

Causes of Failure of Implementation Management Information Systems (MIS) in Small and Medium Enterprises (SMEs) in the Middle East

Faisal Almutairi

School of Computing, Engineering and Mathematics
University of Brighton
United Kingdom
F.Almutairi1@uni.brighton.ac.uk

Mithileysh Sathiyarayanan

School of Computing, Engineering and Mathematics
University of Brighton
United Kingdom
M.Sathiyarayanan@brighton.ac.uk

Abstract—This paper aims to identify factors that are affecting business failures of small and medium enterprises (SMEs) in Middle East. The intention of this research study is to provide insights on the understanding of how people could improve their business by looking at factors affecting business failures and increase chances of success. Though there are over 100 factors, this study examined few main factors that influence the SMEs business success, one is external factors and the other is internal factors. The failure rate of information system management projects within enterprises, particularly in small and medium enterprises in contrast to the big enterprises are quite high. There are many other reasons for this rate of failure in small and medium enterprises (SMEs) in the Middle East. The key target of this research is to examine only few major factors which are responsible for the failure of implementation of management information systems (MIS) in small and medium-sized enterprises using a research model and the future work of conducting a questionnaire survey and focus group with the business people in the Middle East. The review of current pertinent literature which includes theories, perspectives, empirical research and case studies are necessary in order to understand causes for the failure of IS systems in SMEs operating in Middle East which also help to address issues for the different parts of the world when adopting IT. The future work will be to conduct a survey in the Middle East and test the hypothesis.

Keywords— MIS, SME, empirical research, IT adoption, IT failures

I. INTRODUCTION

Small and medium-sized enterprises (SMEs) are also called as small and medium-sized businesses (SMBs). These enterprises are responsible for driving innovation and competition in many economic sectors. SMEs play an important role in every country's economy as suggested by the literature. In Middle east, SMEs represent some extent of the aggregate foundations in the different sectors. However, changes in the environment cause more uncertainty in SMEs than in large companies. Technology has played a huge role in globalizing these sectors. The technological advancement has intensified the process of globalization and also aggravated the use of information system implementation in both business and non-business organizations for the attainment of the competitive edge in the market, which today is more dynamic than twenty years back. With the increase usage of information systems in the organizations the failures rate for

the implementation of such systems has also increased, particularly in small and medium enterprises (Bruque & Moyano, 2007). The success for the implantation of information systems is not easy but a complex as it depends upon various factors from design to execution (Sardana, 2008). The rate of failures for the implementation of information systems is higher in small and medium enterprises as compared to big enterprises for various reasons (Zach and Erik Munkvold, 2012). For some academics, costs issues, management issues, and inadequacy of resources issues are key reasons for the failure of information system implementation within small and medium enterprises whereas for others competitive pressure, organizational structure, competitiveness of information system and information technology acceptance are main reasons (Ghobakhloo et al, 2011). An enterprise is thought to be a SME taking into account estimation of advantages or assets or number of full-time employees it employs. The meaning of small and medium enterprise (SME) changes from nations to nations. In light of the differences of small business, each basic definition is liable to feedbacks and criticisms.

Information System might experience several problems that restrict it from efficient working. The topic has been chosen with particular reference to my research studies. The study of people, technology and organization and the way in which these are interrelated is referred as Management Information Systems (MIS) (Whitneya and Daniels, 2013). Companies and organizations are facilitated by management information systems to get higher benefits through making considerable investments in personnel, business processes and equipment. The emphasis is on service provision through technology in management information systems. However, management information systems also fails due to a number of factors. The research will highlight the reasons or causes for failure of management information systems in organizations. When the key users are not able to use the system for achievement of project goals, they are not able to ripe its benefits. Moreover, investments in IT are rather expensive and risky that is another reason for failure to adopt MIS (Bartis and Mitev, 2008). Some aspects of the system also fail to fulfill the expectation and some contribute in the success. The function ability and success of the system is based on the skills and expertise of people working in the organization. Some political process can also lead to the failure of MIS (Sweis, 2015).

A. Problem Statement

Small and medium-sized ventures (SMEs) are essential to monetary development and fundamentally key to produce employment opportunities. Subsequently, the eventual future of the Middle East economy depends on an extraordinary degree on the accomplishment of SMEs as compared to other nations. Middle East SMEs are confronting a series of external and internal factors that have massive effects on their development and furthermore there are difficulties for them to make a more prominent contribution to the economy.

The purpose for this study is to unequivocally carry out research and consider viewpoints that are hampering the development of SMEs in Middle East. The issue is inquired about from two alternate points of view: external and internal effect that have an effect on the development of SMEs.

B. Research Questions

1. What are the causes and failure of management information systems in small and medium enterprises (SMEs)?
2. How the assessing of two main factors can help in improving SMEs?

C. Aim of the Research

The main aim of the research is to explore the causes and failure of management information systems (MIS) in small and medium enterprises (SMEs) in Middle East.

D. Objectives of the Research

1. Investigate the factors that influence the decline of the SMEs all over the world.
2. Investigate in-depth on the two major factors that affect the production in the SMEs in Middle east.
3. Provide recommendations based on the research to improve production in the SMEs in Middle East.

E. Tasks

1. To understand the background of Middle East Culture and their business developments.
2. To investigate on the factors that influence the decline of the SMEs all over the world.
3. To investigate in-depth on the two major factors that affect the production in the SMEs in Middle east.
4. To design the questions, plan the empirical study and to collect the results.
5. The analysis of the results to be carried and certain suggestions or recommendations to be proposed.

F. Original Contribution

The original contribution to knowledge in this study is that: investigated on the factors that influence the decline of the SMEs all over the world, developing questions based on the Middle East context and providing suggestions or recommendations for the SMEs to be successful.

II. BACKGROUND

There is an impressive variety in the criteria for achievement utilized as a part of past studies. Experimental

investigations of factors influencing SME failures can be generally separated into two gatherings as indicated by whether they concentrate on a truly restricted arrangement of variables or attempt to catch more comprehensive profiles of effective SMEs. Past exploration has utilized both overviews and contextual analyses. There are likewise a few gatherings of past investigations of the SMEs failure.

Md. Aminul Islam, Ezaz mian and Muhammad Hasmal Ali (2008) in their investigation of SMEs in Bangladesh found that items and administrations, the method for working together, administration expertise and, outside environment are most critical figures deciding the business accomplishment of SMEs. The accompanying late studies in view of overviews have managed the elements influencing SME achievement. Nurul Indarti and Marja Langenberg (2005) distinguished key parts to be vital in breaking down the business achievement of SMEs which incorporates the qualities of the business visionaries; the attributes of the SMEs; and the relevant components of SME improvement. Westhead (1995) examined variables affecting the survival of 227 high-innovation of small firms. Ghosh and Kwan (1996) made a cross national intersectoral investigation of the key achievement variables of 152 SMEs in Singapore and 164 SMEs in Australia. Kauranen (1996) completed a subsequent investigation of 37 new assembling firms in Finland and contemplated the determinants without bounds achievement of the firm in the short term also, in the long haul. Yusuf (1995) investigated discriminating achievement components for little firms in a few industry areas taking into account the impression of 220 South Pacific business visionaries. Wijewardena and Cooray (1996) investigated the significance of an arrangement of achievement elements by contemplating an example of 300 little assembling firms in Japan.

III. IT AND SMES

Small and medium enterprises are diverse characteristically as some SMEs are dynamic and elastic with a big capability to innovate as well as an immense variety of diversity whereas others are centered upon family association in corporation with roots in indigenous business set up and some are very weak as they are competing for their survival in the market. The performance of small and medium organizations can be improved with the use of information technology systems (Bruque & Moyano, 2007). However, a lack of willingness for networking with other organizations together with unwillingness to make use of sophisticated IT systems proved opposite. In case of vague returns the incentive to alter business framework is low in SMEs (Devos et al, 2007). However, normally SMEs do not outshine in knowledge preservation as well as in attaining a stable competitive gain, which is the reason why there is a slower implementation of information technology in SMEs as compared to the large companies (Dibrell et al, 2008). Disappointed implementation of IT in small and medium enterprises is regardless of the development of particular IT governing techniques, such as the Cobit QuickStart technique for practitioners (Devos et al, 2007).

A. Information systems (IS) failures

The description of failure of information system is hard for the reason that IS failure is an intricate happening. The efforts to explain this phenomenon has been observed in the Information and technology literature since 1970s (Zach and Erik Munkvold, 2012). The opinion of individuals associated with the information system often affect IS failure (Devos et al, 2012). For some academics, failure of information system is about extinction of a venture because of an intolerable buildup of flaws whilst for others the incapability of an information system to satisfy the expectations of its stakeholders (Laudon & Laudon, 2011). However, though a flaw is a state that if amassed might responsible for the structure to fail, yet it can be corrected at the next phase at a cost (Amid et al, 2012). Thus, the behavior of enterprises varies while addressing information system failure inside their different organizational structures. However, certain explanation to the IS failure suppose that technology is unbiased as well as smooth (Mitev, 2000).

B. Failure in IS usage or operation

System failure is developed by the structure not functioning correctly either it does not work as projected or it is not functional at the particular time and resultantly cannot be employed in the manner it intended (Zach and Erik Munkvold, 2012). However, this explanation is not capable of mirroring the intricacy of information system failure as a mixture of expertise and societal issues (Ramdani et al, 2013). Two approaches are employed to explain information system failure in organizational as well as societal framework: expectation failure is the first approach which was extended by Lyytinen (1988) to make differentiation among development failure, and usage failure and the second is termination failure (Yeo, 2002). Lyytinen (1988), in his attempt to extend the concept of expectation failure argued that a failure is detected by the stakeholders in both phases, namely developmental and usage; however, in the first phase, an attempt is made by stakeholders to set the information system development procedure to their concerns, where the stakeholders make attempts to line up the information system with their current interests in the usage stage.

C. Failure in the development of IS

Common failure in the development phase of information system is known as project abandonment, which is divided into three kinds: total, substantial and partial abandonment. When all actions associated with venture are ended up wholly before execution it is called total abandonment whereas when key alterations are done in the venture making it considerably different than its original version prior to the execution phase then it is called substantial abandonment (Zach and Erik Munkvold, 2012). In the same vein, when the original conditions are diminished regardless of any key changes prior to the execution process then it is known as partial abandonment (Sharma and Yetton, 2007).

The development of information system was depicted by Sauer (1993) as an interface of venture institution which was

structured upon followers as well as information system in a triangle con-tour. The role of supporters in this regard is essential for a venture institution to give support as supports relied upon information system for gains whilst information system is relied upon the endeavours of the supporters and knowledge of the project institution to maintain it (King and Burgess, 2008). In the model of Sauer, the development course of information system is prone to faults, which are explained as an unwanted predicament that must be resolved. However, the correction process of these faults should be with-in certain and accepted range of cost (Sharma and Yetton, 2007). This is so because in case of no corrections to the faults appropriately the ability of information system might be diminished to satisfy their supports and also capable of initiation of new faults within the same system. In this way, information system failure is not declared till the faults are addressed appropriately.

D. Project, system and user failure

Project failure is a state when devised standards, such as sustainable returns, smooth operational activities and deadlines, etc are not achieved whilst on the other hand in case of system failure, the system fails to perform as per requirements or fails to deliver on time (Zach and Erik Munkvold, 2012). Project failure also involved the condition wherein the project remains unsuccessful to generate productive benefits even when they are employed with correct targets (Basu & Biswas, 2013). Conversely, user failure occurs in case of reluctance of users to use systems irrespective of reasons which can either be training deficit or inability of individuals as well as intricacy of system. However, one of the determinants of the failure of the information system is user failure (Sharma and Yetton, 2007).

IV. METHODOLOGY

A number of hypothetical models (frameworks) have been proposed to ease the understanding of various factors which affects the IT adoption within SMEs which forms a huge body of literature. Previous research studies have identified a number of influencing factors. Apparently, most of these studies have concentrated on influencing factors such as top management, organizational behaviour and characteristics, firms' resources, government, customers, supplier and external IT consultant and vendors. The framework by Morteza Ghobakhloo et al (2012) comprises of different aspects of internal and external IT adoption factors (Drivers, Influencing factors and barriers) and does not categorize adoption factors based on being drivers or barriers of IT adoption in SMEs as shown in Figure 1. In this study, we will be using the framework to test our hypotheses.

A. Hypothesis

This study will be conducted in the Middle East SMEs. The study expects to find affirmation of the research model. Following are the hypothesis to be tested.

Hypothesis 1: IT products in market are positively affecting SMEs success.

Hypothesis 2: External and competitive pressure are positively affecting SMEs success.

Hypothesis 3: External IT consultants and vendors are positively affecting SMEs success.

Hypothesis 4: Government is positively affecting SMEs success.

Hypothesis 5: Owner/manager characteristics are positively affecting SMEs success.

Hypothesis 6: Organizational behaviour and characteristics are positively affecting SMEs success.

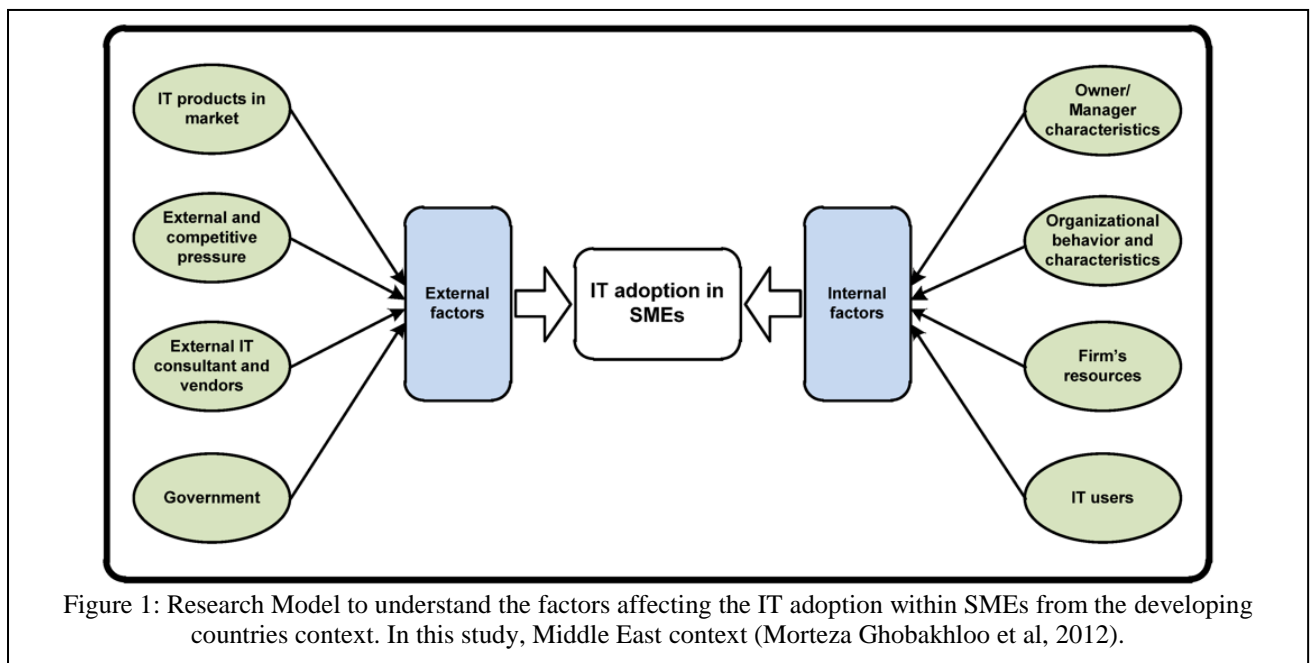
Hypothesis 7: Firm's resources are positively affecting SMEs success.

Hypothesis 8: IT users are positively affecting SMEs success.

Hypothesis 9: Both external and internal factors are positively affecting SMEs success.

planned behavior, unified theory of acceptance and use of technology, etc Sections

2) *Firm's Resources* :The resources at the disposal of small and medi-um enterprises are less as compared to the resources of big enterprises. These resources include a wide range, such as technological, managerial, information technology, interior and exterior knowledge, accessibility to market re-sources, experience, financial sources (Ghobakhloo et al, 2011). This lack of resources may affect the implementation of information system in small and medium enterprises positive-ly as well as negatively in corporation with other factors (Zach and Erik Munkvold, 2012). Re-



V. Failure Factors

The failure in the execution of information systems in SMEs is not the end product of one factors but it appears due to various internal as well as external factors as shown in the Figure 1.

A. Internal factors

The internal factors are IT users/end users, Firm's resources, Organizational behaviour and characteristics, Owner/Manager characteristics.

1) *The role of management or manager characteristics* :The procedure of implementing information systems is greatly affected by the top level managerial personnel as the key decisions within small and medium enterprises are taken by them (Ngu-yen, 2009). Moreover, the managerial structure in small and medium enterprises is extremely centralized where single person or a group of certain top level managerial personnel has decision making power (Ghobakhloo et al, 2011). The crucial role of management in the failure or success of information system adoption in SMEs is explained in theories and models, such as de-composed theory of

source-based theory emphasized upon the role of lack of financial resources at the disposal of SMEs for the hindrance or failure of information system implementation with SMEs (Nguyen, 2009).

3) *IT users or end users* :The success and failure of information system is also depend upon the organizational employees as human capital is one of the key production factors together with others, such as land, labor, etc. This is so because the actual users of newly implemented information systems in SMEs are employees, which should be properly given consideration while implementing information systems within small and medium organizations (Mitev, 2000). In order to avoid adoption failure of information systems within SMEs the need of training of employees cannot be overlooked (Ghobakhloo et al, 2011).

4) *Owner/manager characteristics* :Numerous observational studies have focussed on the relationship between the attributes of the proprietor/director (owner/manager) and firm development. From the general class of owner-manager characteristics, Story (1994) proposes five components which are prone to impact development,

these are: age, sex, qualification, motivation, past work experience of the owner/manager.

B. External factors

The external factors are IT products in market, External and competitive pressure, External IT consultants and vendors, government.

1) *External and Competitive pressure* :One of the key reasons for which small and medium enterprises adopted or introduce information systems is to survive the competitive pressure in the market. In addition customer pressure also played significant role in this con-text (Nguyen, 2009). Small organizations are vulnerable to customer pressure, which is the reason why they adopted information technology to increase the effectiveness of their inter-entrepreneurial activities (Sauer, 1993). Conversely, the key stimulating forces to progress toward information technology instruments in small and medium enterprises are interior factors together with changes in the market trends, looking for new market, prospects for expansion and the need to carry on with competition (Ghobakhloo et al, 2011).

2) *External IT consultants and vendors* :Support of exterior information technology know-how, specialists, and retailers, together with their value is one of the most imperative features responsible for the failure of information system implementation in small and medium enterprises (Sardana, 2008). The professional knowledge and experience of such external in-formation and technology experts directly affects the execution process of information system. In the same vein, the lack of internal IT experts restricts the smoothness execution of new information system in small and medium enterprises (Ghobakhloo et al, 2011). However, the hiring of external IT consultants can cause cost burden on SMEs which might further aggravate the execution process of information system (Yeo, 2002).

3) *IT products in market* :Competition of IT products in markets is a challenging aspect for an organisation which is searching for an advantage to achieve success (Walley, 1998). SMEs are for the most part confronting low intensity regarding information, advancement, judicious venture, business operation, and good administration, which are vital factors needed to lift the quality level (OSMEP, 2007 a). Developing nations like Middle East are confronting tough competition from different nations because of globalization and business is expanding (Lind, 2009 b).

VI. CONCLUSION

This study identified factors that are affecting business failures of small and medium enterprises (SMEs) in the Middle East. The research study provided insights on the understanding of how people could improve their business by looking at factors affecting business failures and increase chances of success. Though there over 100 factors, this study examined two factors that influence the SMEs business

success, one is external factor - IT products in market (competitive pressure) and the other is internal factor - IT users. The failure rate of information system management projects within enterprises, particularly in small and medium enterprises in contrast to the big enterprises are quite high. The review of current pertinent literature is necessary in order to understand causes for the failure of IS systems in small and medium enterprises operating in Middle East which also help to address issues for the different parts of the world. Future work will be to conduct a survey and test the hypothesis.

For in depth analysis, the study concludes that system failure is defined differently, for example, an improper functioning of information system or its incapability to produce desired results is called system failure. The review of failure causes, in this research report for the implementation of information system in small and medium enterprises concluded that the performance of small and medium organizations can be improved with the use of information technology systems. This study also highlighted some reasons responsible for the failure of information system in small and medium enterprises like IT users and IT products in market. In the same vein, the opinion of individuals associated with the information system was also appeared to be key causes for failure. Moreover, it was also found out that in case of vague returns the incentive to alter business framework is low in SMEs. Put briefly, the study also concluded that on one hand the failure of information system is about extinction of a venture because of an intolerable buildup of flaws whilst on the other hand the incapability of an information system to satisfy the expectations of its stakeholders.

References

- [1] Ali, I., Rehman, K.U., Yilmaz, K.U., A.K., Nazir, S. & Ali, J.F (2010) Effects of corporate social responsibility on consumer retention in cellular industry of Pakistan. *African Journal of Business Management*, 4(4):475-485.
- [2] Amid, A., Moalagh, M., & Ravasan, A. Z. (2012) Identification and classification of ERP critical failure factors in Iranian industries. *Information Systems*, 37(3), 227-237.
- [3] Bruque, S., & Moyano, J. (2007) Organisational determinants of information technology adoption and implementation in SMEs: The case of family and cooperative firms. *Technovation*, 27(5), 241-253.
- [4] Basu, R., & Biswas, D. (2013) An Approach to Identify Failure Factors of Enterprise Application Implementation in Indian Micro Enterprises. *International Journal of Managing Value & Supply Chains*, 4(1).
- [5] BRDULAK, A (2006) CSR as a way of competition between corporations: CSR – Corporate social responsibility and sustainable management. Available at: <http://www.feem.it/Feem/Pub/Publications/>
- [6] CSRPapers [accessed 2015-05-15].
- [7] Devos, J., Van Landeghem, H., & Deschool-meester, D. (2007) Outsourced information systems failures in SMEs: a multiple case study. *Electronic Journal Information Systems Evaluation*, 11(2), pp. 73-82.
- [8] Devos, J., Van Landeghem, H., & Deschool-meester, D. (2012) Rethinking IT governance for SMEs. *Industrial Management & Data Systems*, 112(2), 206-223.
- [9] Dibrell, C., Davis, P. S., & Craig, J. (2008) Fueling innovation through information technology in SMEs*. *Journal of small business management*, 46(2), 203-218.
- [10] EUROPEAN COMMISSION (2005) Enterprise and innovation in deprived urban areas: Sharing the European experience. *The European Learning Network Policy Bulletin* Issue 3 – July 2005.
- [11] EUROPEAN COMPETITIVENESS REPORT (2008) Overview of the links between corporate social responsibility and competitiveness.

- Available at: http://ec.europa.eu/enterprise/policies/sustainablebusiness/files/csr/documents/csrreportv002_en.pdf [accessed 2010-06-20].
- [12] FIORI, G., DI DONATO, F. & IZZO, M.F. (2007) Corporate social responsibility and firm's performance: An analysis on Italian listed companies. Luiss University, Italy.
- [13] Ghobakhloo, M., Sabouri, M., Hong, T., & Zulkifli, N. (2011) Information Technology Adoption in Small and Medium-sized Enterprises; An appraisal of two decades literature. *inter-disciplinary Journal of Research in Business*, 1(7), 53-80.

