

# Business and Management Studies

AIJEFR VOL 4 NO 1 (2022) P-ISSN 2641-4937 E-ISSN 2641-4953

Available online at [www.acseusa.org](http://www.acseusa.org)  
Journal homepage: <https://www.acseusa.org/journal/index.php/aijbms>  
Published by American Center of Science and Education, USA

## DOES MARKETING CAPABILITIES MEDIATE ON THE ICT'S ADOPTION AND BUSINESS PERFORMANCE OF THE SMEs IN OMAN? CONCEPTUAL REVIEW



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### ARTICLE INFO

#### Article History:

Received: 8<sup>th</sup> October 2022

Revised: 30<sup>th</sup> November 2022

Accepted: 13<sup>th</sup> December 2022

Published: 30<sup>th</sup> December 2022

#### Keywords:

ICTs Adoption, Marketing Capabilities, SMEs, Business Performance, Oman.

#### JEL Classification Codes:

M31

### ABSTRACT

The main purpose is to review the empirical evidence and summarize the marketing capabilities' mediating effects on the adoption of ICTs and business performance of the Small and Medium Enterprises (SMEs) in Oman and develop a conceptual framework. Data were collected from the existing literature from different online sources. The study review findings revealed a significant gap in the literature regarding the full understanding of the simultaneous relationship among ICTs, marketing innovation, and business performance in SMEs. Most studies have concentrated on analyzing and discussing only one or two of these phenomena at a time. However, the other studies that have examined the simultaneous relationship among the three variables mentioned above have generally ignored the component of marketing capabilities, focusing instead on the idea of innovation in its broader sense. The present study findings also establish a lack of or insufficient empirical studies that broadly examine the contribution of ICTs adoption among SMEs and its effect on companies' capabilities, such as marketing capabilities, and consequently its effect on business performance, especially in developing countries. Therefore, the present study is motivated to develop a conceptual framework for measuring the mediating effect of the marketing capabilities, ICTs adoption and business performance of SMEs in Oman one of the developing countries.

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### INTRODUCTION

Small and medium enterprises (SMEs) have been recognized worldwide as a backbone of modern economies due to their major contributions to global economic growth, and sustainable development. The positive impact of SMEs sector on the economic, industrial, and social development around the world have been documented in the literature and in many cases, they are supported by empirical evidence and explained by relevant theories. In the developed and many developing countries, SMEs generate a significant share of gross domestic product (GDP) that represents a key element of the economic stability of a country. SMEs have been reported as a main source of job creation and poverty alleviation, income generation, and income distribution as well as a breeding ground for entrepreneurship and new venture ideas. Ndiaye, Razak, Nagayev, and Ng (2018) report that there are approximately 600 million workers that will enter the global workforce over the next 15 years, mainly in the developing countries, and most of the new job opportunities are expected to be generated by SMEs. This estimation demonstrates the important role of SMEs in the developing, and emerging economies, and to ensure that they are successful and stay competitive, the governments in these countries are looking for ways to strengthen their performance and growth.

In case of Oman, the SMEs are facilitating and enhancing the organizational capabilities, improve performance, growth, and competitiveness of SMEs, ICTs adoption and use are foreseen as essential hence leading the growth and development of the national economy (K. E. Okundaye, 2016). The empirical findings of the present study are expected to contribute in the following three areas: literature, policies, and practice. The literature surrounding ICTs adoption in

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<https://doi.org/10.46545/aijbms.v4i1.279>

To cite this article: Busaidi, N. S. A., Bhuiyan, A. B., & Zulkifli, N. (2022). DOES MARKETING CAPABILITIES MEDIATE ON THE ICT'S ADOPTION AND BUSINESS PERFORMANCE OF THE SMEs IN OMAN? CONCEPTUAL REVIEW. *American International Journal of Business and Management Studies*, 4(1), 1–11. <https://doi.org/10.46545/aijbms.v4i1.279>

developing countries is found to be scarce. Most of the extant studies focus mainly on the upstream issues that is to identify the factors that facilitate, or barriers and challenges on ICTs adoption, rather than downstream issues that is to analyze post-adoption effect and its benefits (Rahayu & Day, 2017). In most of countries, including Oman, SMEs play a significant role to the economic progress of the country and stability through creation of employment opportunities, economic growth, substantial share of GDP, providing a breeding ground for entrepreneurship, and new business ideas.

The implication of the present study paves the way for Oman to formulate policies and strategies to strengthen the capabilities, performance, and growth of SMEs by encouraging and supporting SMEs to adopt and use ICTs in their activities and operations. ICTs can facilitate the improvement of productivity, performance and competitiveness of the SMEs. Oman has intensively focused on SME sector in the last two decades, especially in the last two Five-Year Development Plan (2011-2015) and (2016-2020), however until the present time, the performance of SMEs still has not been encouraging. Supporting SMEs and facilitating entrepreneurship environment in Oman is considered as a key-target goal to emphasize the development and the outcome of its SMEs and to enhance the economy diversification. By focusing on investigating and analysing empirically the effect of ICTs adoption and use on marketing capabilities and business performance of SMEs in Oman, the study might benefit the owners/managers in a way of assisting them, for instance, to make an appropriate decision in investing and improving return on ICTs investments.

The value of a company in the market place can be maximised through the adoption of technologies (K. Okundaye, Fan, & Dwyer, 2019; Sevrani & BahitiI, 2013). In addition, stakeholders such as the government, and financial institutions, might benefit from the findings to develop an effective workable policy framework that support the sustainability of SMEs and enhance their capabilities to compete in the current era of economic globalisation, and electronic commerce. The findings might also enlighten the employees of SMEs on the roles, and benefits derived when they accept and use ICTs in their business. As an industry, SME is an important pillar of a society, and the sustainability and improvement of SMEs would have a positive social impact. Globally, SMEs play a vital role in addressing the impediments of poverty, inequality and job creation. They are an important source of employment, particularly for low skill workers and the youth (Fiseha & Oyelana, 2015; K. Okundaye et al., 2019). Therefore, the present study is motivated to develop a conceptual framework for measuring mediating effect of the marketing capabilities, ICTs adoption and business performance of SMEs in Oman as one of the developing countries.

## LITERATURE REVIEW

ICTs investment, in business environments, is often seen as a vital necessity these days. It is reported that 30 percent of all budgets of research and development (R&D), including private and public sectors, in developed countries are assigned for R&D of ICTs. Governments have attempted to provide suitable policy measures to support companies in high-tech sectors related to new digital technologies (Lee, Hwang, & Kim, 2022; Tarut\,e & Gatautis, 2014). It has been recognised widely that the adoption and use of ICTs have facilitated SMEs to achieve growth by becoming more efficient, effective, innovative, and competitive in the global market (Chege & Wang, 2020; Curraj, 2020; Jones, Simmons, Packham, Beynon-Davies, & Pickernell, 2014; K. E. Okundaye, 2016). The majority of studies about ICT adoption are focused more on large companies due to the fact that SMEs are usually characterised as lacking of knowledge about the possible actual advantages of ICTs, however the limited empirical evidences on the influence of ICTs in SMEs demonstrate the necessity to gain and exploit the positive outcomes such as growth of production, efficiency, effectiveness, competitiveness etc. of ICTs adoption and use in SMEs (Alraja, Khan, Khashab, & Aldaas, 2020; Bayo-Moriones, Billón, & Lera-López, 2013; Consoli, 2012; Elshaiekh, Alghafri, Alsakeiti, & Aziza, 2018; Enríquez, Cuevas-Vargas, & Adame, 2015; Setiowati, Daryanto, & Arifin, 2015; Tarut\,e & Gatautis, 2014). Chege and Wang (2020) reviewed literature on the effect of ICTs on the performance of SMEs and job creation in developing countries. The study revealed that technology innovations influence employment creation in SMEs positively and act as a driving force for development of economic. In addition, the study found that ICTs has a major impact on the competitiveness of SMEs and access to international markets. Enríquez et al. (2015) conducted empirical research aiming to analyse the impact of ICT on the performance and competitiveness of 200 manufacturing SMEs of the state of Aguascalientes in México. Their finding, obtained through questionnaire distributed to 200 SMEs shows that ICTs impact positively and significantly on the financial performance, the costs reduction and on the competitiveness of the companies. The results of this study are consistent with previous similar studies (Esselaar, Stork, Ndiwalana, & Deen-Swarray, 2006; Maldonado, Sánchez, Gaytán, & Ramírez, 2012; Menéndez, Sánchez, Duarte, & d Sandulli, 2007). In addition, the studies suggest that the infrastructure investments in ICTs enable an organisational effective competence with higher productivity, customer satisfaction, organisational capacity, and performance of the company.

In examining the adoption of ICTs, Boothby, Dufour, and Tang (2010) found that there is a correlation between investing in training of computer literacy, and technical skills, and there is a positive effect in increasing the productivity of the companies. Cuevas-Vargas, Estrada, and Larios-Gómez (2016) examine the effect of ICTs as innovation facilitators for a greater business performance of SMEs in Mexico. It is found that ICTs have positive effect on growth and competitiveness of SMEs and facilitate innovation through diffusion processes, usage practices and commercial success. In contrast, Chae, Koh, and Prybutok (2014) reexamined the relationship between ICTs capability and firm performance with data from two previous studies conducted in 2000s. Contrary to the earlier studies, the findings show no significant link between ICTs capability and firm performance. (Díaz-Chao, Sainz-González, & Torrent-Sellens, 2015) investigate new co-innovative sources of labor productivity i.e., ICT use, human capital, and training, and new forms of work organisation from 464 SMEs in Spain and found that co-innovation does not directly affect the productivity of small local companies in contrast to evidence that is found in larger companies. However, it has been proven by empirical analyses about ICTs impact on the productivity of companies that rate of return on technological investment are higher than rate of return on physical investment due to the fact that technological investment and use often occur along with other endeavors such as human

capital improvement and changes in organisational structure. The studies emphasised that ICTs adoption can improve the performance of SMEs only when companies and workers gain the necessary technological, educational, and training, organisational, business, and cultural competencies (Abebe, 2014; Bayo-Moriones et al., 2013; Boothby et al., 2010; Díaz-Chao et al., 2015; Kunz, Schmitt, & Meyer, 2011; Liang, You, & Liu, 2010). The studies investigate and measure the impact of ICTs on business performance and highlighted the fact that ICTs investment and use are essential but not sufficient conditions for improving performance. They have explored the existence of complementarities between technological and organisational changes in analyzing ICTs impact on the performance of companies. They suggest that the existence of complementarities across resources of companies can increase their joint impact on business value because it is more difficult for competitors to imitate the total effect.

Bayo-Moriones et al. (2013) investigate the effect of ICTs and innovative work practices on several dimensions of business performance, taking into consideration both direct and indirect effects, and both short, and long-term effect. Using data obtained from 267 Spanish manufacturing SMEs, the findings show that there is a significant positive relationship between ICTs adoption and all the measures of perceived performance. However, the study found that impact does not necessary occur immediately since the lag effects and length differ according to the type of ICTs (Al Busaidi, Bhuiyan, Zulkifli, & Enterprises, 2019; Alam, Bhuiyan, Jani, Wel, & Management, 2016; Bhuiyan, Said, Jani, & Fie, 2016). Liang et al. (2010) examine whether information technology (IT) and organisational capabilities have significant effect on firm performance. By deploying a meta-analysis on 42 published empirical studies, the results revealed that the mediated model that includes organizational capabilities as mediators between organizational resources and firm performance explains better the value of ICT than the direct-effect model without organizational capabilities. In addition, Boothby et al. (2010) examine the complementarities between investments in ICTs and the change in workplace organizations, such as training in computer literacy and technical skills, as well as their impact on the performance of the companies. Data was collected through survey targeted the plant managers of 4200 Canadian manufacturing establishments and it is found that these combinations are associated with higher productivity. Abebe (2014) investigates the effect of ICTs adoption, particularly e-commerce on the performance of SMEs in Texas, USA, and investigate the relationship with the entrepreneurial orientation as a mediating variable. The results reveal that e-commerce adoption has a significant positive influence on SMEs average and annual sales growth rate. This rate is even more with SMEs that have higher level of entrepreneurial orientation and the analysis therefore indicate the importance of e-commerce adoption along with SMEs' entrepreneurial orientation on the performance of SMEs.

Moreover, Mazzarol, Clark, and Reboud (2014) investigate the impact of the specific use of ICTs on the performance of companies particularly applied to supply chain management (SCM). The findings, obtained through data collected from 744 companies in Spain using structural equation modelling, show that there is no positive direct relationship between the specific use of ITs and the retailer's perceived performance, however indirect impact has been found through both information sharing and satisfaction. Bayo-Moriones et al. (2013) state that the empirical studies that confirm the direct impact of ICTs on performance of companies framed their work in a resource-based view (RBV) theory. They view ICTs as intellectual resources of companies and conceives them as components of the structural capital of the organisations that support all of business processes and performance. According to RBV theory, performance of a company is based on its specific resources and capabilities that are scarce and difficult to imitate, and generate a sustainable competitive advantage. High investment in ICTs and its combination by companies may improve organisational capabilities, such as workforces, ICTs skills, and experience, and finally it leads to enhance the performance of companies.

In the 1980s and 1990s, a number of studies was conducted especially in America, and it was found that there is no relationship between ICTs investment and performance of companies (Loveman, 1994; Stephen Samuel Roach, 1987; Stephen S Roach, 1989, 1991). According to Dedrick, Gurbaxani, and Kraemer (2003), this phenomenon, referred to as "productivity paradox", stimulated ICTs researchers, economists, and management scientists, to conduct more rigorous empirical and scientific studies to deeply analyse the actual relationship between ICTs use and productivity of companies. Hence, researchers have started to study the indirect impact of ICTs. According to Barua, Kriebel, and Mukhopadhyay (1995), the final impact of ICT should be measured using both intermediate variables, ICT effect on the business processes, and final variables, representing ICT effect on performance variables.

In addition, Kim, Shin, Kim, and Lee (2011) state that to tackle the productivity paradox problem, research on value of ICTs business should investigate the effects of ICTs on business processes (e.g., a better way of doing things) rather than the product where ICTs makes an exact impact. Liang et al. (2010) aggregate empirical previous research that adopts the resource-based view (RBV) to investigate whether information technologies (ITs) and organisational resources have significant effect on performance of companies. They proposed a framework that includes direct and indirect-effect models, by adopting a meta-analysis on 42 relative published empirical studies. The research shows two main findings: firstly, the impact of ITs on performance through organisational capabilities, as mediator, is better than the direct-effect model without organisational capabilities. Secondly, ITs can improve operation performance, however they may not enhance financial performance directly (Liang et al., 2010). (Azam, 2014) analysed the diffusion of ICTs in Bangladesh SMEs and its impact on SMEs performance, using integration and effective utilisation of ICTs as the mediators. The final analysis, obtained through both quantitative and qualitative method and structural equation modelling (SEM), demonstrate the non-existence of the paradox by applying the mediating role of ICT integration and the degree of utilisation explains the impact of ICTs usage on company performance that is consistent with the resource-based theory (RBV). Through different angle, Dibrell, Davis, and Craig (2008) discuss and analyse empirically the role of IT as mediator between the innovation (product and process) and SMEs performance (profitability and growth). The study finds that through using structural equation modeling SEM on a sample of 397 SMEs, it is revealed that the innovation (both product and process) has positive indirect impact on the profitability and growth via the mechanism of the importance manager's place on IT.

### **The Underpinning Theories and Development of Conceptual Framework**

The approaches and theories used in the ICTs/SMEs are diverse and a number of theories contributed extensively to information and communication technologies (ICTs) adoption and implementation have been applied in some studies (Sunday & Vera, 2018). Korpelainen (2011) has reviewed critically the ICTs literature to find the appropriate theories and models of ICT system implementation and adoption as underpinning theories to be used in management and business research. Among the theories and models that have been focused include Technology Acceptance Model (TAM) by Davis (1986), Diffusion of innovation (DOI) by Rogers (2003), the Resource-based Theory (RBT), A dynamic capabilities approach, and Technology–Organisation–Environment (TOE). Although the theoretical approaches provide an important scientific framework for examining the adoption and use of ICTs by SMEs and their contributions, most of the theories viewed ICTs adoption as a one-off action as they mainly focus on factors that influence decision making at one decision point. They tend to minimise on the fact that adoption decision is a dynamic process through stages and it could influence by the same or different factors (Gono, Harindranath, & Özcan, 2016; Sunday & Vera, 2018). In addition, theories such as TAM, TOE and DOI specifically focus on the factors affecting the decision of adoption rather than explaining the post-adoption effect and its benefits (Rahayu and Day (2017)). The present study aims mainly to determine the effect of ICTs post adoption on marketing capabilities and business performance of SMEs in Oman. It considers ICTs as one of the resources, and dynamic capabilities of a company that positively contribute to the performance of the organisation. Therefore, this study relies on the Resource-based Theory (RBT), and the dynamic capabilities view (DCV) as underpinning theories in to investigate and analyse the effect of ICTs on the marketing capabilities, and business performance of SMEs in Oman. However, one of the objectives of this study is to find out the factors that influence the manager's/owner's decision making in adopting ICTs and hence TAM, and TOE theories are considered along with RBT and DCV. The next two parts of this section discuss and review the four theories.

#### **Resource-Based Theory (RBT) and Dynamic Capabilities View (DCV)**

Traditionally, the Resource-based Theory (RBT) has been considered widely as one of the most prominent and powerful theories in analysing and examining the role of company's capabilities in building and sustaining competitive advantage and performance outcomes (Barney, Ketchen Jr, & Wright, 2011; Kozlenkova, Samaha, & Palmatier, 2014; D. Roach, Ryman, Jones, & Ryman, 2018). According to RBT, achieving the competitive advantage of companies resides through their ability to exploit their high and rare resources, which are difficult to imitate by competitors (Pucci, Nosi, & Zanni, 2017). In other words, a company improves its performance outcomes and achieves a competitive advantage when it has resources that are able to generate more economic value than the marginal firm in its sector and when its competitors are unable to duplicate the benefits of this strategy (Barney & Clark, 2007; Kozlenkova et al., 2014). Therefore, the logical assumption of RBT suggests that if a company owns valuable resources that few others have, and if the others find it too costly to adopt or difficult to duplicate the resources, then the company controlling the resources likely can generate sustainable competitive advantage.

According to Chiş, Lacurezeanu, Popa, and Zelter (2018), the RBT has won wide share of popularity in the last decades in the study field of ICTs because they claim that a company can gain the competitive advantage by exploiting its existing and distinctive resources adequately. The resources include location, electronic resources, support from top management, and market competition. In addition, Kozlenkova et al. (2014) found that the use of RBT in marketing research has increased more than 500% which suggests the importance of RBT as a foundation theory in explaining and predicting competitive advantages and performance outcomes. However, it has been argued that RBT is inherently internally focused (Kozlenkova et al., 2014; D. Roach et al., 2018; Teece, Pisano, & Shuen, 1997). It has failed to explain how resources are developed, and deployed to achieve the competitiveness, and enable to consider the impact of dynamic market environments. Due to these criticisms, RBT gradually evolved towards the belief that resources are not sufficient alone to generate superior performance, and on the basis of being inherently internally focused, RBT is limited in dealing with the issues of current complex and turbulent marketplaces. Therefore, in response to the limitations of the RBT, the Dynamic Capabilities View (DCV) has been offered as a more suitable foundation theory to cope with complex and turbulent markets, that requires continual renewal, and reconfiguration of organization and its resource level (Ambrosini, Bowman, & Collier, 2009; D. Roach et al., 2018; Teece et al., 1997). According to Teece et al. (1997), DCV examines the sources and methods of wealth creation captured by private companies that are operating in the environment of rapid technological change, attempts to identify and locate capabilities that can drive the company to improve its performance and achieve a sustainable competitive advantage. The theory explains how the dynamic capabilities can help to enhance resource allocation in the company. In other words, DCV posits that the capabilities in which the company's resources are developed and deployed are able to match the company's market environment and explains its performance variance over time (Ambrosini et al., 2009).

#### **Technology Acceptance Model (TAM) and Technology-Organisation-Environment (TOE)**

The technology acceptance model (TAM), proposed by Davis (1986) provides a model for various types of information systems and communication technologies. It is formulated to predict an individual behavior regarding the adoption and use of technology. It has two main constructs namely; perceived usefulness (PU) and perceived ease of use (EU) to explain computer usage behavior. In addition, TAM originally assumes that information systems are used in the organizational settings to improve the efficiency of the workers. However, this theory is not without its critics as it ignores the effects of other important factors that come from both internal and external of the organizations (El-Gohary, 2012; Rahayu & Day, 2015). The Technology-Organization-Environment (TOE) theory, developed initially by Tornatzky, Fleischer, and Chakrabarti (1990), has considered the external environment of the firm along with organization internal context. In this



model, there are three aspects of a firm's context that influence the adoption of the technology innovation namely technological context, organizational context, and environmental context (Rahayu & Day, 2015).

The technological context involves both internal and external technologies that might be useful in improving the performance, and growth of the company. The context includes, for instance, company size, managerial structure, financial, and technological resources of the firm. The environmental context involves other parties such as suppliers, competitors, governments etc. According to Rahayu and Day (2015) TOE has been recognised widely as a model that provides an interactive perspective that assumes the changes in an organisation are determined by the individuals of the company and by the characteristics of the organisation where all of the factors and their interaction can be treated in one dynamic framework. It is believed that TOE can explain and describes the adoption of ICTs comprehensively. TOE model is broadly deployed in previous ICTs adoption studies due to the fact that it covers and considers both internal and external dimensions surrounding the company. For instance, Ghobakhloo, Arias-Aranda, and Benitez-Amado (2011) conducted a study to identify the factors that influence SMEs in Iran to adopt e-commerce (EC). Their findings, based on TOE, reveal that EC adoption is affected by perceived relative advantage, perceived compatibility, CEO's innovativeness, information intensity, buyer/supplier pressure, support from technology vendors, and competition. Therefore, the present study makes an attempt to utilise TOE as the underpinning theory to explain the adoption of ICTs in SMEs in Oman. It also takes into consideration the argument that TOE does not put emphasis on individual factors such as employees, and managers' attributes.

### Conceptual Framework

The present study focuses on the adoption of ICTs in SMEs in Oman and establish marketing capabilities as the mediating variable between ICTs adoption and business performance. ICTs adoption has been set as the independent variable of the study. There are three components of ICTs adoption that have been deployed in this study namely e-mail, e-commerce, and social media and, hence, the context of the ICTs adoption in this study is measured by the adoption of those three types. Moreover, the three types of ICTs are the among the most common types of ICTs that match the characteristics of SMEs and their adoption consequent effect in enhancing the marketing capabilities, and business performance of SMEs (Martin & Matlay, 2001; Setiowati et al., 2015). In the present study business performance is established as the dependent variable and it is measured by growth on revenue, profit, and the number of employees of SMEs (Bayo-Moriones et al., 2013; Consoli, 2012; Setiowati et al., 2015; Tarut & Gatautis, 2014; Yunis, El-Kassar, & Tarhini, 2017). In the conceptual framework, the role of marketing capability as a mediating variable is to complement the adoption of ICTs to influence business performance of SMEs in Oman. The mediating variable is measured by planning flexibility, marketing implementation, product development, pricing, and communication (Fahy et al., 2000; Joensuu-Salo, Sorama, Viljamaa, & Varamäki, 2018; Morgan, Zou, Vorhies, & Katsikeas, 2003; Setiowati et al., 2015; Tsai & Shih, 2004; Vorhies & Morgan, 2003). Figure 1 depicts the conceptual framework of the present study.

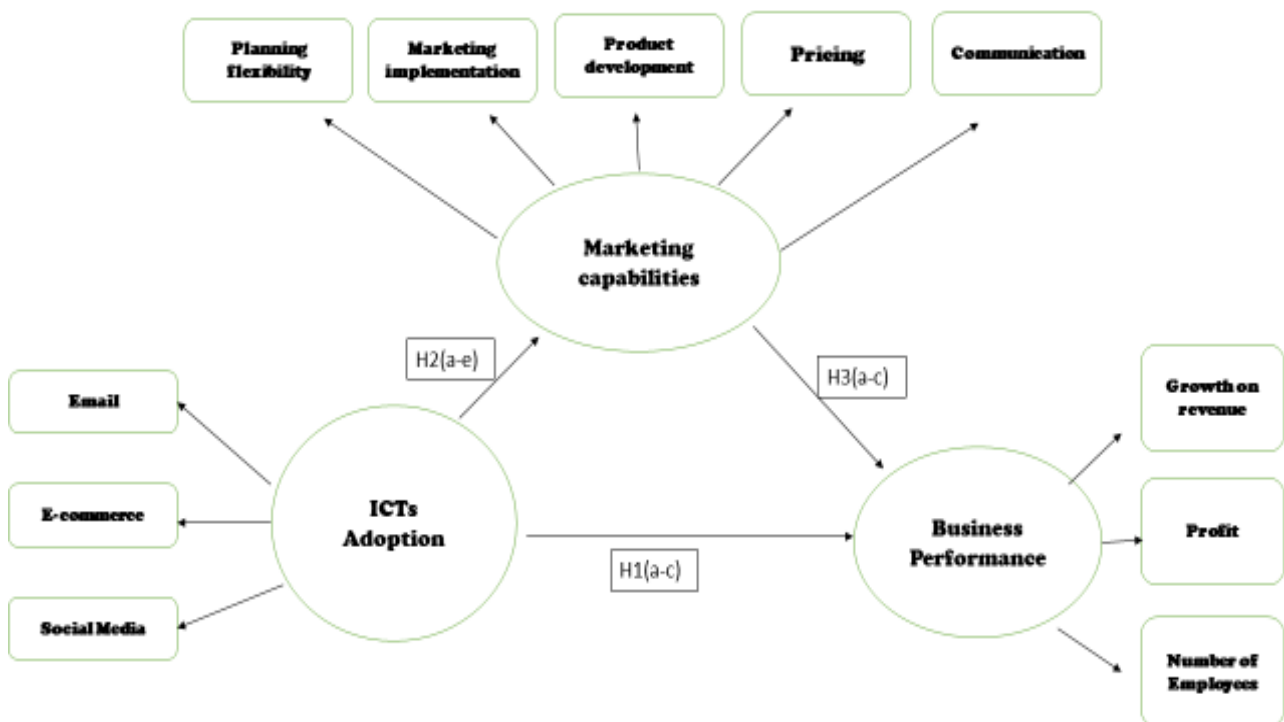


Figure 1. The Conceptual Framework

## Hypotheses Development

### **ICTs adoption and business performance of SMEs in Oman**

ICT is defined as any technology that enables communication, collection, processing, use and transmission of information electronically (Ab Wahab, Mohamad, Yusuff, & Musa, 2020; Ashrafi, Sharma, Al-Badi, & Al-Gharbi, 2014). ICT also includes the use of a technology as a tool to implement communication processes and communication mediums across multiple situations across geographical situations, times and locations (Ab Wahab et al., 2020). It has been described as an integrated system that incorporates the technology, and infrastructure that are required to store, manipulate, deliver and transmit information. Therefore, ICT can be referred to as an organised communication networks, and data resource that collect, transform and spread information within and among enterprises including SMEs (Apulu, Latham, & Moreton, 2011). In examining the adoption of ICT among SMEs, the previous literatures have shown diverse and still inconsistent findings that support the relationship between ICT adoption and firm performance.

A number of studies have found that adoption of ICT in a business firm does have a significant effect on productivity and performance (Ab Wahab et al., 2020; Abebe, 2014; Cuevas-Vargas, Enríquez, Adame, & Servin, 2015; Tajvidi & Karami, 2017) while there are studies that have had the opposite findings (Cardona, Kretschmer, & Strobel, 2013; Mazzarol et al., 2014; Yunis et al., 2017). Based on the different results of previous studies, the empirical evidence on the relationship between ICT adoption and business performance is still inconclusive. Therefore, an empirical study needs to be conducted to examine the relationship between ICT adoption and business performance of SMEs in Oman in order to find out the current trends of ICTs adoption and its possible effect on improving firm performance among SMEs in Oman. Hence, the first hypothesis of study has been developed as below;

*H1 : There is a significant positive relationship between ICTs adoption and business performance of SMEs in Oman.*

*H1a: ICTs adoption positively influences revenue growth of SMEs in Oman.*

*H1b: ICTs adoption positively influences profitability of SMEs in Oman.*

*H1c: ICTs adoption positively influences number of employees of SMEs in Oman.*

Marketing capabilities have been described as the results or outcomes of an integrative process designed to apply the collective knowledge, skills, and resources of a company to market-related needs that enable business to add value to customer value creation and be competitive (Mazzarol et al., 2014; Setiowati et al., 2015; Tsai & Shih, 2004). It has been claimed that companies with greater marketing capabilities can achieve sustainable competitive advantage and realise superior performance (Tajvidi & Karami, 2017). Marketing capabilities are one of the functional capabilities of the company which were developed so that employees can solve companies' marketing challenges and problems (Setiowati et al., 2015). Adoption of ICTs has transformed and revolutionized the way that a business is conducted and provide companies with tremendous opportunities to improve their business performances. Empirical evidence reveals ICT as an endogenous element of the firm, performs as a vital element of management and marketing practices.

According to Setiowati et al. (2015), intensive ICT use in marketing improves companies' innovativeness, reduces barriers to innovate and speed up the innovation process. In addition, ICT use in marketing encourages collaboration and integration of the business environment in the development of the innovation process and consequently improving the degree of adaptation of the new product to market needs. Social media are considered as an attractive tool for information seekers to obtain information about the product/service they are going to buy and leads to enhanced purchase intent in consumers. They also considered as communication channel help companies to achieve different organisational objectives including marketing, advertising, branding, customer service, human resources and problem solving (Tajvidi & Karami, 2021). Still, despite the findings made by the above, understanding the effect of ICTs adoption and use on SME's marketing capabilities is still limited. This study is highlighting this issues on ICTs adoption in order to find its possible effect on improving marketing capabilities of SMEs in Oman. Hence, the second hypothesis of study has been developed as below;

*H2 : There is a significant positive relationship between ICTs adoption and marketing capabilities of SMEs in Oman.*

*H2a: ICTs adoption positively influences planning flexibility of SMEs in Oman.*

*H2b: ICTs adoption positively influences marketing implementation of SMEs in Oman.*

*H2c: ICTs adoption positively influences product development of SMEs in Oman.*

*H2d: ICTs adoption positively influences pricing system of SMEs in Oman.*

*H2e: ICTs adoption positively influences communication capability of SMEs in Oman.*

### **Marketing capabilities and business performance of SMEs in Oman**

Organizational capabilities play an important role in improving organisational performance (Rehman, Mohamed, & Ayoup, 2019). According to the Resource Based View (RBV) theory, organisational resources and capabilities that are valuable, rare, inimitable and distinctive are considered as an important source of competitive advantage and superior performance (Tajvidi & Karami, 2021). Empirical research findings (Kajalo & Lindblom, 2015; Lekmat, Selvarajah, & Hewege, 2018; Pérez-Cabañero, González-Cruz, & Cruz-Ros, 2012; Shin & Aiken, 2012) confirm the positive effect that marketing capabilities have on firm performance. Wong and Karia (2010) have found that marketing planning and marketing implementation as two elements of firm marketing capabilities have positively effect on business performance. In addition, study conducted by (Morgan, 2012) revealed that marketing capabilities have direct complementary effect on profit growth of the firm. However, the role of marketing capabilities and its effect on SME performance have been adequately discussed and analysed in the developed country context, but more research needs to look at developing countries (Lekmat et al., 2018; Neill, Singh, & Pathak, 2014). Hence, the following third hypothesis of study is proposed.

*H3 : There is a significant positive relationship between marketing capabilities and business performance of SMEs in Oman.*

*H3a: Marketing capabilities positively influences revenue growth of SMEs in Oman.*

*H3b: Marketing capabilities positively influences profitability of SMEs in Oman.*

*H3c: Marketing capabilities positively influences number of employees of SMEs in Oman.*

***Mediating effects of the marketing capabilities on the relationship between ICTs adoption and business performance***

The effects of ICTs on business performance for SMEs are critical issues requiring further research, because ICT alone is not enough to promote strong business performance especially to achieve competitive advantage and therefore complementarities between technological and organisational changes in analyzing ICTs impact on firm performance are crucial (Bayo-Moriones et al., 2013; Boothby et al., 2010; Liang et al., 2010; Setiowati et al., 2015; Yunis et al., 2017). The effect of ICTs adoption and use on business performance indicators is greater when the companies, including SEMs, correlate ICTs adoption with the innovative work practices and organisational capabilities such as the development of an effective marketing capabilities.

Despite scholarly attention in literature toward marketing capabilities and firm performance, the literature reveals that evaluation of marketing capabilities role between the ICTs adoption and business performance in the context of SMEs industry continue to lag (Lekmat et al., 2018; Tajvidi & Karami, 2021). Hence, there is a literature gap in comprehensive research that links influencing ICT adoption to how it contributes to the enhancing of marketing capabilities and the consequences towards increasing business performance of SME. This study contributes to fill this gap by examining the mediating role of marketing capabilities (as one of the inter-firm capabilities pillar) between ICTs adoption and business performance of SMEs in Oman through formulating the following hypothesis for testing.

*H4 : There is a significant positive mediating effects of the marketing capabilities on the relationship between ICTs adoption and business performance of SMEs in Oman.*

## **CONCLUSIONS**

Through reviewing the literature of ICTs adoption among SMEs as a multidimensional construct, it is found that there are many issues that still need to be addressed and further researched. Firstly, the existing ICTs adoption literatures have shown diverse and still inconsistent findings that support the relationship between ICT adoption, and firm performance. Although the study began early, this gap still exists, studies stated that the findings regarding the effect of ICTs adoption on business performance are heterogeneous in the existing literature. Several studies have found that the adoption of ICTs does not have significant correlation and relationship with business performance of SMEs. The empirical evidence on the relationship between ICT adoption and business performance is still inconclusive and, therefore, more primary research on this issue is necessary to be conducted in order to highlight the current situation of the effect of ICT adoption on improving business performance among SMEs in Oman.

Secondly, the studies are mostly focused either in larger organisations or in developed countries. While the studies in developing countries are mainly focused on upstream issues where they tend to report the factors that facilitate challenges encountered by SMEs in the adoption of ICTs rather than focusing on the downstream issues, i.e., studies that focus on post adoption advantages, and benefits of the adoption whether it is beneficial for business performance. This definitely limits the understanding about ICTs adoption by SMEs in developing countries, as well as the post-adoption advantages (downstream issues) of ICTs. A systematic literature review conducted on the adoption and use of digital technologies by SMEs covered 382 articles that have been published in the last two decades in 85 countries around the world, revealed that Middle East and North Africa, South Asia, Sub-Saharan Africa regions seem to have lower number of studies and calls for more empirical studies to further the understanding of the role of digital innovation in general and ICTs adoption in particular for SMEs development. In addition, the study found the majority of studies in this field focused on the determinants of digital technologies and ICTs in SMEs. Specifically, researchers focused more in exploring and examining the factors facilitating and/or hindering SMEs' adoption of ICTs and digital innovation. Fewer studies examined digital technologies effects on specific business performance measures such as profitability, customer satisfaction, competitiveness, and internationalization. Finally, the authors emphasised that digital technologies in the SMEs context need conceptual contributions that are distinct from what already exists to move the field forward.

In addition, the study concludes and suggested that future studies need attention from researchers, and academics to investigate the impact of technology adoption on the performance of SMEs that might highlight additional benefits and find ways to be more precise in measurement scales for digital transformation, and its added value to SMEs. The literature further reviewed show that the main digital adoption that are commonly used by SMEs are less recent technologies and more innovation technologies that have been developed in the last two decades, which opens avenues for researchers for further studies on how SMEs upgrade their ICTs adoption in enhancing the performance, and competitive advantage.

Third, there is a significant gap exists in the literature regarding the full understanding of the simultaneous relationship among ICTs, marketing innovation, and business performance in SMEs. Most studies have been concentrated on analysing, and discussing only one or two of these phenomena at a time. However, the other studies that have been carried out in examining the simultaneous relationship among the three variables above mentioned, have generally ignored the component of marketing capabilities, focusing instead on the idea of innovation in its broader sense.

Hence, the present study establishes that there is a lack of or insufficient empirical studies that broadly examine the contribution of ICTs adoption among SMEs and its effect on companies' capabilities, such as marketing capabilities, and consequently its effect on business performance, especially in developing countries. Therefore, the present study is

motivated to contribute to ICTs literature in general and ICT adoption in SMEs in particular by analysing, and measuring its effect on the marketing capabilities, and business performance of SMEs in Oman as one of the developing countries, all from the perspective of the second-generation statistical technique of Structural Equation Modelling (SEM). Therefore, the present study is motivated to contribute to ICTs literature in general and ICT adoption in SMEs in particular by analysing, and measuring its effect on the marketing capabilities, and business performance of SMEs in Oman as one of the developing countries. Finally, the present study establishes that there is a lack of or insufficient empirical studies that broadly examine the contribution of ICTs adoption among SMEs and its effect on companies' capabilities, such as marketing capabilities, and consequently its effect on business performance, especially in developing countries. Therefore, the present study is motivated to develop a conceptual framework for measuring mediating effect of the marketing capabilities, ICTs adoption and business performance of SMEs in Oman as one of the developing countries.

**Author Contributions:** Conceptualization, N.S.A.B., A.B.B. and N.Z.; Data Curation, N.S.A.B.; Methodology, N.S.A.B.; Validation, N.S.A.B., A.B.B. and N.Z.; Visualization, N.S.A.B., A.B.B. and N.Z.; Formal Analysis, N.S.A.B., A.B.B. and N.Z.; Investigation, N.S.A.B., A.B.B. and N.Z.; Supervision, A.B.B. and N.Z.; Software, N.S.A.B.; Project Administration, N.S.A.B.; Funding Acquisition, N.S.A.B., A.B.B. and N.Z.; Authors have read and agreed to the published version of the manuscript.

**Institutional Review Board Statement:** Ethical review and approval were waived for this study, due to the fact that the research does not deal with vulnerable groups or sensitive issues.

**Funding:** The authors received no direct funding for this research.

**Acknowledgement:** Not applicable.

**Informed Consent Statement:** Informed consent was obtained from all subjects involved in the study.

**Data Availability Statement:** The data presented in this study are available on request from the corresponding author. The data are not publicly available due to restrictions.

**Conflicts of Interest:** The authors declare no conflict of interest.

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