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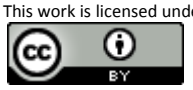

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THE IMPACT OF INFORMATION TECHNOLOGY ON SMEs IN OMAN

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Abstract: Information technology is widely common in the entire world as it is significant that using the infrastructure to support the using of IT in SMEs in Oman which provide SMEs the opportunity to develop businesses. For everything, there are advantages as challenges. This paper examines the benefits and impact of information technology in SMEs in Oman. The results come with a majority of respondents that the aware of the benefit of using IT. On the other hand, some entrepreneurs being neutral that might lead to many reasons. The SMEs need to encourage digitalizing their businesses to match with market requirements.

Keywords: SMEs Small and Medium Enterprises, Information technology IT.

I. INTRODUCTION

Small and medium enterprises are important endogenous source of growth towards building a high-income nation. They are considering as the backbone of industrial development and are always represented the model of economic development especially that has a high potential in contribution to the diversification of the economy. SMEs are contributing substantially to the economic, providing a string foundation of the new industries growth and strengthening existing one, infusing dynamism into economic sectors as well as providing linkages between various subsectors.

Recently, the importance of SMEs sector well recognized worldwide due to their significant effect in gratifying various socio-economic objectives including the higher growth of employment, output as well promotion of exports and fostering entrepreneurship. SMEs in many empirical studies are considering as the key actors in the innovation systems and having a noticeable power in increasing the competitive and innovative capacity especially in developing countries. In addition, they act as the promoters of a healthy business climate, economic efficiency and power for economic development. In other word, SMEs have a significant contribution to a stable economic environment, employment, income generation and export revenues.

Furthermore, SMEs have always taken significant roles in the world economy. SMEs are the driving force of economic growth and have an important effect on the economic activity. Where, they having gained importance in developing economics due to their capability of quick adjudication, ability to work with less capital but more intense labor and having low cost of management and thus having cheap production and participating in supply chains of smaller suppliers. In Oman, SMEs mean Micro business (1-5) workers and turnover (less than 100000OMR), Small

businesses (6-25) and turnover (100000-500000 RO), Medium (26-99) and turnover (500000-3000000RO).

II. LITERATURE REVIEW

SMEs adapt IT to compete in the global market as it gives competitive advantage to the business over its competitors (Alam and Noor, 2009). According to Manochehri, Al-Esmail and Ashrafi (2012) the use of IT in SMEs will reduce the barriers of trade, improve the transactions level and support the enterprise with the information needed.

Labor with limited knowledge and skills relevant to using IT and innovation technology are negatively influencing the business growth (Antlova, 2009 or Wymer, Regan, 2005) and (Ilesanmi, 2007). Other issues in IT adoption is that the manager has lack of technical skills of using technology (Martin, 2005).Meanwhile, Bharadwaj (2000) the adoption of IT will reflect on competition and innovation levels and encourage the growth process. SMEs use innovation related to IT to produce new product line, enhance the services and improve relationship with customers (Berry, Shankar, Parish, Cadwallader & Dotzel, 2006). SMEs obtain various benefits from IT and innovation by reducing costs and gaining information [Minton, 2003]. Boulianne (2007), analyze the factors and the strategies that affect the overall company performance. Show also the relationship between the organization's level of performance and the quality of the information technology systems in the firm. Isobe et al. (2008) realized that the SMEs vision, cooperation and innovation connected to the information system. Add also that firm will has flexibility, efficiency and more effective in reporting the daily transactions.

III. ANALYSIS & RESULTS

We implemented the tasks to conduct the research and determine the impact of information technologies in SMEs in Oman: A questionnaire organized based on the earlier literature reviews to determine the effects and thinking of Omani SMEs towards ICT. The questionnaire contained 22 questions related to business aspects of the organization, ICT infrastructure, use of Information technology, obstacles to ICT adoption and benefits of ICT. The questionnaire distributed to a number of SMEs in Oman. Seventy-eight completed surveys were received from the companies. The questionnaires completed by the owners because of their ability to realize the issues examined in the questionnaire. Based on the 78 completed survey questionnaires, simple statistics made to support determining the impact of IT on SMEs in Oman.

According to ANOVA TEST the sample tested around 62.8% are Micro businesses, 28.2 %are Small businesses, and 9.0% are medium. From the same sample, approximately 84.6% of businesses have income less than 100000 OMR. The sample contained 88.5% Males and 11.5% Females. The age of the entrepreneurs who answered the survey focused between 26 to 40 years and only 6.4% from the sample is less than 25 years. Thirty-two percentage of the studied sample have High school or before, a same percentage to Bachelor degree while PHD and other have 2.6%.Conbaches Alpha (Stability coefficient and significance level) in question one for example there is a consensus to answer the same question among people. There is no high contrast in the same question. According to ANOVA TEST we found that a great compatibility relationship among the age and educational status and that is through significant mean is around 0.021which is less than 0.05.By using ANOVA test, it appears that strong relationship between age and question number4 (IT leads to increase innovation level).question5 (Use information technology to speed up consumer service). Question7 (Use the Internet to search for new markets and competitors) Question no10 (Use information technology to market products).We found no relationship between age and other questions. There is no relation between income and gender. BY ANOVA TEST we found that in question 14 (Fear of using information technology because it has an impact on the confidentiality of work-related information) has a relation with business type 0.032.Age and business type are independent, and age and gender are independent. Chi-square shows that age independent with gender and business type.

IV. DISCUSSION

As it is obvious from the result of survey that the majority of SMEs believe that information, communication technology leads their businesses to grow and expand as it assists them to increase the creativity and innovative level. Recently, the Omani government moves to be digital and that helps the entrepreneurs to speed the transitions. That might encourage all SMEs to use information technology instead of manual work. Few percentage of the participants that against using IT to any purpose. These probably micro businesses that want to keep their business at it is. On the other hand, around 30 percentages of respondents choose neutral in every question that could be because they do not have idea about information technology or its benefits or they need consultation to know the method of getting advantage from IT. In addition to that, young entrepreneurs might use IT more than elder entrepreneur might then the age factor influences the IT. Young entrepreneurs have faith in information technology to develop business, attract customers and reduce costs.

The education status of entrepreneurs and age concentrating between 26 to 40 years and the education concentrating on before and high school, diploma and bachelor. That might affect the perceptions of entrepreneurs toward IT. For instance, the majority of the respondents' income less than 100000 that affect the investment in IT.

There are some Barriers to IT adaption. Financial and human capital are barriers to use IT in SMEs (Dr Charles Akomea-Bonsu and Frank Sampong, 2012).Add to that,

lack of skills and knowledge limit the use of IT within the SMEs (Duan et al 2002).(Houghton and Winklhofer 2004) have reported a slow response of SMEs relating to adoption of ICT. (Kapurubandara et al 2006) have classified the barriers to internal and external that slow down implementation of ICT by SMEs in a developing country. The inside barriers include manager leadership, cost, and outside barriers contain infrastructure, social, cultural, political, legal and governing. Entrepreneurs face many other difficulties in Oman. There are a study about use and impact of ICT on SMEs in Oman by Ashrafi2014.

In this paper, we have proposed a remote monitoring architecture based on the crossbow WSN that meets certain requirements. It uses a WSN and three hosted servers in a standard computer and a Nano-computer for the acquisition, storage and dissemination of data, taking into account our information processing strategies.

To validate its feasibility, we tested our prototype for the two equipment according to three case studies: the transmission of data by the reference channel, the polling towards other channels and the prevention of failures by using the emergency channel. Following these tests, we compared the results obtained by the two environments.

V. CONCLUSION

This study displays the perceptions of Omani entrepreneurs (SMEs) about using information technology in their businesses and what advantages they get. The results are reasonable that age, gender, education, income influencing the adoption of information technology. However, there is some limitation of the research. The survey questionnaire should distribute equally to different locations (governances) or specific location to find out the influence of geographical location on use of IT. Add to that, the survey also needs to spread equally among SMEs. Furthermore, the time limitation is there. Therefore, this study might be expanded in future and be more specific in questions related to benefits, barriers and recommendations.

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