

Usages and Influencing Factors of Adopting ICT in SMEs: A Comparison between Bangladesh and Malaysia

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ABSTRACT

Nowadays it is a proven fact that Small and Medium Enterprise (SME) sector in all over the world is playing a vital role in economic growth and creating employment opportunity. As an instrument for poverty alleviation, the growth of SMEs can be remarkably considered and it ensures the rapid industrialization. Use of ICT-based solutions has potentially developed firm's adeptness and efficiency to SMEs. Notable number of SMEs around the world has permitted ICT usages to promote the competitive advantage and organizational performance. Most of the SMEs have invested conspicuously in adoption and use of ICT to compete in the fast-faced business environment. The objective of this paper is to contrast the usages of ICT in SMEs in Bangladesh and Malaysia. The paper also analyzed the influencing factors of ICT adoption in Bangladesh and Malaysian SMEs.

Keywords: Adoption, ICT, Influencing factor, SMEs

1. INTRODUCTION

Small and Medium Enterprises (SMEs) are defined as non-subsidiary, independent firms employing less than a certain number of employees. The number of employees may differ from country to country [1]. SMEs has very significant role in the world economy. These days the importance of this sector is easily recognized in the world economy. Although this may vary from country to country, typically SME sector globally accounts for about 70% of national product [2]. In the past decade the use of electronic Commerce or e-commerce (EC) has been increasing in developing countries. In developing countries, internet user has meaningfully increased from almost no user per 100 inhabitants in 2000 to around 18% of the population in 2009 [3]. From the very beginning, with advantages of global reach, ease of access, enhanced interactivity, flexibility and speed, ability to communicate large amounts of information, cost efficiency and ease of maintenance, as highly effective communications channel the potential of the internet appeared obvious [4]. In almost every sector, information and communication technology

(ICT) has become an unavoidable part of human life around the world. The ways of communication have reshaped and organizational strategies have changed in both public and private sector because of rapid growth of ICT usages. In the business sector, usages of ICT, particularly the Internet has made changes to the systems, procedures, and processes of relevant services and also affects the way through which customers, suppliers, the regulatory bodies and other external parties deal with business organizations. Less cost, rapidity, accurateness, efficiency and facility to communicate regardless of time and place, with such advantages ICT has become the fastest technological innovation to date [5].

2. LITERATURE REVIEW

2.1 SMEs in Bangladesh and its contribution on economic growth

The most authoritative definition for SMEs in Bangladesh is provided by National Industrial policy. Table 1 shows the definition of SMEs according to the

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latest industrial policy, the National Industrial Policy of 2016. It is authoritative because the definition discussed in the document has been endorsed by the Ministry of Industries of Bangladesh government.

Table 1: Definition of SME.

Source: National Industrial policy (2016). (Currency in BDT)

Sl	Type of Industry	The amount of investment (Replacement cost and value of fixed assets, excluding land and factory buildings)	Number of employed workers
1.	Cottage Industry	Below 10 lakh	Not exceed 15
2.	Micro Industry	10 lakh to 75 lakh	16 to 30
3.	Small Industry	Manufacturing	75 lakh to 15 crore
		Service	10 lakh to 2 crore
4.	Medium Industry	Manufacturing	15 crore to 50 crore
		Service	2 crore to 30 crore
5.	Large Industry	Manufacturing	More than 50 crore
		Service	More than 30 crore

In Bangladesh SME is categorized into two broad classes by the Government; Manufacturing and Non-Manufacturing enterprise (service) and manufacturing enterprises are divided into two categories; Small enterprise (investment is 75 lakh to 15 crore) and Medium enterprise (investment is 15 crore to 50 crore). Non-manufacturing enterprises divided into two categories; Small enterprise (investment is 10 lakh to 2 crore) and Medium enterprise (2 crore to 30 crore) [6].

The Ministry of Industries, Government of Bangladesh has been identified following 11 booster sectors [5];

1. Electronics and electrical
2. Software-development
3. Light engineering and metal-working
4. Agro-processing/agro-business/plantation agriculture/ specialist farming/tissue-culture
5. Leather-making and leather goods
6. Knitwear and ready-made garments
7. Plastics and other synthetics
8. Healthcare & diagnostics
9. Educational services
10. Pharmaceuticals/cosmetics/toiletries
11. Fashion-rich personal effects, wear and consumption goods.

According to the National Economic Census 2013, conducted by the Bangladesh Bureau of Statistics, in Bangladesh there are in total 7.81 million economic entities and of them 11% are SMEs. But another source (ADB Institute, 2016) shows very specific ratio where stated that, about 99 % of Bangladeshi formal business enterprises are SMEs. This sector has strong contribution (25%) in national GDP and constitutes about 75% of non-agricultural employment. The following involvements (25%) in national GDP are outcomes of only the manufacturing SMEs and it may expect that the amount will be higher if the role of service sector SMEs could be calculated. Even though there has less data availability of SME service sector contribution, but it seems this sector has around 56.34% supports to the national GDP [7].

2.2 Malaysian SMEs and its contribution in economy

SMEs are a very important sector in Malaysian economy like other countries. Small and Medium Enterprises (SMEs) represent 97.3% of total establishment of Malaysian economy. SMEs have done exceptionally well in 2014 and during the year reflected underlying fundamental as well as the one-off effect from the redefinition of SMEs and had made remarkable profit. In compare with all other economic sectors, SMEs growths were higher in overall performance and its contribution has increased significantly to 35.9% in Gross Domestic Product (GDP) in the year 2014 [8].

With probable of stable growth in 2014, Malaysian economy extended by 4.7% in 2013. An incentive to facilitate the growth of innovative SMEs under the Green Lane Policy, have been extended from end 2015 until end 2017 and Malaysian Government also announced measures to ensure that SMEs are not adversely affected and are able to adjust their businesses to the on-going policy reforms in the economy. Statistics show the long-term development trend of SMEs since 2004. From 2005 to 2013 SMEs average compounded annual growth rate (CAGR) was 6.3%, where 4.7% is the CAGR of the overall economy. In 2005, SMEs contribution to GDP was 29.4% where 33.1% was in 2013. Comparison of the growth of employment, SME was about 1% higher than large firms and the share of SME employment to total employment increased from 57.1% to 57.5% in 2013 [8].

2.3 Malaysian SMEs by Economic Sector

As Stated in Economic Census 2016 [9], the followings are considered booster sectors and all have subsectors:

2.3.1. Services sector

In Malaysian SMEs this sector is highly concentrated, which accounted for 89.2% (809,126 firms) of total SME establishments. Under this there have 3 subsectors; Wholesale & Retail, Food & Beverages Services and Transport & Storage.

2.3.2. Manufacturing sector

Manufacturing sector has about 5.3% involvement with the following subsectors; Textiles & Apparels, Food & Beverages Products and Fabricated metal products.

2.3.3. Construction sector

Followed by 4.3% (39,158), construction sector do contribute in GDP with Non-residential Buildings, Civil Engineering and Residential Buildings subsectors.

2.3.4. Agriculture sector

Agriculture sector has 3 subsectors; Crops, Livestock and Fisheries and has 1.1% contribution.

2.3.5. Mining & quarrying sector

With 2 subsectors; Stone quarrying and Mineral Mining, Mining & quarrying sector contribute 0.1% in Malaysian GDP.

Table 2: Definition of Micro, Small and Medium Category Enterprises. (Source: www.smecorp.gov.my)

Category	Micro	Small	Medium
Manufacturing	Sales turnover of less than RM 300,000 OR full-time employees less than 5	Sales turnover of less than RM 300,000 to less than RM 15 million OR full-time employees from 5 to less than 75	Sales turnover from RM 15 million to not exceeding RM 50 million OR full-time employees from 75 to not exceeding 200
Service & Other Sectors		Sales turnover of less than RM 300,000 to less than RM 3 million OR full-time employees from 5 to less than 30	Sales turnover from RM 3 million to not exceeding RM 20 million OR full-time employees from 30 to not exceeding 75

3. ICT USAGES IN BANGLADESH AND MALAYSIAN SMEs

In developing countries the rapidly increasing trend of ICT usage in business (particularly Internet use) provides a motivation for both large organizations and smaller ones to adopt ICT [5]. As stated in [10] from different locations of Bangladesh a survey was conducted within the SMEs and got 220 usable replies. Analysis report shows that fully automated Information Systems (IS) is used by 28.6% SMEs (73 SMEs) for business operations and partially automated information system (defined as a combination of some sort of general purpose application software and human effort) is used by 57.6% of total (147 in number) SMEs. Manual information system is used by 23 SMEs (9.1% of total) and only 12 SMEs (below 5% of total) do not use any sort of IS. Finding shows that a major amount of SMEs (86.2% of total) are somehow exposed to computer based IS in Bangladesh. It is also discovered that, a number of SMEs (112 in number and 50.9% in total) use IS for record keeping purpose only while 88 SMEs (40% of total) use IS for both record keeping and daily reporting purpose. For record keeping, daily reporting and decision making purpose 17 SMEs (7.7% of total) use IS. So, it can be resolved that, at the operational management level IS is used by a significant number of respondents (200 SMEs in number and 90.9% of total). It is also noticed that, in few cases IS plays role in tactical or strategic level (20 in number and 9.1% of total) of management. A point should be noted that, the organizations exposed to computer based IS are considered for this measurement.

In case of Malaysia, the used data is collected from Master's thesis, which is conducted in Malaysia in perspective of ICT usages and adoption in SME sector. A remarkable number of reference papers are used to do the thesis. Of them [11, 12, 13, 14] may be mentioned. The survey shows the ICT usages scenario in SMEs. Within total 200 usable replies it is exposed that, 180 SMEs (90% of the respondents) have E-business website and maximum of them has created their own E-business website in the year of 2011, 2012, and 2013, which are (19.0%), (17.0%) and (20.5%). There have only 1 full time

IT staff in (44.6%) firm, where there is 2 and 3 full time IT staffs in (20.3%) and (7.3%) firm. (6.2%) firms have 5 full time IT staff. In case of E-business maintenance (72.5%) firms manage this by own IT staff and (9.5%) firms have non-IT staffs to do maintenance E-business website. 49.5% respondents are knowledgeable about E-business which and (27.0%) respondents are somewhat knowledgeable.

4. INFLUENCING FACTORS OF ADOPTING ICT IN BANGLADESH AND MALAYSIAN SMEs.

In-group collectivism, ethical culture, and Bengali value are the influencing factors of adoption and use of ICT in Bangladeshi SMEs [5]. Cultural dimensions are also considerable as influencing factor of ICT adoption and diffusion among the SMEs in Bangladesh. It is also indicated in this study [5] that group performance or a sense of team work encourages and fosters ICT adoption and use among Bangladeshi SMEs. Beside these it is also discovered through the paper that, ICT adoption in Bangladesh can be inhibited for corruption, nepotism and regionalism and the positive and strong intention would foster the use of this technology.

The findings of survey in Malaysia show that, 'Customer satisfaction' is an important influencing factor. 'Customers demand' and 'After sales service' also influence to adopt and use of ICT in Malaysian SMEs. Study also shows that 'Easy acquiring of IT expertise', Pressure and demand from competitors and partners', 'Support from the local IT industry' these are important influencing factors. Top management's initiative and support with resources, are also discovered as ICT adoption influencing factors in Malaysian SMEs.

5. FINDINGS OF THE STUDY

The study has shown the comparison of ICT usages in SME sector between Bangladesh and Malaysia. In this paper, it is also discovered few important influencing factors of adopting ICT both in Bangladesh and Malaysia. It is expected from this work that readers will get a general scenario of ICT adoption and usages of the following countries. Besides that, SMEs in developing countries like

Bangladesh, will be able to compare their ICT usages in daily business and hopefully will be vehement to use this technology and will develop them.

6. CONCLUSION

With relatively little capital, SMEs can attract remarkable number of investors and generate highest production and employment opportunity and thus hold the key to the future of the economy. SMEs can be more competitive in the global economic environment by improving operational efficiency through ICT adoption and use. Understanding SMEs importance, Bangladesh government is committed to establish a technology driven society and utilizing the potential of ICT in the country's economic development. It is expected that to significantly develop this SME sector - government awareness, consideration of SMEs owners and other parties to overcome the traditional hierarchical organisational systems can be more effective. Hopefully, creating an equal and supportive working environment ICT adoption and usages among SMEs in Bangladesh will increase.

7. LIMITATION OF STUDY

There have some limitations in this study which should avoid by future researchers. Number of samples is one of them. For analysis, total 220 samples are considered as moderate samples. To reduce sampling error and increasing reliability better use more data [15].

REFERENCES

1. Ayyagari M, Beck T, Demircuc-Kunt A. Small and Medium Enterprises Across the Globe. *Small Business Economics*. 2007;29(4): p. 415-434.
2. OLaoire O, Donal, Welford R. The EMS in the SME. Corporate Environmental Management 1: Systems and Strategies.2014: p. 199.
3. UNCTAD, Information Economy Report 2010. United Nations Publications, 2010.
4. Doherty NF, Ellis-Chadwick F. Internet retailing: the past, the present and the future. *International Journal of Retail & Distribution Management*.2010;38(11/12): p.

943-965.

5. Azam, Quaddus. Examining the Influence of National Culture on Adoption and Use of Information and Communication Technology: A Study from Bangladesh's SME Perspective. *The International Technology Management Review*. 2013;3 (2): p. 116-126.

6. National Industrial policy, 2016. Available from: https://www.mof.gov.bd/en/budget/15_16/ber/en/Ch-08.pdf. (Accessed: December 14, 2017)

7. SMEs and our development goals. Available from: <http://www.thedailystar.net/education-employment/smes-and-our-development-goals-1366591>. (Accessed: December 14, 2017).

8. SME Annual Report, 2013/14. Available from: <http://www.smecorp.gov.my/vn2/node/1475>. (Accessed: December 14, 2017).

9. Economic Census 2016, Malaysia. Available from: <https://www.dosm.gov.my/v1/index.php?r=column/>

cone&menu_id=UllYtnF2UTJMM1R1VmITIZVbk5Wdz09. (Accessed: December 14, 2017).

10. Mursalin JA. Information System Adoption and Usage: Validating Utaut Model for Bangladeshi SMEs. *BRAC University Journal*. 2012; IX (1&2): p. 15-24.

11. Sila I. Factors affecting the adoption of B2B e-commerce technologies. *Electron Commer Res*. 2013;13: p. 199–236.

12. Kamaruzaman KN, Handrich YM, Sullivan F. E-commerce adoption in Malaysia: Trends, issues and opportunities. *ICT strategic review*. 2010;11: p. 89-134.

13. Mansor N, Abidin AFA. The application of e-commerce among Malaysian small medium enterprises. *European Journal of Scientific Research*. 2010;41(4): p. 590- 604.

14. Oliveira T, Martins MF. Literature review of information technology adoption models at firm level. *The Electronic Journal Information Systems Evaluation*. 2011;14(1): p. 110-121.

15. De Vaus D. Analyzing social science data: 50 key problems in data analysis. Publisher: *SAGE Publications Ltd*. 2002.