commerce, International Journal of Economic Research, vol. 3, issue 5, pp. 77-91.

Billal, H.M., Shin, H.K. and Sim, W.J. (2019), Critical Success Factors (CSF) on e-Commerce Adoption in Bangladesh SMEs. Management Review: An International Journal, 14(1), pp. 51-81 (June 30, 2019).

Demirbas, D., Hussain, J.G. and Matlay, H. (2011) Owner-managers' perceptions of barriers to innovation: empirical evidence from Turkish SMEs. Journal of Small Business and Enterprise Development, vol. 18, no. 4, pp. 764- 780.

FICCI (2013) Unleashing the potential internet's role in the performance of India's Small and Medium Enterprise, Economic Impact Analysis, Federation of Indian Chambers of Commerce and Industries, India.

Gunwardana, K.D. (2018). E-Commerce in Small and Medium Enterprises in Sri Lanka , International Journal of Socio-technology and Knowledge Development, Volume 10, Issue 2, April-June 2018.

Harun, A.M. and Choyti, A.A. (2019). E-commerce in Bangladesh: Adoption Scenario and Consumer's Perception, Journal of Business Studies, Vol. XL, No. 3,

Hasan, M.K., Momen, M.A. and Sultana, S. (2010). Online Marketing in Bangladesh: A Descriptive Study in the Context of Some Selected Click and Mortar Businesses, Journal of Business and Technology, vol. v, issue 02, July-December, pp.150-164.

Hashim, N.A. and Noor S.M. (2014). An Investigation of Key Adoption of E-Commerce in SMEs in Malaysia, Proceedings of 26th International Business Research Conference, April, 7 - 8, Imperial College, London, UK.

Hoque, S.M.S., Alam, S. M. S. and Hosen, M.Z. (2010). Assessing the Present Status of e-Commerce in Bangladesh: Problems, Prospects, and Way Forward. Available at: <http://dx.doi.org/10.2139/ssrn.1630623> (Accessed: October, 2012).

Hoque, M.R., Saif A.N.M. Al-Bar, A.M. and Bao, Y. (2015). Adoption of information and communication technology for development: A case study of small and medium enterprises, *Information Development* 1–15.

Hossain, M.A., Ali, M.K., Kibria M.G. and Bhuiyan M.N. (2013). A Survey of E-Commerce of Bangladesh, *International Journal of Science and Research*, vol. 2, issue 2, pp. 150-158.

Howladar, M.H.R., Mohiuddin, M.G. and Islam M.M. (2012). Developing Online Shopping Intention among People: Bangladesh Perspective , *Developing Country Studies*, vol. 2, no. 9, pp. 69-76.

Huy L. V., Rowe F., Truex D. and Huynh, M.Q. (2012). An empirical Study of Determinants of E-Commerce Adoption in SMEs in Vietnam an economy in transition, *Journal of Global Information Management*, vol. 20, no. 3 (Jul-Sept, 2012), pp. 2-35.

Islam, M.S. (2018). E-Commerce In Bangladesh: Growth And Challenges, *IOSR Journal of Business and Management (IOSR-JBM)*, Volume 20, Issue 3. Ver. 5 (March. 2018), PP 10-15. Available at: www.iosrjournals.org (Accessed, March, 2021).

Islam M.E., Rahman, M.M. and Rikta N.N. (2008.) A Note on the Contribution of Small and Medium Enterprises to GDP in Bangladesh, Policy Paper: 0806, Policy Analysis Unit, Bangladesh Bank.

Islam, M.A., Khan, M.A., Obaidullah, A.Z.M. and Alam, M.S. (2011). Effect of Entrepreneur and Firm Characteristics on the Business, Success of Small and Medium Enterprises (SMEs) in Bangladesh, *International Journal of Business and Management*, vol. 6, no. 3 (March, 2011), pp. 289-299.

Jahanshahi, A.A., Khaksar, S.M., Paghaleh M.J. and Pitamber B.K. (2011). The Application of Electronic Commerce among Small and Medium Enterprises: from Business Processes View, The Special Issue on Contemporary Issues in Business and Economics, vol. 2, no. 5 (Special issue, March, 2011), pp. 142-148.

Jahanshahi A.A., Rezaei, M., Nawaser, K., Ranjbar, V., Kachardas, B. and Pitambar B.K. (2012). Analyzing the effects of electronic commerce on organizational performance: Evidence from small and medium enterprises, African Journal of Business Management, vol. 6, no. 15, pp. 6486-6496.

Jamil, R.M. and Ahmad, N. (2009). Present Status and Critical Success Factors of e-Commerce in Bangladesh, Proceedings of 2009, 12th International Conference on Computer and Information Technology (ICCIT 2009), December, 21-23, Dhaka, Bangladesh.

Kapurubandara, M. and Lawson, R. (2008). Availability of E-commerce Support for SMEs in Developing Countries The International Journal on Advances in ICT for Emerging Regions, vol. 1, no. 1, pp. 3 - 11.

Karim, A. M. (2010). Digital Bangladesh for Good governance, Bangladesh Development Forum 2010, February, 15-16, Bangabandhu International Conference Centre, Dhaka.

Karim, S., Gide, E. and Sandu, R. (2018). A practical framework for implementing e-commerce in SMEs in developing countries: A case from Bangladesh, Academic Journal of Science, 08(02):275–290.

Kenneth, W., Rebecca, M. and Eunice, A.M.A. (2012). Factors Affecting Adoption of Electronic Commerce among Small Medium Enterprises in Kenya: Survey of Tour and Travel Firms in Nairobi, International Journal of Business, Humanities and Technology, vol. 2, no. 4 (June, 2012), pp. 76-91.

Khan, F., Chowdhury, M.S.A., Haque, S.A. and Ahsan, S.M.H.A. (2021). E-Banking Adoption in Bangladesh; Present Status and Customer Satisfaction, Global Journal of Management and Business Research: A Administration and Management, Volume 21, Issue, 1, Version 1

Khanam, D., Ahmed, M. and Khan, S.H. (2005). E-Banking: An Emerging issues of developing country like Bangladesh, *Pakistan Journal of Social Sciences*, vol. 3, no. 3, pp. 526-529.

Laisuzzaman, I. M., Imran, N., Nahid, A. A., Amin, M. Z. and Alim, M. A. (2010). The Framework for Implementing E-Commerce: The role of Bank and Telecom in Bangladesh, *Journal of Telecommunications*, vol. 1, issue 1 (February, 2010), pp. 57-62.

Liew, V.K. (2009). E-Commerce Usage by the SMEs in Northern Malaysia: Analysis of the State of E-Commerce Adoption by the SMEs in Northern Malaysia and Factors that Might Hinder its Adoption: An Empirical Study, VDM Publishing, Germany. Available at: <http://www.tower.com/e-commerce-usage-by-smes-in-northern-malaysia-voon-kiong-liew-paperback/wapi/113706968> (Accessed: March, 2012).

Mahmud, K. (2010) E-learning for Tertiary Level Education in Least Developed Countries: Implementation Obstacles and Way Outs for Bangladesh, *International Journal of Computer Theory and Engineering*, vol. 2, no. 2 (April, 2010), pp. 150-155.

McCole, P. and Ramsey, E. (2005). A Profile of Adopters and Non-adopters of eCommerce in SME Professional Service Firm, *Australasian Marketing Journal*, vol. 13, no.1, pp. 36-48.

Ministry of Science and ICT (2008). National ICT Roadmap/Action Plan (draft) (version 1.1) (September, 2008), Bangladesh Government.

Mirza, M.H., M.M. and Habib, M.M. (2016). ICT Adoption in Small and Medium Enterprises: An Empirical Evidence of Service Sectors in Bangladesh *Journal of Economics, Business and Management*, Vol. 4, No. 8, August 2016

Narayanasamy, M.K. and Santhapparaj, A.S. and Eze, U.C. (2008). An empirical study of website adoption among Small and Medium Enterprises (SMEs) in Malaysia, *Communications of the IBIMA*, vol. 2 (2008), pp. 50-62.

Nguyen, P.D.H., Binh, D.T. (2018). The impact of E-commerce towards Vietnamese SMEs, *European Journal of Business Science and Technology*, 3(2)

Nupur, M.J. (2010). E-Banking and Customers' Satisfaction in Bangladesh: An Analysis, *International Review of Business Research Papers*, vol. 6, no. 4, pp. 145-156.

OECD (2019), *Southeast Asia Going Digital: Connecting SMEs*, OECD, Paris. Available at: www.oecd.org/going-digital/southeast-asia-connecting-SMEs.pdf (Accessed: July, 2021).

Pratima, D. (2011). A preliminary study of ecommerce adoption in developing countries, *Information Systems Journal*, vol. 21 (January, 2011), pp. 3-32.

Rajon, S.A. A., Nahid, A.A. and Arif, M.S.A. (2011). A Generic Framework for Implementing Electronic Commerce in Developing Countries, *International Journal of Computer and Information Technology*, vol. 1, issue 2, pp. 42-53.

Rashid, M.M. (2012). Proposed research direction for sustainable SMEs in Bangladesh, *Bangladesh Research Publications Journal*, vol. 6, Issue 3 (January - February), pp. 317-329.

Sanjay, M. (2013). Sustainability in E-Commerce Adoption in Small and Medium Enterprises (SMEs): A Case Study in Odisha, India, *International Journal of Green Computing* 4(2):12-23.

Schneider G.P. (2004). *Electronic Commerce: The Second Wave*, 5th edition, Thomson Course Technology, Canada.

Sekaran, U. and Bougie, R. (2011). *Research Methods for Business: A Skill Building Approach*, 5th edition, John Wiley & Sons, Wiley Inida (P) Ltd., India.

Sulaiman, A. (2000). The Status of e-commerce applications in Malaysia, *Information Technology for Development*, vol. 9, issue 3-4, pp.153-161.

Teo, T.S. and Ranganathan, C. (2004). Adopters and non-adopters of business-to-business electronic commerce in Singapore, *Information and Management*, vol. 42, no. 1, pp. 89-102.

Zaied, A.N.H. (2012). Barriers to E-Commerce Adoption in Egyptian SMEs, *International Journal of Information Engineering and Electronic Business*, vol. 3, pp. 9-18.

Zaman, A.K.M. and Islam, M.J. (2011). Small and Medium Enterprises Development in Bangladesh: Problems and Prospects, *ASA University Review*, vol. 5 no. 1, pp. 146-160.