

# Benefits and challenges in adopting social media for SMEs: A case from Bangladesh

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## Abstract

**Purpose:** The purpose of this study was to identify the challenges, Benefits, and various determinants which play an important role in adopting social media among small and medium-sized enterprises (SMEs) in Bangladesh, based on the (Technology-Organization-Environment) TOE Model. The TOE framework seeks to understand the significant factors influencing the decision to adopt social media in SMEs in Bangladesh.

**Research methodology:** In the study, a random sampling method was used to select a representative sample from the existing active SMEs in different regions of Bangladesh. A structured questionnaire was designed to measure constructs such as relative advantage. Preliminary data were collected from 365 small and medium enterprises through field studies. Then the survey data were analyzed using logistic regression (L.R.) of the independent variables included in the TOE framework

**Results:** The outcomes of the study found that only 5 variables: relative advantage, complexity, consistency, top management's assistance, and innovative management factors significantly influence SMEs' decisions to adopt social media.

**Limitations:** The busy schedules of the respondents are key limitations for the study along with the study area. If the study could explore more districts besides Dhaka city, then the study outcomes would be more extensive.

**Contribution:** The results from this study will help SME foundations, research institutes, and government policymakers to formulate strategies for optimal use of social media in SMEs.

**Keywords:** *Benefits, Challenges, Logistic regression, Social media, TOE model*

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## 1. Introduction

The development of small and medium enterprises (SMEs) in the country's socio-economic development and poverty alleviation is gaining special importance as the driving force of industrial development. For this, there is no alternative to industrial development in a country of 170 million people, especially in the SME sector ([Hossain & Khan, 2019](#)).

According to the Bangladesh Bureau of Statistics estimates, the gross domestic product (GDP) growth in the last fiscal year of 2019-2020 was calculated as 8.1 percent. The GDP rate in the previous year was 7.86 percent ([Bangladesh Economic Review, 2020](#)). Compared to many developing countries, Bangladesh has been achieving remarkable success in achieving growth ([Hossain and Khan 2016](#);

[Hossain et al., 2018](#)). In the 2018-19 financial year, both the contribution and growth of the industrial sector have increased. Every year 2 to 2.2 million young people enter the labor market in the country. According to the Bangladesh Bureau of Statistics, the number of unemployed in Bangladesh is said to be 2.63 million, but the actual number of unemployed is much higher. Bangladesh ranks 12<sup>th</sup> among the list of 20 countries with rising unemployment. The rate of highly educated unemployment in Bangladesh is 9 percent. Unemployment is causing increasing frustration among highly educated youth. The rate of higher education is increasing in the country while the number of unemployed is increasing ([Hoque et al., 2017](#); [Al Ahad & Khan, 2020](#)).

In the last 10 years, employment has increased by only 1 million. Employment opportunities are not being created at the rate at which the country's economy is growing. This opportunity is possible in the SME sector. To boost employment, the government has borrowed 75 trillion USD from the World Bank ([Khan et al., 2018a](#)). If this money can be properly invested in the SME sector, huge employment opportunities will be created. Based on the above discussion, the present study has been carried out in 363 SME organizations located in Bangladesh with the objectives, to identify the advantages of adopting social media in SMEs of Bangladesh; to identify the challenges that SMEs face by adopting social media; to identify the determinants that dominance Bangladesh SMEs in adopting social media for business development; and to identify the significant factors that contribute to successful adoption of social media among the SMEs in Bangladesh. The following sections of the study were designed as literature review, methodology, results and discussion, and conclusion

## **2. Literature review and hypotheses development**

### ***SMEs***

SMEs' business platform is considered to be the foundation of any emerging economies like Bangladesh ([Tambunan, 2008](#)). For ensuring the economic stability of a country, they play a vital role in generating employment. Considering this fact, they are called the basic tools of modern industrialized systems ([Rahayu & Day, 2015](#); [Elasrag, 2011](#)). In the globalized open economic system, entrepreneurs find the continuous technological up-comings ([Skoko, Ceric, & Huang, 2008](#)), which are one kind of challenge to stay in the business environment. To face the challenges of technological changes SMEs, need to adopt (Information and Communications Technology) ICTs ([Oliveira & Martins, 2011](#); [Olawale & Garwe, 2010](#)) to enhance business as well as economic activities at the competitive age ([Skoko, Ceric & Huang, 2008](#); [Stroeken, 2001](#); [Lee et al., 2021](#)). SMEs have vast scope to invest in ICTs for their sustainability than large organizations. The slow diffusion process ([Fong, 2011](#)) also shows through the empirical evidence that ICTs enlarge the SMEs sector's successful environment ([Gibbs, Sequeira, and White, 2007](#)). Not to become the market leader but to survive in the competition, they need to adapt up-to-date technological up-gradation ([Siddharthan & Narayanan, 2013](#); [Khan et al., 2018b](#)), despite limited funds than of large organization ([Beck and Demircuc-Kunt, 2006](#)).

### ***Social media***

In SMEs and business organizations, social media acts as a quick tool and a crucial part of ICTs ([Andzulis, Panagopoulos, and Rapp, 2012](#); [McCann & Barlow, 2015](#)). Social media contributes a significant role in upgrading the business scenario like advertising, buying and selling, production, and customer management. ([Aral, Dellarocas, and Godes, 2013](#); [Khan et al., 2015](#); [Khan et al., 2016](#); [Khan et al., 2021](#)). Social media are crossing the organizational boundary and are expected to continue to better the economy ([Andriole, 2010](#); [Qalati et al., 2021](#)). For this reason, the adoption of social media is very important ([Zolkepli & Kamarulzaman, 2015](#)) not only for the large organization but also for SMEs ignoring their size and activities ([Nah and Saxton, 2013](#)). Adoption of ICTs, as well as social media, creates sustainable benefits for the organization ([Hossain & Khan, 2021](#)) like market research, advertisement, promotion, branding, product development, promoting through word of mouth, customer feedback ([Ainin et al., 2015](#)). Social media enhances all these benefits not only for large organizations ([He, Wang, & Zha, 2014](#); [Verheyden & Goeman, 2013](#)) but also for SMEs through their adoption of technological advancement ([Meske & Stieglitz, 2013](#)).

### ***Technology-Organization-Environment (TOE) framework***

Tornatzky and Fleischer created the technology-organization-environment (TOE), an organization-level theory as well as a multi-perspective paradigm ([Tornatzky and Fleischer, 1990](#)). According to this paradigm, the elements of technology, organization, as well as the environment of a company's setting impact the adoption stage of a technological revolution ([Alharbi et al., 2016](#); [Bhattacharya & Wamba, 2018](#)). Civilization has advanced from the agricultural upheaval to the recent industrial uprising and is currently stirring to the new era of the information technology revolution in the business environment ([Khan et al., 2018b](#); [Sultan & Sharmin, 2020](#)). It is the tremendous computing ability at constantly falling the prices, as well as the computers, are being networked over the worldwide telecom pathways that are commanding to the usage of Information Technology (I.T.) in every single sector of humanoid action in 21<sup>st</sup> century; be it banking, communication, trading, teaching, and learning, socializing, entertainment, government, librarying and management ([Haimson et al., 2021](#)). Just as the types of machinery have prolonged human's mechanical control and the human's ease and convenience, Information Technology (I.T.), as frequently figurine by computers, is spreading people's brain, mind, or intellectual ability. The concept of information technology in the 21<sup>st</sup> century has fueled the embrace of many features of computing and technology, and the thought is more identifiable than ever ([Pal, 2008](#)). A review of the literature on social media studies in SMEs shows that only a few studies have looked at the use and adoption of social media ([Siamagka et al., 2015](#); [Dekker et al., 2020](#)). So, the study is expected to play a significant role in analyzing the role of social media in SMEs in Bangladesh. Thus, the present study will fill the gaps in the existing literature and contribute to the theoretical and practical domains. The model presented in this research is will guide decision-makers in strategizing and planning for social media adoption in SMEs in developing countries. Thus, this study will identify the determinants of social media adoption among SMEs in Bangladesh and highlight the benefits and challenges that SMEs will face as a result of adoption.

### **3. Research methodology**

The study is quantitative in nature. The TOE framework has been used as the theoretical basis in this study. The TOE framework seeks to understand the significant factors influencing the decision to adopt social media in SMEs in Bangladesh ([Khan, Rana, & Hosen, 2021](#); [Lee & Xue, 2021](#)). Based on the TOE framework, the study proposed eight hypotheses that are very much relevant to the context and based on earlier literature (see tables 10, 11, and 12). Preliminary data were collected from small and medium enterprises in Bangladesh through field studies. In Bangladesh, there are 7.9 million registered firm establishments, whereas 7.4 million are SMEs in Bangladesh ([Andalib, Azizan, & Halim, 2020](#)). The total size of owners and managers are unknown due to the lack of statistical evidence. Owing to the large sample, the survey was conducted over 365 owners and managers (67 owners and 298 managers) from 30 SMEs (such as manufacturing, construction, wholesalers, and retailers; and all of them are more or fewer technology adopters) located in Dhaka city based on random sampling ([Khan et al., 2019](#); [Al Ahad et al., 2020](#); [Lee & Xue, 2021](#)). A structured questionnaire was made based on the literature support ([McCann & Barlow, 2015](#); [Alharbi et al., 2016](#); [Bhattacharya & Wamba, 2018](#)). The questionnaire was divided into two parts. The initial part contained participants' characteristics (see table 1), and the second part contained essential questions for analysis and hypothesis testing (see tables 2 to 7 for question elements). Then the collected data were analyzed using logistic regression. The independent variables included in the TOE framework and the dependent variables included relative advantage, complexity, consistency, top management assistance, innovative management, competitive pressure, customer force, and friends and family support based on the literature analysis from the earlier published researches ([Alharbi et al., 2016](#); [Bhattacharya & Wamba, 2018](#)).

### **4. Results and discussion**

#### *Descriptive analysis*

In terms of the demographic-related features of the owner and managers of the selected SMEs took part in the survey, gender, participant age, as well as educational qualification were studied. Table 1 summarizes these findings and analyzes the types of adopters and non-adopters.

Table 1. Distribution of SMEs owner-managers' demographic characteristics

| Demographics                    | Adopters   |            | Non-Adopters |            |
|---------------------------------|------------|------------|--------------|------------|
|                                 | Frequency  | Percentage | Frequency    | Percentage |
| <b>Gender</b>                   |            |            |              |            |
| Male                            | 207        | 67.0%      | 37           | 66.1%      |
| Female                          | 102        | 33.0%      | 19           | 33.9%      |
| <b>Respondent's Age</b>         |            |            |              |            |
| Less Than 30 Years              | 110        | 35.6%      | 27           | 48.2%      |
| 30-35 Years                     | 100        | 32.4%      | 19           | 33.9%      |
| 35-40 Years                     | 54         | 17.5%      | 6            | 10.7%      |
| 40-45 Years                     | 30         | 9.7%       | 2            | 3.6%       |
| 45-50 Years                     | 9          | 2.9%       | 0            | 0.0%       |
| 50-55 Years                     | 5          | 1.6%       | 1            | 1.8%       |
| Above 55 Years                  | 1          | 0.3%       | 1            | 1.8%       |
| <b>Education Qualifications</b> |            |            |              |            |
| Secondary Qualification         | 3          | 1.0%       | 0            | 0.0%       |
| College Qualification           | 49         | 15.9%      | 9            | 16.1%      |
| Undergraduate                   | 145        | 46.9%      | 24           | 42.9%      |
| Postgraduate                    | 112        | 36.2%      | 23           | 41.1%      |
| <b>Total</b>                    | <b>309</b> |            | <b>56</b>    |            |

Source: Authors' Data

In terms of gender, the vast majority of those who responded were men (66.85 percent). Female participants, on the other side, made up 23.15 percent of the total. Females were under-represented in the poll as opposed to their male participants. This could be due to the cultural features of Bangladesh as well as the tradition connected with the notion of women at employment ([Khan & Sharma, 2020](#); [Al-Ahad & Khan, 2020](#); [Khan, 2021](#)). Regardless of the reality that few females pursue entrepreneurship, women's engagement in small enterprise in Bangladesh has increased as a result of advancements in new legislation and assistance programs ([Hossain & Khan, 2019](#)).

The results reveal that respondents under the age of 30 made up the biggest age group (37.5%), followed by those between 30-35 years (with 32.6 percent). The remaining five groups made up a little more than 39.9% of the entire sample. That means most of the respondents have less than 30 to 40 years class group.

When it comes to educational qualifications, the data demonstrated that the majority of the respondents are undergraduate. Around 46.3 percent of survey participants had a graduate-level education as their highest qualification, equal to the number of participants who had a post-graduate

level qualification as their greatest credential (37.0 percent). 15.9 percent of participants possessed the highest degree was a college certificate, while secondary levels were obtained by only 1.0 percent.

Table 2. Distribution of SMEs profile in the sample

| SMEs Profile                  | Adopters   |            | Non-Adopters |            |
|-------------------------------|------------|------------|--------------|------------|
|                               | Frequency  | Percentage | Frequency    | Percentage |
| <b>Enterprise Marketplace</b> |            |            |              |            |
| Local                         | 253        | 81.9%      | 47           | 83.9%      |
| International                 | 56         | 18.1%      | 9            | 16.1%      |
| <b>Enterprise Age</b>         |            |            |              |            |
| Less than One Year            | 99         | 32.1%      | 23           | 41.1%      |
| 1 to 3 Years                  | 81         | 26.2%      | 15           | 26.8%      |
| 3 to 5 Years                  | 60         | 19.4%      | 8            | 14.3%      |
| More than 5 Years             | 69         | 22.3%      | 10           | 17.9%      |
| <b>Enterprise Type</b>        |            |            |              |            |
| Manufacturing                 | 50         | 16.2%      | 6            | 10.7%      |
| Wholesaler                    | 77         | 24.9%      | 12           | 21.4%      |
| Retailers                     | 156        | 50.5%      | 34           | 60.7%      |
| Construction                  | 26         | 8.4%       | 4            | 7.1%       |
| <b>Total</b>                  | <b>309</b> |            | <b>56</b>    |            |

Source: Authors' Data

From table 2, In terms of the market, the questionnaire data shows that roughly 82.2 percent of the investigated SMEs concentrate their commercial operations on the domestic market, whereas 17.8% having a global market range (such as South Asia, Asia Pacifica, Europe, Central America, etc.). These findings indicate that SMEs of Bangladesh are more inclined to respond to home and local markets rather than expanding their operations internationally.

Companies that were remained in operation for one year or less made up a large percentage of the entire surveyed enterprises (33.4%), whereas those that were remained in business operation for 3 to 5 years made up a minor fraction (18.6%). All in all, 21.6% of the investigated sample was comprised of businesses that were remained in operation for five years or more, while 26.4% of the examined sample was made up of businesses that were remained in operation for 1 to 3 years.

In terms of the investigated sample's composition by industrial sector, the research survey findings showed that the tested sample included SMEs from the retailing (52.1%), wholesaling (24.4%), engaging in manufacture (15.3%), as well as construction industries (8.2%). From the last part of the surveyed questionnaire the study focused on social media concerns. There were 309 adopters (calculated as 84.7%) including 56 non-adopters (calculated as 15.3%) among the 365 answers. This might indicate that SMEs of Bangladesh are adequately conscious of the importance of social media including its influence on their firm productivity. It might also indicate that Bangladesh SMEs are

becoming more conscious of the opportunities presented by new technology and the significance of embracing social media.

Additional two queries were posed to the adopters regarding which types of social media sites they utilize and why they use such networks. Table 8 shows that Facebook, as well as YouTube, was found the two most common social media sites used by the selected sampled Bangladeshi SMEs in reaction to the first query. A large proportion of the SMEs questioned (82.85%) said they have a Facebook page. YouTube was found the second-highest widely media by Bangladeshi SMEs, with approximately 33.0% and 30.42% of the studied companies indicating that they utilized Twitter and LinkedIn, respectively (see table 3).

Table 3. Distribution of common social platform

| Social Platform | Frequency | Percentage |
|-----------------|-----------|------------|
| Facebook        | 256       | 82.85%     |
| Twitter         | 102       | 33.00%     |
| YouTube         | 196       | 63.43%     |
| LinkedIn        | 94        | 30.42%     |

Source: Authors' Data

The data also showed that Facebook and YouTube are more widely used in female-owned businesses (nearly 75%). They want to take the scope of their business within reach of the customers through Facebook and YouTube. In the current context, these two social media are used to present their product live directly to the customers.

The goal of the second query posed to the adopting businesses was to gather information on the reasons for utilizing social media networks. The explanations stated by participants are presented down in Table 4. Branding, Receiving Customers Feedback, Advertising & Promotion and Reaching New Customers were traced to be key causes for utilizing the social media, with 87.1%, 80.0%, 77.0% and 67.1% of the respondents categorizing these usage correspondingly.

Table 4. Distribution of purpose of social platform (Respondents can answer more than one)

| Purpose                    | Total | Frequency | Percentage |
|----------------------------|-------|-----------|------------|
| Branding                   | 309   | 318       | 87.1%      |
| Advertising and Promotion  | 309   | 281       | 77.0%      |
| Conduct Market Research    | 309   | 97        | 26.6%      |
| Obtain New Customers       | 309   | 245       | 67.1%      |
| Develop Customers Relation | 309   | 194       | 53.2%      |
| Receive Customers Feedback | 309   | 192       | 80.0%      |

Source: Authors' Data

This finding shows that SMEs view social media as a platform for branding, advertising, and promotion to raise customer awareness. On the other hand, fewer early adopters utilize social media to

perform consumer feedback and build consumer relationships (calculated as 26.6% and 53.2% consecutively).

**Social media adoption benefits in SMEs**

Table 1 presents the benefits of adopting social media in SMEs of Bangladesh given by respondents. Branding company products, strong networking and good collaboration merging and expanding customer relationships, and boosting sales revenue were key benefits for using social media, with 19.5%, 16.4%, 14.2% and 14.0% given by the respondents, respectively.

Table 5. Distribution of social media adoption advantages in SMEs

| Benefits  | Frequency  | Percentage |
|---|------------|------------|
| Branding products                               | 71         | 19.5%      |
| Providing up-to-date product information        | 33         | 9.0%       |
| Merging and expanding customer relationships    | 52         | 14.2%      |
| Strong networking as well as good collaboration | 60         | 16.4%      |
| Increasing product understanding and awareness  | 28         | 7.7%       |
| Advertising and promotion                       | 30         | 8.2%       |
| Increasing Sales and revenues                   | 51         | 14.0%      |
| Improve business performance                    | 17         | 4.7%       |
| Competitive advantage                           | 23         | 6.3%       |
| <b>Total</b>                                    | <b>365</b> |            |

Source: Authors' Data

In contrast, a smaller percentage of SMEs have benefited from using social media in the following areas: Providing up-to-date Product Information, Advertising and Promotion, Competitive Advantage, and Business Performance Improvement (9.0%, 8.2%, 7.7%, 6.3% and 4.7%, respectively).

**Challenges of social media adoption in SMEs**

Bangladeshi SMEs faced six (6) types of challenges regarding social media adoption in SMEs. Table 2 presents challenges to adopt social media in SMEs of Bangladesh given by respondents. Lack of resources (mainly money), lack of top management support, skillful human resources, and enterprises are unaware about the best utilization of social media in business was found to be key challenges for using social media, with 32.6%, 19.7%, 17.5% and 16.7% given by the respondents respectively.

Table 6. The distribution of social media adoption difficulties in SMEs

| Challenges   | Frequency | Percentage |
|--|-----------|------------|
| Challenge in managing man, machine, material, money, market, and method (6M) | 119       | 32.6%      |
| Skillful Manpower  | 64        | 17.5%      |
| Lack of knowledge about the available technologies                           | 28        | 7.7%       |

|   |            |       |
|---|------------|-------|
| Inadequate Top Management Assistance  | 72         | 19.7% |
| Insufficient Security   | 21         | 5.8%  |
| Enterprises are unaware of the best utilization of social media in Business | 61         | 16.7% |
| <b>Total</b>  | <b>365</b> |       |

Source: Authors' Data

In contrast, a smaller percentage of small and medium enterprises have faced challenges from using social media in the following areas: Lack of knowledge about the available technologies and Insufficient Security (respectively 7.7% and 4.8%). Despite the obstacles, other academicians and researchers say that due of the features of SMEs; they have a better chance of adopting social media than their larger counterparts(Dekker et al., 2020)

### **Validity and reliability**

#### *Reliability*

Table 7 depicts that Cronbach's alpha values for all of the components in the model are over 0.7. The calculated values range from 0.71 to 0.932, suggesting excellent internal consistency and trustworthy constructions.

Table 7. Summary of reliability assessment result

| <b>Related Questions No. (from the survey)</b> | <b>Constructs</b>                  | <b>Reliability (Cronbach's alpha)</b> |
|--|------------------------------------|---------------------------------------|
| <b>Technology</b>                              |                                    |                                       |
| Q27-Q29  | Relative Advantage                 | 0.904                                 |
| Q30-Q31  | Complexity                         | 0.715                                 |
| Q32-Q33  | Compatibility                      | 0.710                                 |
| <b>Organization</b>                            |                                    |                                       |
| Q34-Q35  | Top Management Assistance          | 0.720                                 |
| Q36-Q37  | Management Innovativeness          | 0.778                                 |
| <b>Environment</b>                             |                                    |                                       |
| Q38-Q39  | Competitive Pressure               | 0.932                                 |
| Q40-Q41  | Customer Pressure                  | 0.887                                 |
| Q42-Q43  | Friends and Family Members Support | 0.924                                 |

Source: Authors' Data

#### *Validity*

The analysis of the 'Kaiser-Meyer-Olkin (KMO)' index and 'Bartlett's Test of Sphericity' shows that the indicators' calculated values fulfill the mentioned standards. Table 8 shows that the KMO index number and the three TOE contends were well above the mentioned minimum value of 0.6. The BTS associated with the three contexts also had reached a significant level of less than 0.05. Performing



EFA (Exploratory Factor Analysis) analysis of the collected data of the study was supported from the results of the two indicators.

Table 8. KMO and BTS values in the TOE contexts

| Context      | Measure                  |                                     |
|--------------|--------------------------|-------------------------------------|
|              | Kaiser-Meyer-Olkin (KMO) | Bartlett's Test of Sphericity (BTS) |
| Technology   | 0.895                    | 1826.4 (p = 0.000, <0.05)           |
| Organization | 0.825                    | 642.01 (p = 0.000, <0.05)           |
| Environment  | 0.706                    | 1990.7 (p = 0.000, <0.05)           |

Source: Authors' Data

The items concerned with the TOE variables in this study had significant factor loadings. This implies that the cross-loading and factor loading scores exceeded 0.5 in all cases, indicating the significantly accepted situation.

### Logistic regression

Considering the study's objectives and the dependent variable (denoted as: 1= social media adoption, 0 = not social media adoption), L.R. analysis was seen as a suitable statistical method to analyze and illustrate the contact of the influence of TOE on SMEs' decisions to use social media.

In logistic regression, the fundamental equation to explain the connection among the collection of variables is generally stated and illustrated by a mathematical equation ([Chatterjee and Hadi,2015](#)).

$$\text{logit}(Y) = b_0 + b_1X_1 + b_2X_2 + b_3X_3 + \dots + b_nX_n$$

Where,

Y = denoted the likelihood of a favorable adoption choice (dependent variable).

$X_1, X_2, X_3,$  and  $X_n$  reflects the eight TOE-related variables in the model (independent variable)

$b_1, b_2, b_3$  and  $b_n$  denotes the independent variables' coefficient.(n = 8).

## 5. Discussion

To determine the most influential factors by analyzing the influence of each independent variable on the regression model's outputs. Finding independent variables during the construction of the L.R. model is critical, even if it is a difficult decision ([Hilbe, 2009; Hosmer et al., 2013](#)).

A binary logistic regression was employed to search the factors (the independent variable) that affect Bangladeshi SMEs' social media adoption (the dependent variable). The findings related to every independent variable involved in the analysis and explicate the contribution to the overall model outcomes by calculating the impact of adjustments to every independent variable. The findings of the L.R. study showed that among the eight TOE components, four were supported as well as predicted to have a substantial impact on the social media adoption among the studied SMEs after hypotheses assessment. As a result, the regression analysis contained all four components.

Table 9 explained the hypotheses testing, calculating the relative significance of each of the predictor variables in relation to the measured variable (Adoption in social media or Non-adoption in social media). Clearly, it provides factors involved in the full model, providing the role they play in influencing the measured variable.

Table 9. Results of logistic regression analysis

| Independent Variables  | B     | S.E  | Wald  | D.F  | Sig. | Exp ( $\beta$ ) |
|--|-------|------|-------|------|------|-----------------|
| <b>Technology</b>  |       |      |       |      |      |                 |
| Relative Advantage   | 0.97  | 0.42 | 5.37  | 1.00 | 0.02 | 2.63            |
| Complexity   | 0.87  | 0.38 | 5.20  | 1.00 | 0.02 | 2.39            |
| Compatibility  | -1.17 | 0.40 | 8.55  | 1.00 | 0.00 | 0.31            |
| <b>Organization</b>  |       |      |       |      |      |                 |
| Top Management Support   | -0.79 | 0.33 | 5.83  | 1.00 | 0.02 | 0.46            |
| Management Innovativeness  | 0.94  | 0.33 | 8.00  | 1.00 | 0.01 | 2.56            |
| <b>Environment</b>   |       |      |       |      |      |                 |
| Competitive Pressure   | -0.11 | 0.17 | 0.41  | 1.00 | 0.53 | 0.90            |
| Customer Pressure  | 0.05  | 0.17 | 0.09  | 1.00 | 0.76 | 1.05            |
| Friends and Family Members Support   | -0.03 | 0.19 | 0.02  | 1.00 | 0.89 | 0.97            |
| Constant   | -2.81 | 0.47 | 35.65 | 1.00 | 0.00 | 0.06            |
| Hosmer & Lemeshow = 9.759, Cox & Snell = 0.079, Nagelkerke = 0.137 Significance: * p < 0.01, ** p < 0.05, *Dependent variable: 0 = No, 1 = Yes |       |      |       |      |      |                 |

Source: Authors' Data

**Technology context**

As stated previously, the L.R. assessment includes technology aspects such as relative benefits, complexity, and compatibility to evaluate the variables that affect the social media adoption by Bangladeshi SMEs. Table 10 illustrates the hypotheses associated with the technology-related aspects that were evaluated.

Table 10. Technology context related hypothesis

| No. | Hypothesis   |
|-----|--|
| H1  | The perceived comparative benefit of social media has a favorable impact on SMEs' propensity to use or adopt it. |
| H2  | The perceived difficulty of social media has a negative impact on SMEs' propensity to use or adopt it.           |
| H3  | The perceived appropriateness of social media has a favorable impact on SMEs' propensity to use or adopt it.     |

Source: Authors' Data

The three variables tested, including – Relative advantage, complexity and compatibility, were significantly connected with the adoption of social media as each yielded a p-value of less than 0.05. Within the technology context, each of the significant variables are showing below. The result of relative advantage suggest that it is statistically significant at the level of 0.05 ( $\beta = 0.97$ ,  $p = 0.02$ ,  $<0.05$ ). From the result the factor relative advantage plays an important role in the decision of SMEs to adopt social media and its related hypothesis (H1) was accepted. Getting support from the result for the positive effect of complexity ( $\beta = 0.87$ ,  $p = 0.02$ ,  $<0.05$ ) on the anticipation/prediction of social media adoption by SMEs. These results support hypothesis (H2) implies that trying social media applications is significant in the decision of SMEs to adopt them

Further compatibility ( $\beta = -1.17$ ,  $p = 0.00$ ,  $<0.05$ ) was found to contribute negatively to the decision of the SMEs to adopt social media. As a result, it emphasized accepting the hypothesis (H3). One more technological variable like compatibility is significantly impacted from the results of findings for the adoption of social media by SMEs in Bangladesh.

**Organization context**

The effect of two variables like top management support and innovativeness are attempted to explain under this organizational context. Table 11 explores the hypotheses connected with these five factors. All organization context variables were found to significantly affect the adoption of social media by SMEs in Bangladesh from the result of L.R. analysis. The relation to each of two variables within the organization context according to findings is presented here.

Table 11. Organization Context Related Hypothesis

| No. | Hypothesis   |
|-----|--|
| H4  | Support from upper management has a favorable impact on SMEs' choice to use or adopt social media. |
| H5  | Innovativeness of social media has a positive influence on SMEs' choice to use or adopt it.        |

Source: Authors' Data

The results for top management support indicate that it is statistically significant at the level of 0.05 ( $\beta = -0.79$ ,  $p = 0.02$ ,  $<0.05$ ) and the effect of top management support is negative on the anticipation/prediction of social media adoption by SMEs. Hypothesis (H4) supported from findings indicate that trying social media applications is significant in the decision of SMEs to adopt them. The results for innovativeness indicate that it is statistically significant at the level of 0.05 ( $\beta = 0.94$ ,  $p = 0.01$ ,  $<0.01$ ). According to the result, Hypothesis (H5) was accepted implies that innovativeness plays an important role in the decision of SMEs to adopt social media.

**Environment context**

Three environmental factors like competitive pressure, customer pressure and friends' and family members' support were tested in the L.R. model. Table 12 shows the hypothesis connected with three environmental factors. From three variables tested they were found to be insignificant concerning the adoption of social media.

Table 12. Environment context related hypothesis

| No. | Hypothesis  |
|-----|---|
| H6  | Competitive pressure has a favorable effect on SMEs' choice to use or adopt social media. |
| H7  | Customer pressure has a positive impact on SMEs' choice to use or adopt social media.     |

H8

Supports from the Friends and Family members have positive impact on SMEs' choice to use or adopt social media.

Source: Authors' Data

The results found no statistically significant connection for either the competitive pressure, customer pressure and friend and family members' support concerning the social media adoption decision for the selected sampled SMEs. Among factors produced p-values are greater than 0.05 ( $p = 0.53$ ,  $p = 0.76$  and  $p = 0.89$  respectively). Thus, hypotheses H6, H7, or H8 were rejected due to the lack of statistical support.

## 6. Conclusion

The given study identifies the factors that affect the adoption of social media for small and medium enterprises in Bangladesh and also highlights the significant factors from the identified factors. Five variables that positively impact social media adoption have emerged in the given study, namely, relative advantage, complexity, compatibility, top management support, and management innovativeness. Of these, only three independent variables positively impact social media adoption, namely relative advantages, complexity, and management innovativeness. The survey found that SMEs in Bangladesh are coming forward to overcome the different technological, organizational, and environmental challenges. To embrace the challenges into opportunities, they need different kinds of logistics supports such as initial funding, entrepreneurial and technology training from government and organizations. For the sustainable betterment of the sector, social media adoption is curtail. Technological collaboration can enhance organizations' tangible and intangible assets, ignoring their size, activities, and status (Zolkepli & Kamarulzaman, 2015; Dekker et al., 2020). The core limitations of the study are respondents' busy schedules. In some cases, they were unwilling to respond. Secondly, due to time and budget, the research could not extend its scope from Dhaka city to others parts of the country. Due to the lack of technological and social aspect involvement of media in the contextual development of SMEs in Bangladesh is literally less, future research can be broadly done on the entire functional areas of SMEs as part of the economy engaging the socio-technological aspects of the system. Technological adoption through different social media can introduce globally the products/ services, qualities, prices providing sustainable acceptance in an upper hand. The study can increase the sustainable development of the SMEs to the society through their acceptance of social media as well as ICTs adoption by enlarging their capacity building and transforming the challenges in o opportunities in a collaborative manner.

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