

Moving towards Digitalization in Small and Medium Enterprises in Least Developed Countries, Review of the case of Yemen

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ABSTRACT

Small businesses play a crucial role in the growth and development of economies worldwide. However, they face competition while focusing on the local markets, this puts a tremendous amount of pressure on SMEs to adopt new technology and transform towards digitalization in order to achieve competitive advantages and realize the desired economic growth and development. The need for such role is more needed in the least developed countries (LDC), due to the resources gap they are experiencing. This paper attempts to gain insight into the digitalization of the business process in Yemen through reviewing the literature for the potentials of the SMEs sector to digitalize in a sufficient manner that leads to achieving economic growth and development. The findings indicate that the sector of SMEs in Yemen has its ups and downs which can be attributed to the recent economic and political instability, moreover, initiatives are continuously put into practice which lack the required support in order to thrive into development and growth achievements.

KEYWORDS: Digitalization, SMEs, Least Developed Countries, Yemen.

I. INTRODUCTION

The role of SMEs in the economic growth of developing countries is remarkably significant (Seethamraju & Seethamraju, 2008). However, they face competition while thriving towards growth and success, which puts them under the pressure to adopt new methods, practices and technology adoption in order to achieve competitive advantage (Matt, Hess & Benlian, 2015). Moreover, due to the fast advancement of technology, societies face radical changes, which puts more pressure on organizations to adapt and compete for

growth (Westerman, et. al, 2011). The digital transformation in enterprises is thought of as the process of infiltrating technology and digital strategies in such enterprises. Digitalization has made a huge turn in the business field and society in general. The reaction of societies differs from quickly adopting such changes to a complete negation in others (Bogavac, Prigoda & Cekerevac, 2020).

Regardless of their role in employment and economic growth in developed and developing countries, SMEs still have limited participation in

the global value chain (GVC) (Dollar, et. al, 2019). This implies the severity of their role in the economic growth and development of the least developed countries. This paper attempts to spread awareness of the process of digitalization in small and medium enterprises in the least developed countries with special reference to Yemen.

II. METHODOLOGY

This research adopts the descriptive method to present an overview about the status of digitalization adoption in the business sector in Yemen.

Research Objective

The objective of the research is to gain insight into the ability of small and medium enterprises to adopt digitalization in their business process, through relying on secondary data available in the literature about the opportunity to digitalize the business process in the least developed countries including Yemen.

It also aims to explore the status, drivers and barriers of digitalizing the business process among Yemeni SMEs.

Research Question

The research question that is drawn for the research is related to the status of the digitalization of the business process among small and medium enterprises in Yemen.

Data source

The study relied on secondary data from available literature on the sector of small and medium enterprises in Yemen and it covers the literature related to SMEs during the last decade.

Research Hypothesis

The review led to a hypothesizing that the digitizing process among small and medium enterprises in Yemen is at the accepted level.

III. BACKGROUND

Yemen is considered one of the least developed countries with the poorest economy in the Middle East and North Africa Region (MENA), reeling from poverty and the lack of development (Malik, 2013), lack of access to credit, due to depending on foreign aid to finance its budget deficit along with it is declining oil revenues (World Bank, 2016a). Yemen has been experiencing political and economic instabilities and disruptions that led to affecting business sectors including the sector of small and medium enterprises due to limited access to development resources such as finance and proper infrastructure (De Leon & Hariharan, 2016). SMEs in Yemen comprise a majority of the economy, around 97% of the economy in the country consists of small businesses (Assaf, 2013).

The digitalization conceptualization

Digitalization was originally used as a synonym of digitization, even though Google trends indicate that the term digitization was used for search in English countries while digitalization was used in Europe (Seibt, Schaupp & Meyer, 2019). Until recently, digitization began to be distinguished from digitalization. As digitization means the transformation of elements from the analogue into the digital form, while digitalization is the way many domains of the social life are restructured around digital infrastructure and communication (Brennen and Kreiss, 2016).

Digitalization or digital transformation is a key driver for change in the business world, because it establishes technologies with implications for business and society as a whole (Unruh and Kiron, 2017). It describes the process of conversion towards a world of digital data, therefore it involves any changes in enterprises and organizations because of the increase in their usage of technology to enhance their own performance and gain competitive advantage (Brennen and Kreiss, 2016; Westerman et al., 2011).

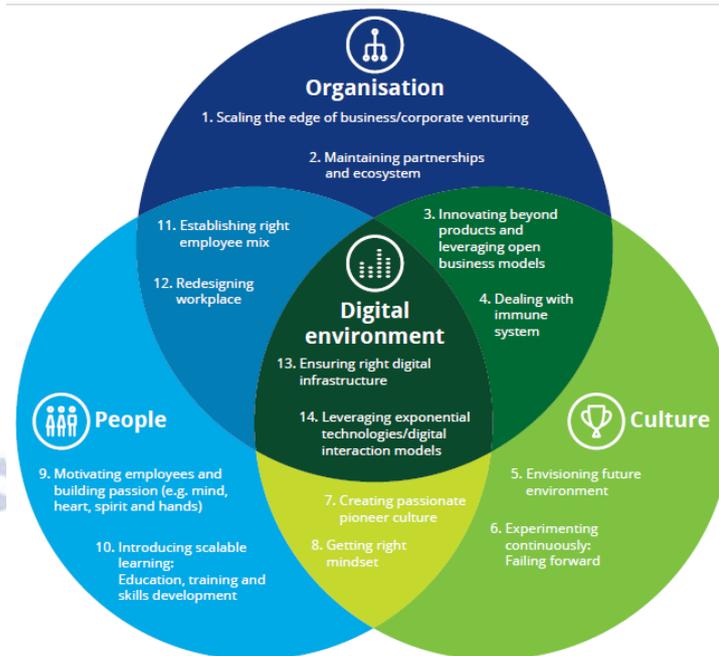


Figure 1: Digital transformation model, source: (Deloitte, 2017).

Factors influencing digitalization in Business

Author	Factors affecting digital transformation
Al-Ghaith, et. al, 2010)	New Technology Adopter Characteristics, Trust, Security, Privacy Issues, E-Service Quality, Loyalty, Diffusion of Innovation, Innovation Characteristics, Relative Advantage, Compatibility, Complexity, Trialability, Observability.
(Singh, et. al, 2017)	Technological: Opportunities, Technological Designs and Platforms, Magnitude of disruption, How quickly is the disruption likely to take place. Internal : Culture, Capabilities and Economic Model. External : Suppliers, Customers, Entrants, Industry/Competition and Substitutes
(ARC Advisory Group, 2019)	Culture, Knowledge, Capability and Competency, Decision Making, Workforce Performance, Employee Change Leadership, Business Process Governance, Process Improvement & Agility, Transformative Potential & Risk Tolerance and Data Management
(Brookins, nd)	Target Market, Budget, Talent, Technology, Time,
(Solis, 2016)	Orientation, People, Processes, Objectives, Structure, Insights & Intent, Technology, and Execution.
(Osmundsen, et. al. 2018)	Drivers: Customer behavior and expectations, Digital shifts in the industry, Changing competitive landscape, and Regulative changes. Success factors: A supportive organizational culture, Well-managed transformation activities, Leverage external and internal knowledge, Engage managers and employees, Grow IS capabilities, Develop dynamic capabilities, Develop a digital business strategy, and Align business and IS.
(Mhlungu, et. al., 2019)	Customer centricity, Governance, Innovation and Resource attainment.

Table 1: Factors influencing digitalization in Business in the literature

Small and medium enterprises in Yemen

There is no universal definition of small and medium enterprises in Yemen (Alnedhari, 2009). The Central Statistical organization in Yemen defines enterprises based on their size, so large enterprises are the enterprises 10 employees, medium enterprises are the ones having 4-9 employees while small enterprises employ 1-4 employees (CSO, 2005). The only official definition in the literature is the one adopted by the National Strategy for Micro and Small Enterprises Development in 2005, it defined micro-enterprises as enterprises with 1-4 employees, small

enterprises with 5-50 employees, and large enterprises with more than 50 employees (PSDP, 2011; Alnedhari, 2009; Aliriani, 2013).

Least developing countries, Yemen included, are still lagging behind when it comes to considering the technological development. Table (Table1) illustrates the ownership of equipment such as personal computers, fixed-line telephones and cellular mobiles. The table shows the growth in the number of mobile cellular subscriptions, internet users and the fixed telephone subscribers in these countries between 2000 and 2017.

Country	Mobile cellular subscriptions (0,000)		Internet Users (% of population)		Fixed Telephone Subscribers(0,000)	
	2000	2017	2000	2017	2000	2017
Developed countries						
Australia	856.20	2746.30	46.76	86.55	1005.00	846.00
Italy	4224.60	8387.15	23.11	63.08	2715.30	2070.07
Japan	6678.44	17279.00	29.99	84.59	6195.71	6406.69
Developing Countries						
Egypt, Arab Rep.	135.99	10295.82	0.64	44.95	548.36	660.48
Lebanon	74.30	439.91	7.95	78.18	57.60	90.79
Turkey	1613.34	7780.02	3.76	64.68	1839.52	1130.84
Least Developed Countries.						
Nepal	1.02	3609.64	0.20	34.00	26.69	86.13
Sudan	2.30	2864.41	0.03	30.87	38.68	14.33
Yemen, Rep.	3.20	1535.79	0.08	26.72	34.67	119.00

Table 2: Towards owning and using technology in developed, developing and LCDs 2000 and 2017. Source: World Bank, open data <https://data.worldbank.org/>

E-Business in Yemen

E-business has been beneficial to developing countries by reducing costs and increasing trade transactions which leads to economic development as a result. The sector of e-business in Yemen has its ups and downs especially in recent years due to the active conflict going on in the country. Small enterprises in Yemen are still in the beginning of adopting e-business technology, limited use of email in communication, however, social media marketing is adopted in many enterprises in Yemen. Majority of enterprises have not used e-commerce activities in their transactions, and no use of mobile apps, cloud computing, e-business and transferred organization (Abdullah, et. al., 2018; Abdullah, Thomas & Metcalfe, 2015).

The growth of e-business adoption among SMEs in Yemen is very limited due to many challenges such as low level of technology usage, lacking qualified staff for development, lack of electricity,

lack of ICT infrastructure, company size, high cost of the internet, limited resources in terms of finance, computer software and hardware (Abdullah, et. al., 2018). Such condition exceeds the sector of small and medium enterprises, as around 38% of large enterprises have not used the internet in their transactions and day to day activities (Althawrah, 2013).

Drivers of e-business in Yemen

Regardless of the limited advancement in the e-business in Yemen, small initiatives started to apply e-business as startups, however, the drivers that could lead to developing more opportunities from adopting e-business or digitalizing the business process in Yemen. These drivers include:

- Reducing the business operations cost, by offering alternative options to conduct such transactions through technology with less effort and time.

- Quick and easy document and information exchange among the concerned parties.
- Improving customer relationships, by providing a satisfying experience to customers.
- Increasing the availability of a wide range of products and services to customers through putting them one click away from customers.
- The possibility to increase the customer base by having potential access to extra customers.
- More possibility to connect more with suppliers as well as compete more among other business providers.
- Saving extra time through easing the procedures and transactions to be conducted online.
- Setting more partnerships in the industry and business fields (Algomhariah, 2008; Mekhlafi, n.d.; Althawrah, 2013; Sabaie, 2017; Abdullah, et. al., 2018).

Such drivers can be fulfilled in Yemen as the business sector in Yemen is considered a young sector, therefore, the opportunity for it to grow is possible with the provision of support by the government and the private sector as well. Especially minimizing the barriers that stand before adopting technology or digitalizing the business process.

Barriers of digitalizing the business process

The barriers to adopt technology or digitalize the business process in a least developing country such as Yemen are more than the barriers in other developing countries, the reason is their lack of resources. The following are the difficulties and barriers that stand before digitalizing the business process in Yemen.

- The low usage of technology in the enterprise, this makes it difficult for the enterprise to adopt technology when its routing has been carried away without the usage of technology.
- The low level of literacy, this includes normal literacy and the technological literacy that makes it possible for enterprises owners to adopt technology for the purpose of competing and increasing their growth to achieve competitive advantage.
- Lacking the qualified staff that can develop and maintain technological equipment and websites.

- Limited financial, software and hardware resources.
- High cost of obtaining internet connections and website maintenance.
- Weak and inadequate telecommunication infrastructure in the country.
- Lacking an only payment system and gateways.
- Lack of electricity which is a main source for technology adoption.
- Lack of support by the government and regulatory systems (Alashwal, 2016; Abdullah, et. al., 2018; Adenobserver, 2015; Sabaie, 2017; Althawrah, 2013).

These barriers play a crucial role in deterring the development of technology adoption and digitalizing the business process in Yemen, the severity of such barriers was increased in recent years due to the economic and political instability that the country is witnessing currently.

IV. RESEARCH FINDINGS

Based on the conducted review on the digitalization of business process among small and medium enterprises in Yemen, the following remarks are drawn.

- a) Compared to the situation in Yemen ten years ago, the condition of technology adoption has experienced some development even though it was very limited to be considered a remarkable development that could contribute to the economic development of the country, as technology remains a major challenge for small and medium enterprises to revive for growth and development (Saleh & Manjunath, 2020b).
- b) The barriers to digitalizing the business process in Yemen are more than the benefits, which makes it less affordable for small and medium enterprises to transform towards digitalization.
- c) The need to overcome the difficulties and barriers of digitalization is significant due to the role it could play in achieving remarkable development in the economy.
- d) The digitalization of the business process increases the efficiency of transactions as well as

the customer base and reduces the cost and efforts of such transactions, this is precisely what a least developed country needs at the current time to overcome the difficulties and become in a position to realize and achieve development.

V. RECOMMENDATION

Based on the findings, the research presents some recommendations such as:

- Owners of SMEs should learn the benefits, growth and expansion that the digitalization of business could bring to their enterprises.
- The educational institution should focus on technology based education that facilitates the availability of human capital that is able to develop and maintain technology and websites, this can not happen without formulating policies and facilitating a suitable environment for educational institutions to conquer challenges and become an active part of the entrepreneurial system (Saleh & Manjunath, 2019).
- The government should sponsor the activities that lead to the development of the digitalization process of business in the country, as Yemen has a lot to learn and adopt from development experiences of similar countries such as Rwanda and other developing countries (Saleh & Manjunath, 2020).
- Partnerships should be made among the public and private sectors, international organizations along with the government in the context of supporting the transformation of enterprises towards digitalization (Alshaabnews, 2018) due to the importance of such partnerships and its contributions towards the success of enterprising activities particularly during the period of socio-economic instability in Yemen (Saleh & Manjunath, 2020a).

VI. CONCLUSION

Yemen is still lagging behind in the context of digitalizing the business process among small and medium enterprises in the country. Such deterioration is attributed to the recent economic and political instability in the country. However, initiatives towards digitalization keep emerging but due to lacking the support, they don't see the light towards achievement. This implies the need for the support by the government, policymakers, public and private sectors, and international organization that are the development partners of Yemen

towards the digital transformation of small and medium enterprises in the country to result in achieving the economic growth and development.

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