

An Empirical Investigation of the Impact of Digital Adoption on SMEs' Current and Future Business Performance: A Suggested Framework of Qatari SMEs

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Abstract:

The foremost objectives of this study is to investigate on SMEs' success in Qatar as a result of digital technology adoption. SMEs often face the problem of their successful integration into the ever-shifting boundaries and streams of digital environment, which is essentially for them either today or in future. To meet with the challenge, the research carries out in-depth analysis blending of literature reviews with analysis of digitalisation factors, company performance indicators and assessment of technology readiness index. Besides that, it will also apply related theoretical frameworks in order to evaluate the digital adoption levels.

The paper downplays the message of the importance of SMEs digitalisation in modern business setting. It gives an exploration of the intricate dynamics of digitalisation within SMEs. This is pivotal in that the develops customised strategies to fast-track ecommerce adoption among SMEs, thus empowering businesses to evolve on balance with the era of digitalisation.

Keywords:

SMEs, Digital Adoption, SME Current Performance, Qatar, SME Future Performance, Technology Readiness Index.

1. Introduction:

The increasing technology pace and the digital revolution have ended up with huge change, making it crucial for organisations, like SMEs, to be prepared for this shift so they can keep their competitiveness (Lukonga, 2020). In the recent research, it is shown that digitalisation is absolutely vital in bringing new business opportunities, innovation, and at the end allows us to establish the new sustainable business frameworks (Broccardo et al., 2023). With the changeover into the digital era, every type and size of business has to keep up. Hence, starting with SMEs in Qatar, the research empirically inspects the impact of digital adoption on these enterprises. The paper is centered a detailed reference review which follows to demonstrate the way digital technologies have afforded enterprises the

possibility to develop long-term business strategies and emerging technologies in a continuously changing business environment.

SMEs are considered the cornerstone of any economical development worldwide. In Qatar, 97% of the country's non-oil gross domestic product is produced by its vibrant SME ecosystem (Qatari Private Sector, 2022). According to The Peninsula, the official categorisation of SMEs in Qatar, known as the Ministry Highlights Decision of 2018, includes:

- ❖ Small-sized enterprises: companies with no fewer than 11 workers and not exceeding 50 workers, and annual turnover between one and 20 million Qatari Riyals.
- ❖ Medium-sized enterprises: companies with no fewer than 51 workers and not exceeding 250 workers, and annual turnover between 20 and 100 million Qatari Riyals.

The latest assessments, however, suggest that the SMEs' contribution to the non-oil GDP of Qatar is estimated at 15% to 17% percent (QPS, 2022). SMEs are not limited to a single sector; instead, it also includes guided sectors. With this landscape, SMEs clearly remain the unquestionable key of the economy of Qatar, and this leads to the rising concern over their digital transformation and how they will cope with their adaptation to the e-commerce as they struggle in the contemporary market.

2. Research Aims and Objectives:

The study puts forward a framework to help understanding the role that digital adoption plays in SMEs success both in the present and future years in Qatar. The theory building upon the three well established models and theories as the foundation of the study, namely;

- Task Technology Fit Model.
- Innovation Diffusion Theory.
- Technology Acceptance Model.

Apart from the foremost aim that is to identify the critical variables of digitalisation, which shall be done through an extensive literature review-based analysis and later, carry on studying the impact of these variables on SMEs' digital adoption.

3. Research Problem Statement:

For SMEs, market show aggressive competition (Yoshino, 2016). Consequently, critical challenges facing Qatar's market are no exception. In response, these institutions are leveraging constantly emerging digital technologies (Radicic & Petković, 2023), embedding them in each of their decision-making processes, activities, and operations (Radicic & Petković, 2023). Yet, it is undeniable that this phenomenon of digitalisation is seemingly influential to SMEs in Qatar and the region as a whole, but there has been a conspicuous shortage of research that would deepen one's understanding of the exact influence and implications of digitalisation to SMEs in Qatar and the rest of the Middle East. The existent knowledge gap about how digitalisation is a crucial in operations of SMEs is being exposed by lack of proper empirical data and scholarly discourse on it. The paper identifies this gap and attempts to bridge the gap by

providing crucial information as regards the changing terrain of businesses in the state of Qatar using both a thorough literature review and a quantitative research methodology. The key aim of the paper is to highlight the key factors of digitalisation in SMEs and classify the scale of impact on both current as well as future business performance and measure the TRI role.

4. Research Questions:

A. The Digitalisation Factors Impact on SMEs' Digital Adoption:

RQ1: What are the different factors that significantly have a positive impact on Qatari SMEs' digital adoption?

B. The Effects of Technology on SME Businesses, and TRI:

RQ2: Is there a relationship between the SME success and its use of digital technologies?

RQ3: Can Technology Readiness Index (TRI) mediate the relationship between Qatari SMEs adaptation factors and its digital adoption?

5. Significance of the Study:

This study holds multifaceted significance. Primarily, it aims to empower SMEs by enlightening them about the advantages of digitalisation and its potential to enhance their operations. Additionally, this research extends its reach to include support organisations for SMEs and policymakers. Armed with this data, entities supporting SMEs will be well prepared to address the needs of SMEs, nurturing further growth and innovation.

6. Literature Review:

Digital adoption can affect the performance of any business. With the rapidly evolving technological climate, the SME total performance shall be affected. The application of digital technologies helps boost business performance in a variety of ways. A technology-driven data analysis, for example, inspires the proper usage of different marketing tools, which will in turn increase the SME customer satisfaction (Stone et al., 2007). Studies in the region focus mainly on the implications of digital technologies and adoption for large companies, not for SMEs. SMEs need to be identified and considered along with the different aspiring factors that could encourage such adoption.

6.1 Digitalisation Factors in SMEs:

Within the digital economy, the initial approach is unique since it has to undertake a different strategic plan from the one used by a large company. This is because the start-up is at a different level from a large established company, differs in a strategic approach, the manner of implementation as well as in the external and internal factors that drive it forward. There are multiple factors that can influence the digital ripeness level or the degree of digitalisation in the enterprise. It may be determined by entrepreneur's background, availability of resources, market or competitor pressures, and government help. As it happens, this causality is multidimensional and differs from a business to another; some influencing factors being key to

some and others having no influence at all.

Main criteria of digital adoption evaluation are tied to the business owner or manager within SME who implements such decisions. Digital experience, awareness, and attitudes toward digitalisation (Marvel & Lumpkin, 2007; Nugroho, 2015) comprise core of this factor. Meanwhile, digital technologies when incorporated into business for running a process or operating need a set of skills, capabilities, and conventions. (Dethine et al., 2020). Challenges often arise for firms in implementing new technologies due to employee resistance, financial constraints, and limitations in the existing infrastructure of business websites and platforms. Nevertheless, these internal challenges can also serve as significant motivators for business owners to embrace digitalisation.

External factors beyond the control of entrepreneurs or businesses can also affect digital adoption and need to be considered while examining digitalisation. Such factors comprise consumer demands for tailored services (Nugroho, 2015), industry competition among rivals (Tseng, 2002), and financial and non-financial government funding through assistance and the provision of robust and accessible infrastructure (Ahmad & Xavier, 2012). Therefore, the implications of digitalisation are not confined to precise dynamics and differ depending on factors such as the company size, market tenure, industry, etc.

6.1.1 Entrepreneurs' Digital Experience:

Analysing the backgrounds of entrepreneurs can provide valuable insights into their behaviours, visions, and objectives. Often, the pattern of the business mirrors the mindset of its owner, with a seamless alignment between the two (Murray, 1984). Kotey & Meredith (1997) suggest that the values and strategies of entrepreneurs are intertwined with business performance, with their influence varying in relation to the enterprise size.

According to Yunis and al. (2018), the extraordinary power of the digital technologies can only be unleashed by entrepreneurial action. Nevertheless, arguably the deficiency in research concerning the Qatari talents in the aspect of digital adoption in business fills us with the gap of understanding of their level. Accordingly, we need to be also added to this, which involves identifying the central factors linked with entrepreneur's backgrounds regarding digital adoption which is within the SMEs context.

6.1.1.1 Digital Usage:

Entrepreneurs' particular digital skills could set their approach to digital technologies and may use from both their professional and personal sphere. It can differ in different cases regarding the depth and variety of their engagement. Therefore, by continually applying digital channels is the distinction between the digital world and the actual life of each will become more indefinite (Hatak et al., 2015).

Meanwhile, Fossen & Sorgner (2021), argue that individuals exposed to technology in their professional roles are more inclined to become digital entrepreneurs. However, solely relying on digital experience may not necessarily translate into the adoption of digital technology within their businesses. Thus, digital usage alone may not yield significant impact unless coupled with digital awareness, enabling individuals to grasp the advantages and disadvantages of various technology adoptions in their firms.

6.1.1.2 Digital Consciousness (Awareness):

Digital consciousness differs among individuals or groups, locations, and generations, driven by diverse factors. An objective definition of awareness refers to an individual's capacity to make informed decisions rather than relying on chance (Merikle, 1984, Henley, 1984). Digital consciousness entails a mindful acknowledgment of the significance of digitalisation, prompting individuals to opt for utilising digital technologies. Moreover, other scholars such as Wu et al. (2022) suggest that higher levels of awareness facilitate the exploitation of opportunities, with individuals possessing elevated digital awareness being more inclined toward innovation in their businesses.

However, it is important to note that high awareness primarily entails comprehension, not merely information. Acknowledging the importance of technology doesn't necessarily equate to proficiency in its usage, which significantly influences willingness to adopt digital technologies (Schipper, 2014). While digital awareness doesn't guarantee obligatory adoption of digital technologies, it typically necessitates willingness and a positive attitude toward digitalisation.

6.1.1.3 Attitude Toward Digitalisation

Most scholars refers to attitude as “the mental and psychological readiness to act, shaped by past experiences or influenced by predictable behaviours” (Greenwald, 1968). As such, attitude can stem from individual partialities or be influenced by others people attitudes, and often influenced by emerging trends and social norms. Meanwhile, attitudes toward digitalisation are multifaceted, encompassing various sub-aspects. For instance, younger individuals tend to exhibit greater interest in digital activities (Ardies et al., 2015), with age indirectly affecting attitude as a sub-aspect. Additionally, attitudes can be influenced by factors such as gender and user background.

The implementation and integration of digitalisation actions within the firm hinge on the SME owner viewpoint. As the SME owner can see this as positive thing or as a negative issue (Nugroho, 2015; Marquié et al. 1994; Kotey & Meredith 1997).

6.1.2. SME Internal Resources

SMEs face constraints on both the available resources as well as its competences, which is crucial for their sustainability (Pillania, 2006). To overcome obstacles to growth and sustainability, SMEs must judiciously utilise resources, considering cost constraints.

Digital adoption necessitates specific resources for SMEs to effectively function IT and digital know-hows, in addition to other types of resources. These resources significantly affect the SME owner, who is the main decision-maker in deliberations on adopting digital technologies (Moeuf et al., 2018; Fernandez & Ali, 2015; and Gibbert et al., 2014). When considering the situation for Qatari SMEs, resources are widely available for SMEs. Within this line, Fernandez & Ali (2015) argue that the country boasts plenty of resources like financial support. Nevertheless, some other resources, such as technical skills, remain scarce.

6.1.2.1 Human Resources

For SMEs to achieve their long-term goals must find the right talent. Nonetheless, like SMEs, equipping employees with necessary skills is also very important for the sustainability of the business. By virtue, or the shortage of the manpower in SMEs, each employee acts as the server of a larger end. Concerning human resources management, Rodrigues & Raposo (2011) stressed the core role they play to the SMEs as they determine a business performance a lot.

As stated by Lawson et al. (2003), the lack of such expertise in SMEs can hinder the effective adoption of digital technologies. Nevertheless, maintaining such professionals proves to be a challenge in the long run and it is vital to do this by offering competitive compensation, arranging further training, creating room for career progression and recognition. Moreover, financial resources of SMEs aside from their human resources are wanted to meet the charges of the knowledge adoption (Ye & Kulathunga, 2019).

6.1.2.2 Financial Resources

Securing adequate monetary resources is very important for any SME. However, the SME monetary resources are often limited because of the SME relatively low profit margins and funding difficulties. The problem of financing remains one of the most important obstacles for SMEs development in MENA area, which faces the enormous difficulty of all loans that are approved (Fernandez & Ali, 2015; Pedrosa-Garcia, 2013).

Budget has a universal or universal influence on all other capabilities within the enterprise. Li et al (2020). However, financial resources is one of the factors rank first in reinforcing the relationship between firm's resources and its efficiency. Shortage funds can be efficient as an immediate performance factor for SMEs, Arendt points to research (2008). Digital technologies require financial outlay in terms of the purchase of needed software applications, equipment, system maintenance, infrastructure upgrades as well as experts and the support staff to assist in managing digital operations.

On the other hand, Rodriguez-Villa (2020) asserted that in the case of a health SMEs, the adoption of technology is economically doable, regardless of the sector. The reasons for such downfall in digitalisation prices can be clarified by the great amounts of submissions in the IT marketplace. Within the same line of similarity, many technology organisations are providing SaaS packages (software-as-a-service) which are built not for big companies but for SMEs (Seethamraju, 2015). Small entrepreneurs can easily obtain high quality technology either from local companies or via one stop international companies who are able to guarantee maintenance and also have competitive pricing. Moreover, the SMEs from continuous technological revolution not only need financial and human resources, but also technical resources.

6.1.2.3 Technical Resources

Technical resources are crucial for SMEs to maintain their competitiveness (Bressanelli et al., 2018). On the one hand, the given is that the technical infrastructure within SMEs needs adequate technical resources and the installation of advanced technologies and hiring the right person who possesses the capacity to work and sustain such technologies.

According to the research, most SMEs encounter the difficulties of acquiring the desired technical resources for more effective use of the company's operations (Kuada et al. 2013). As

an SME often has minimal IT departments due to its small size and resource limitations, it is usually behind the curve in terms of the digital adoption which further stunts its technical R&D pursuits for knowledge of the latest and most advanced technology. Technical resource no can significantly affect a small business is scaling up and competing. But without having a solid IT framework, a team of good IT employee and updated knowledge in general, lack of IT lag behind competitors.

However, the most important issue is proper allocation of the suitable technical tools, which enables SMEs to gain the leadership in their respective markets and make necessary progress for their sustainable development. For example, SMEs having decided to employ cloud services must guarantee adequate high-speed internet connectivity, well-matched servers, properly trained IT personnel to manage the cloud, and in place roadmaps for movement of data and systems to the cloud. Research shows that SMEs succeed in overcoming technology resources constraints. Their business logic is becoming immunised against external shocks, expanding to new markets very quickly, boasting more revenues, and creating jobs. Bressanelli et al. (2018) depict such a picture. Nevertheless, the wide range of opportunities also carry some constraints, when it comes to applying technical means within SMEs. One of the major costs of technology is the initial purchase and further supportive expenses. Secondly, a potential issue with humanising digital operations can be the process of getting appropriate people for digital jobs. Next, constructing the architectural framework for technological actions in the community is time-intensive (Prasanna et al., 2019).

6.1.3 Customers (Consumers) Pressure

Clients are no doubt key players on the commercial landscape presently, being the bulk of the revenue companies are generating. Therefore, satisfaction of customers and provision of high-quality service are two main components that should be taken into consideration. Unlike large enterprises, small companies rely heavily on their customers, since without it, they will not be able to enjoy such great returns, neither in sales nor in revenues, hence putting their business success in risk.

The very essence of SME (small & medium enterprise) that are traditionally small in size gives them this advantage of being able to create a closer bond with the customers and to also get the timely update on the consumer requirements. In line with the fact that customer behavior and its variations in the market cause the strategy to change, (Rugman & Verebeke, 1998), SMEs must adapt themselves to the fast-changing customer preferences and expectations. However, instead of it being only one on the list of many tactics, it is a strategic necessity for the SMEs that want to grow in the market where they compete.

6.1.3.1 Customer Needs and Wants:

Customer preferences are influenced by vibrant and ever-changing dynamics of the market caused by changes in the economic situation, emerging technologies, and, more broadly, market trends. However, certain fundamental needs remain unchanged despite external influences. In the digital age, there is an increased emphasis on accelerating processes and delivering efficient services, as customers have become less tolerant of delays and errors (Rathnayaka, 2018). Therefore, SMEs must be responsive to customer demands, offering swift solutions to gain a competitive edge.

Customers wield significant influence over entrepreneurs' decisions to adopt digital services. Some scholars such as Filotto et al. (1997) categorised consumer requirements into various aspects, including the desire for speedy services, the ability to perform operations anytime and anywhere, autonomy in completing services, fostering friendly relationships with staff, affordability, and receiving support when needed. Moreover, nowadays customers similarly seek comfort and convenience in their interactions. Qatari consumers exhibit a strong preference for fast services, as evidenced by Musa et al. (2015), which originated a general preference for digital interactions over physical ones due to their convenience. This study underscores the effect of social influencers on Qatari SNEs customers' adoption of technology and e-commerce platforms.

6.1.3.2 Customer Expectations

Customer expectations are diverse, often shaped by past understandings (Hult et al., 2017). Recognising and discerning these prospects is not only about meeting them but also assessing whether they impose burdens on the corporation (Ramseook-Munhurrin, 2010). Considering this line of thoughts, in essence, how do customer prospects affect the company performance? Some scholars such as Auka (2012) affirms that perceived value directly correlates with the quality received. For instance, consumers could be eager to pay a higher price for superior product excellence, enhancing their capability to invest further when the product or service quality rises.

Products or services possess various attributes, such as core benefits, basic features, expected functionalities, additional enhancements, and potential improvements. These attributes can influence customer expectations, thereby affecting satisfaction levels. However, as SMEs contend with resource constraints, catering to customer demands may exert pressure on them, necessitating careful management of the customer experience. Digital solutions offer avenues to address many customer-related challenges, including reducing wait times, enhancing post-sales amenities, streamlining imbursement procedures, improving communication with customers, and providing additional assistances that bolster gratification and aid the company in retaining good customer base (Nuseir, 2016).

6.1.4 Competitor Pressure

Competition entails the endeavor to surpass others in order to achieve success, characterised by a comparison where entities vie to attain a wanted result either efficiently or effectively (Fernandez & Ali, 2015; Kosfeld & Von Siemens, 2011; Manochehri et al., 2012). For SMEs, competition serves as a catalyst for improvement and development, propelling them towards their objectives, fostering innovation, and nurturing sustainable evolution (Moen et al., 2018; Kosfeld & Von Siemens, 2011; Manochehri et al., 2012). Nonetheless, rivalry can present challenges for the small business (Fernandez & Ali, 2015), particularly in GCC countries such as Qatar, where numerous emerging companies struggle to maintain market presence amidst heightened competition.

6.1.4.1 Industry competition

SMEs encounter fierce competition across various fronts, including product offerings, pricing, quality, and innovation. Fronting up to the increasing competition, SMEs need to be dynamic and fast to exploit any benefits. Prioritisation of modern technology is the key to remaining competitive. By the use of process automation and data analytics, SMEs may streamline their operations, cut costs, and take smart decisions based on data. Technological upgrading can lead to remarkable increase in productivity so SMEs can take on the advantage over others. The ability to stay ahead of the competition on the market requires both flexibility and technological proficiency.

Consequently, as Manochehri et al. (2012) indicate, the level of competition amongst Qatar's SME sector can be regarded as low, with only four present of small businesses having 20 contestants or more, unlike other Middle East economies. This perspective comes from the study conducted on 102 Qatari SMEs that have adopted digital technology, where 69% revealed that they were motivated by trying to be competitive. Nevertheless, it may be an unreliable research because it was done back in 2012. This is mainly because due to these the last few year's events such as the blockade and the World Cup have not likely spared the fluctuations of the market situation of Qatar (Antoniades et al., 2021; Manochehri et al. 2012).

6.1.4.2 Contestants (Competitors') Digitalisation Level

Such knowledge allows the firm to better picture the competitive environment as well as have an external reference point for referring to the performance of the firm's own digitalisation process (Becker & Schmid, 2020). Through digital capabilities, comparison with competitors an organisation can determine points where improvement is required; hence, they will have a widened competitive advantage (Cenamor et al., 2019; Rosin et al., 2020; Li et al., 2016; etc.). Moreover, Contestants' digitalisation levels are likely to have an effect of forcing SMEs to acquire car digital technologies to continue competitive in the marketplace. Rosin et al. (2020) identified four key aspects of a firm's digitalisation degree: emergence of digital asset and digital services for value chain operations, internal customer interaction via digital tools, digital exchange between teams and customers, electronic tools for internal communication and collaboration. Besides that, this researcher's findings show that companies with higher levels of digitalisation are trying to get ahead of the competition through cost reduction, efficient processes with technologies that save time, operate dynamically, and respond quickly to customers, while they cooperate much better with all other departments within the company and thus, they are more flexible to the market fluctuations.

6.1.5 Government Support

The governmental support greatly affects in assisting the SMEs set up and expand hence nurturing entrepreneurship and innovation (De Jong, et al., 2010). This support is multi-fold as it carries out various works which include funding required capital, more resources, and marketplaces, setting a supporting governing framework conducive to the growth of SMEs and offering a helping hand through mentoring and other skills development methods (Abbasi et al., 2017; De Jong, et al., 2010; Aslam et al., 2023). Such services are greatly necessary for obtaining moribund institution of SMEs, giving them the resources to grow and thrive. In addition, offering government-provided services and support is considered as one of the

foremost reasons for enabling SMEs to adopt digitalisation and the way they can be accessed (Lutfi et al., 2022).

As per Qatar's Vision 2030, which aims diversifying the economy and finding long-term and sustainable income resources (The Ministry of Development, Planning & Statistics, 2019), the government extends various kinds of support to SMEs. These services comprise a multitude of the financial and non-financial offers, specifically geared to promote the development of small-scale businesses (Al-Thani, 2021).

6.1.5.1 Government Services

The main function of state keeps support services is to make it easier and faster for newly born businesses and enterprises to grow despite of problems that entrepreneurs may face. These services are composed of different stages, which starts with the identification of funds and consultancy services as the first stage and runs to the subsequent one where the businesses are supported through the incubation, technical orientations, and workshops (Ahmad & Xavier, 2012). Because the business requirements for SMEs vary greatly, the government needs to back them in order for these companies to succeed and survive (Park et. al., 2020). The government support also plays a vital role according to Pulka et al. (2020), it is the material that lessens the effect of the connotation among entrepreneurial orientation and small businesses performance.

Moreover, since the economy influences digital technologies, Small medium enterprises (SME) need assistance in adjusting by the authorities to technology. For the SMEs, such support can come in terms of funding their innovation projects, engaging them in training aimed at developing digital skills and proficiency, and providing mentorship to help them compete favorably and sustainably (Aslam et al., 2023).

6.1.5.2 Ease of Access to Technology

Companies with SME business structure will be faced with a great chance for them and their organisation to advance their competitiveness and for them to generate more growth amid the recent tech development and its environment. Technologies such as cloud calculating, AI, the IoT, big data analytics among others foster SMEs to become more efficient, agile and innovative (Hansen & Bogh, 2021). Despite this, the needed environment for digitalisation to bring out the full potential entails government support policies and initiatives to enable fair accessibility and affordability of digital technologies for SMEs.

Governments all over the world have recognised the need to incept small and medium enterprises (SMEs) digitalisation facilities specifically through subsidies, incentives, and infrastructure developments. Setting up communal digital forums and tech hubs becomes a cost-efficient way for SMEs to enjoy a plethora of advanced technology capabilities through leasing and other suitable models. Moreover, a fortified alphanumeric substructure, reinforced by advanced internet and communications, where any SME owner can access these new technologies if they are interested, has a positive role in equalising the urban-rural digital gap.

It appears that within the short paragraph by Tassey (1991) the cohesive IT infrastructure has been pointed as the resource, which gives SMEs access to the information as well as the power of competitiveness aside from productivity over efficiency. Hence, SMEs can fully take a part in the digital economy only in the case of implementing national programs

regarding the digital gap closing. Broadband access programs, which are subsidised as well as computer labs furnished with specific training, and digital literacy awareness walks too are the major pathways for empowering the SMEs with the technological skills that are needed for productive technology utilisation (Ayinla & Adamu, 2018; Tassef 1991).

In fact, government support of small businesses digitalisation in given country could be seen as an engine for economic having as an SME competitive advantage. The implementation of policy interventions assumes a core place in the SMEs' capacity to choose the technologies and hence keep the digitisation process inclusive and successful. Moreover, Manochehri et al. (2012), argue that Ninety-three percent of the polled Qatar companies reported employing digital instruments - computers and laptops, while 82% among them confessed using Microsoft Office, PowerPoint, or Excel, etc. During the past few years, the Qatari government has achieved the strategic goal of adding profound value to the IT and telecommunication fields. Consequently, Qatari enterprises have gained exposure to more advanced technology, with Qatar emerging as a frontrunner in fixed fibre network deployment (Sonia & Hania, 2023; Ibrahim, 2023).

6.2 Small Business Digital Adoption:

Internet and IT practices in Qatar is wonderful, with an internet penetration rate of Ninety-nine percent (Ibrahim, 2023). Further, high-income levels, along with the social connectivity; the reliable ICT infrastructure, in Qatar, become the thing that accounts for people (Al-Khalaf & Choe, 2019; Ibrahim, 2023).

This technical development, which has been an input factor of the change lately, has revolutionised the SMEs' perception towards IT utilise, which were previously considered to be a support function, into an integral part of the business operations (Manochehri et al., 2012). Digitalisation in SMEs can be categorised into two distinct forms: on the one hand, the simpler processes described, like the use of internet or the correspondence through email, and the software suites used for administrative purposes on the other. The complex data processing, which presupposes the employment of sophisticated and advanced IT solutions, like ERP systems, AI applications, etc. (Ghobakhloo & Ching, 2019). Such virtual lanes are seen to be equipped with innovative technology, which waters the greenness of all industrial procedures in the company's busiest zone. They also incorporate their adaptive capabilities to quick-acting altering environments that function to support more electronic technologies to be integrated to their processes and lines of operation which in turn offer more ways and assistance (Ghobakhloo & Ching, 2019; Rosin et al., 2020; Ibrahim, 2023; Mubarak et al., 2019)

Meanwhile, the work of some scholars such as by Mubarak et al. (2019) introduced several companies who took up digital technologies for enhanced performances provide an insight on how technology can give a firm a cutting edge among its competitors. A perfect instance on how Industry 4.0 enhances operational efficiency and productivity through automation is a catalyst for SMEs to surpass resources in terms of capital, knowledge, or skills (Mubarak, et al., 2019). Nevertheless, the implementation of these measures by the organisation's management is critical to protect the business against IT investment risk to unforeseen outcomes (Legge, 2001; Stankovska, et al., 2016). Change responding operates an aptitude for the success and it is illustrated by the use case of Toys R Us and Nokia as examples. Although Toys R Us performed brilliantly in the Christmas of 1998, they could not process all the online orders because of their mindset to resist technology. Online sales became a new growth area for the company in 2000. Sears established communication channels with Amazon

to implement e-commerce services which show that being adaptable is critical to quickly adjust to the market requirements and to make full use of the digital technologies (Berman & Thelen, 2004). Competently Nokia's missed the bus again due to the deficiency of its response speed to change, which led to the sales decline as the competitors like Apple and Samsung sprung on the smartphones that stole the consumers' attention. Nokia's successful technological features and the product size change were not so helpful, since the company lost its top position among cell phone manufacturers (Rooij, 2015).

Digitalisation in the Qatari SME can be explained by the study conducted by Tasmu Digital Valley (2022), which pinpoints the degree of digitalisation in the sector, offering insights into the adoption of some technological aspects across different domains. The report unveiled that only 3% of the enterprises being studied are using cloud computing compared to 35% of enterprises that use Big Data analytics in their business operations.

The potential for growth among small businesses may be significantly improved through the easy to use and affordable option of internet and advanced communications. Such incorporation of digital podiums means that small businesses will be able to reach new customers and businesses at low costs and will remain operational even when imposed lockdowns occur. Adopting critical know-hows such as big data, IoT, AI, etc. is an important factor and makes the processes more efficient, less costly and adds speed to cross-border transactions (Lukonga, 2020). On the other hand, a mainstream of small businesses in MENAP countries, such as Qatar, is still struggling with technological adoption; this is considered the most significant gap among entrepreneurs. The inadequate introduction of technologies into business operational processes is one of the barriers to effective business operations in these areas (Leopold et al., 2017). Closing this gap and making technology adoption more available in SMEs, will be a pre-condition for innovation, competitiveness, and economic growth development.

6.3 SME Business Performance

SMEs business success becomes known by a good achievement of both financial and non-financial objectives according to Cavusgil & Zou (1994). To evaluate the small business performance quantitative parameters (such as sales performance) is a suitable tool to use (Cruz Villazón et al., 2020). Moreover, KPIs (key performance indicators) have unique place in organisations as they not only monitor the financial but also other important areas including market performance, let alone helping to build customer relations (Santos & Brito, 2012). Nevertheless, having in mind that not all of indicators equally vague the strategic decision-making may be hampered if indecent metrics are exploited. Additionally, SME business performance indicators should be aligned and tailored in terms of the common business goals and strategies of the respective organisations. Within the framework of the delivery business, every business naturally focuses on the most important performance indicators for the company. For this reason, measurement failure of small-scale businesses is usually attributed to the lack of certain indices as the framework that enables to ascertain whether there was a positive or negative influence on business operations and strategy.

The incorporation of digital know-hows into the core business procedures is one-step that helps SMEs gain good performance. As per the report by Yunis et al. (2018), the performance is discussed in detail. Despite the fact that some advanced technologies accomplished considerable in improving SME performance (Mubarak et al. 2019), other

technologies such as the IoT is still hard to make out. It inforce the fact that, for the SMEs, it is more expedient to determine the technologies and carefully introduce the most appropriate in their specific context.

Above all digital tools' integration of operation, capture market data and customer outlay equip SMEs with data-based decision making and strategy formulation. Technology is a formidable tool that could be used by SMEs to serve customers' needs, to optimise business operations and inform the decision makers. Digitalisation could therefore turn small businesses into powerful competitors. Meanwhile, prediction of SME performance can be conducted, and Siow et. al. model (2011) for SME performance prediction in Singapore can be of an invaluable use. This model emphasises important parts of the business taking attention to employee performance, product/service delivery, customer relations and effective leadership that has been mentioned by the scholar as factors which influence in business are operational performance, supplier management, financial performance, market performance, employee performance, good customer relationship performance (Santos & Brito, 2012)

Different types of tools can be used to determine the SMEs business performance, including operational and process performance indicators, supplier management performance indications, financial performance metrics, market performance assessment, employee performance evaluation, customer relationship analysis, technological readiness assessment, and so on. In each of these tools, the value of the information concerning SME operations is vital for the formation and determination of strategies of improvement and development.

6.4 Technology Readiness Index

Several internal and external factors can influence Technology Readiness Index (TRI) in SMEs. TRI defined as a measure of digital technology adoption and implementation (Parasuraman, 2000), Indicated by the readiness and inhibitors aspects.

The readiness aspects affect the level of digital adoption positively and can be measured by "optimism and innovation". On the other hand, the inhibitors aspects affect the level of digital adoption negatively and can be measured by the "discomfort and insecurity" levels (Nugroho et al., 2017).

While, "Optimism" refers to the belief that more control, efficiency, and flexibility can be gained through technology; "Innovativeness" refers to technological innovation and assumed leadership. Meanwhile, "Discomfort" is defined as sensation of being out of control and overwhelmed by technology. "Insecurity" is known as lack of confidence in technology's capabilities (Blut & Wang, 2020).

As ICT infrastructure in Qatar was improved, Qatari entrepreneurs' use of technology has increased significantly (Sonia & Hania, 2023), indicating a need to identify TRI levels among Qatari entrepreneurs, since TRI studies are lacking in the region.

7. The Proposed Research Framework

Any enterprise implementing digital activities will experience fluctuations that might have a big impact on its performance. In light of that, the research framework (Figure 1) developed for the study aims to understand how digital implications affect businesses current and future performance and investigate the factors that lead to digital adoption. In addition, it also aims to examine the effect of the TRI.

7.1 Digitalisation Factors

Digital usage, awareness, and attitude toward digitalisation, can assess the digital experience of each user. In addition, the digital experience of entrepreneurs influences the technology acceptance level, according to Nath et al. (2013), as it influences the

- a) Perceived ease of use, and
- b) Usefulness of the technology used.

A business task's characteristics and the technology's characteristics are influenced by internal resources. Task-Technology Fit is evaluated based on the types of everyday jobs and technologies used in the business (Goodhue & Thompson, 1995). To illustrate, for task characteristics, human resources can influence task difficulty level, while technical resources can influence task interdependency. While, for technology physiognomies, the SME resources (monetary, human, admin, and technical resources) can influence the performance and the SME movability (Gebauer et al., 2005). Therefore, enterprise resources can have a significant influence on the task-technology fit.

There is a direct correlation between the type of technology required and the customer base. Therefore, business operations are driven by customer needs and expectations. Operational level and customer flow are significant factors that influence the type of technology needed. Based on customer needs, a company's task characteristics are directly and indirectly influenced. To enhance or maintain customer loyalty and satisfaction, it is also necessary to adopt a specific technology. As a result, customer satisfaction motivates higher task-technology fit for SMEs (Kim et al., 2015).

Additionally, SMEs smear ground-breaking technology to acquire a competitive advantage due to the level of competition (Banytė & Salickaitė, 2008). Innovative technologies are critical to success in a competitive market, and therefore, firms' decision to adopt innovative digital tools is influenced significantly by competition levels (Moghavvemi et al. 2012).

The government's support is crucial for SMEs toward digital adoption. If it is tailored properly, it can increase digitalisation level. Moreover, the Innovation Diffusion Theory argue that government support and/or technology infrastructure affects diffusion. Technology compatibility, for instance, can be influenced by training programs. In addition, SMEs may adopt innovative digital tools more readily if they are given access to new technologies as trials (Atkinson, 2007).

7.2 Digital Adoption

A broad range of potential technologies is involved in digitisation, including process optimisation, functionalities, data usage, and the full value chain. Different aspects of digital adoption can affect the performance of SME. Depending on various factors, businesses can digitize all or some of their business activities. Digital adoption in SMEs may be influenced by both internal and external factors.

7.3 SMEs Business Performance

Yunis et al. (2018) argue that the digital activities of the business can affect its overall performance. Numerous studies have shown that various kinds of know-how can meaningfully advance the performance of a company. It is also important to reflect the company future performance, as technology rapidly progresses and changes over time, so its influence on business

can differ from time to time.

7.4 Technology Readiness Index

TRI levels with the SME is influenced by a variety of internal and external factors. As a mediator, the TRI can influence the relationship between digitalisation factors on digital adoption levels. Previous scholarly research outcomes proved that TRI could accurately forecast user behaviour based on a deeper understanding of their usage (Parasuraman, 2000). According to Wook et al. (2014) and many other scholars, TRI has a noteworthy influence on digital adoption.

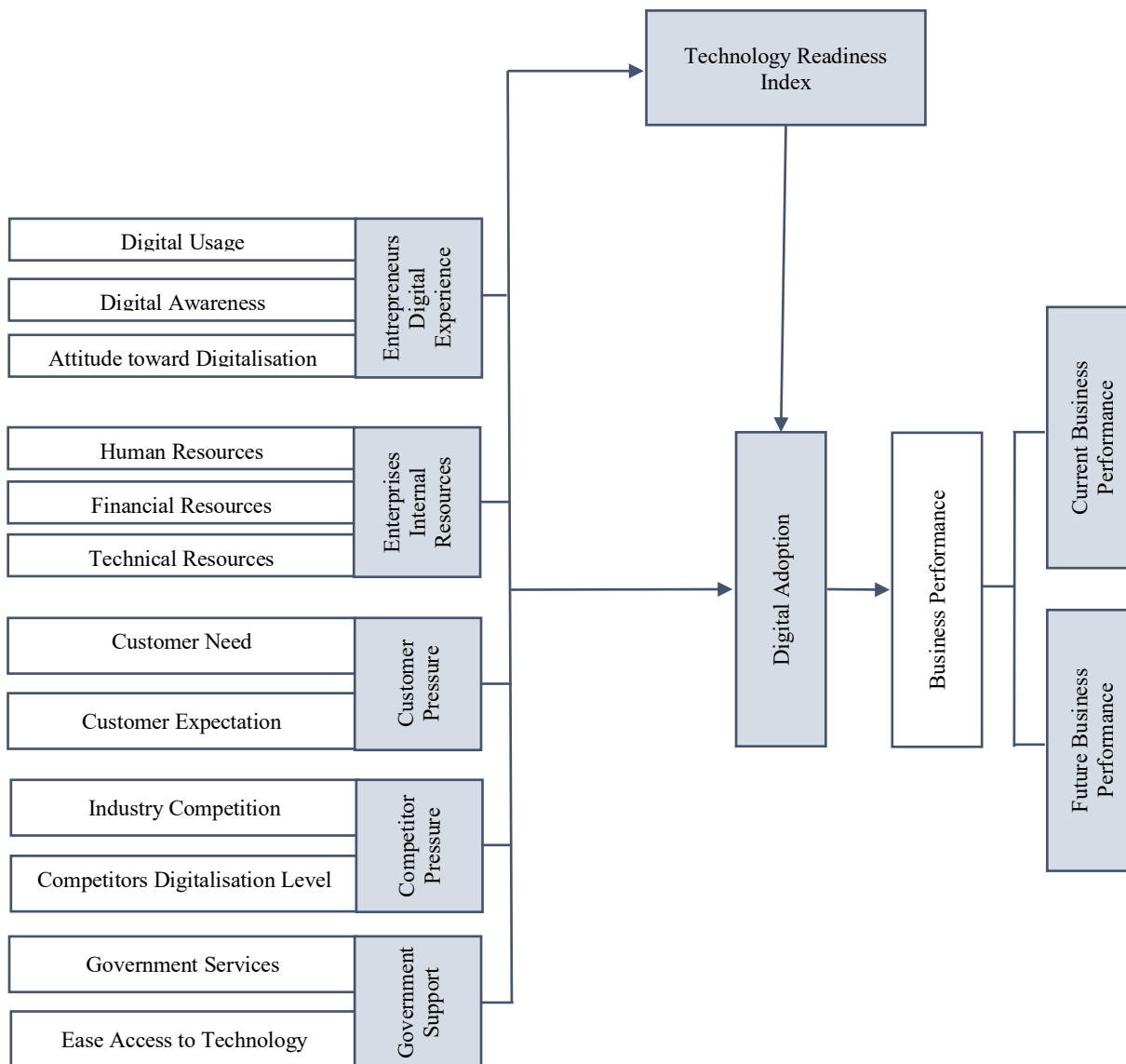


Figure 1. Research framework

8. Conclusion

The developed model emphasises on explaining the adoption of digital platforms among small businesses in Qatar. It comprises three main categories: the study will look into the range and depth of implications of digitalisation on SMEs; in particular, it will assess the factors and resources that SMEs use to adopt digital technologies and the significance of digital technologies in the performance of SMEs. Moreover, it also tries to uncover the translating function of the technology readiness index. Digitally validated framework will provide scientific data of the Qatari context and be the illumination process for the rate of the digital adoption among the SMEs and its effect on their performance.

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