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A qualitative study of the strategic alignment perspective of Public-Sector Organisations in Saudi Arabia in the digitalisation age

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A qualitative study of the strategic alignment perspective of Public-Sector Organisations in Saudi Arabia in the digitalisation age

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A QUALITATIVE STUDY OF THE STRATEGIC ALIGNMENT PERSPECTIVE OF PUBLIC-SECTOR ORGANISATIONS IN SAUDI ARABIA IN THE DIGITAL AGE

Completed Research Paper

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Abstract

Public-sector organisations face several challenges in their efforts to attain business-IT alignment. Strategic alignment is considered an important construct in the study of business value related to IT projects. This aim of this study is to identify the main factors contributing to business value in IT projects in public-sector organisations in Saudi Arabia (SA) by applying a business/IT strategy alignment perspective. This research utilises a qualitative study design that includes a sample of 15 executives, senior managers and other employees from five case study public-sector organisations. These organisations are all implementing a digital transformation plan in Saudi Arabia, a growing economy aiming at modern digitisation. Qualitative data were analysed using NVivo 12 software. The key findings of the study indicate that top management characteristics, IT governance mechanisms, business and IT strategy alignment and the implementation of IT project planning and quality can benefit organisational performance, services innovation, and operational excellence.

Keywords: Business-IT strategy alignment, digital transformation strategy, IT governance mechanisms, Saudi Arabia, public-sector organisations, qualitative study

Introduction

Strategic alignment is often described as the extent of the ‘match’ between the IT strategy and the business strategy of a firm (Bergeron et al. 2004; Cui et al. 2015). Moreover, it is recognised as a key element in the creation of business value in information technology (IT) projects (Coltman et al. 2015; Dulipovici and Robey 2013; Gerow et al. 2014a). As a result, it is a top priority for business managers and IT executives (Gerow et al. 2014a; Gerow, Thatcher and Grover 2015; Tallon and Pinsonneault 2011; Wu et al. 2015a). Strategic alignment is regarded as vital to the way firms translate the uses of IT into improvements to business performance (Bergeron et al. 2004; Ilmudeen, Bao and Alharbi 2019). Given that business-IT strategic alignment can facilitate business performance improvement (Coltman et al. 2015; Cui et al. 2015; Kearns and Sabherwal 2006), it emerges as a factor of importance in the field of information systems (IS) (Gerow et al. 2014b; Luftman and Derksen 2012).

One of the most important factors affecting the success of IT projects is the alignment of the firm’s business and IT system strategic objectives (Alghazi et al. 2018; AlGhazi et al. 2018; Alsudiri et al. 2013). For this reason, the failure of many IT projects in public-sector organisations remains an ongoing concern for governments around the world (Alsudiri et al. 2013, AlQashami and Heba 2015). Research shows that 60-90% of organisations do not adequately implement Enterprise Resource Planning (ERP) systems and that approximately 90% of ERP projects go over time or come in over budget (Abouzahra 2011). Moreover, AlQashami and Heba (2015) found that only 32% of IT projects achieve their objectives, with around 24% of projects reported as a failure. One of the leading factors contributing to the failure of such projects is misalignment between the IT project strategy and the business strategy of the organisation (Alsudiri et al. 2013).

Overview of Saudi Arabia’s strategic transformation program

In recent decades, IT has played a significant role in the economy of SA. The Vision 2030 initiative from the Saudi Ministry of Economy and Planning (2017) outlines the long-term economic blueprint for the Kingdom’s transition away from its dependence on oil. Notably, technology is identified as a key driver and facilitator of the complex changes embedded in the envisaged transition of the economy.

In terms of national revenue, the SA government outlined its plan to increase non-oil government revenue from SAR 163 billion (US\$43.5 billion) to SAR 1 trillion (US\$267 billion) by 2030 (Saudi Ministry of Economy and Planning 2017). The Vision 2030 initiative has important implications for the digitisation strategies of public-sector organisations in SA. At the very least, their digitisation plans should aim to align with the Vision 2030 goals to deliver improvement in the quality of government services including healthcare, education, and public security through ICT solutions. It is now incumbent on Saudi public-sector organisations to avoid a wasteful ‘technology for technology’s sake’ mentality and review their business strategies to better reflect the Vision 2030 program objectives. However, governments tasked with providing services sometimes adopt high-end technologies for use in their systems and fail to make the necessary changes within the public-sector organisations to ensure that the system they have adopted is optimised. Indeed, Shehry et al. (2009) has claimed that one of the main challenges facing the SA e-government initiative is the lack of alignment between organisational goals and IT projects.

The SA government has adopted a National e-Government Strategy to improve technology-based operations and service delivery in public-sector organisations (Shehry et al. 2009; Yesser 2016). Implementation of the e-government strategy, however, faces many technological, cultural, organisational, and social challenges and issues. Such challenges and issues must be considered carefully by the Saudi government given the limited research evidence and insights on this issue to guide the successful to adoption of e-government services in SA (Shehry et al. 2009). Although some public-sector organisations have delivered IT projects on budget and on time, few of them have reported how they measure and identify the benefits supposedly arising from the projects and project performance (Gerow et al. 2014b; Wu et al. 2015b; Ilmudeen et al. 2019).

Research questions

Previous research has introduced a suite of useful theoretical frameworks and perspectives explaining strategic alignment. However, few studies have focused on the quality of IT projects in an assessment of strategic alignment. This study aims to identify the main factors contributing to business value in IT projects in public-sector organisations in SA by applying a business/IT strategy alignment perspective. The rationale for this research focus is based on the need to improve our understanding of the business and IT models employed in SA public-sector organisations to enhance performance and achieve operational excellence (Alghazi et al. 2018). To achieve its stated aim, this study sought to answer the following research questions:

1. What is the impact of IT governance mechanisms on business-IT strategic alignment in the context of IT projects in public-sector organisations in Saudi Arabia? (RQ1)
2. What are the effects of top management characteristics (e.g. support, knowledge of IT, participation in business planning, and participation in strategic IT planning) on Business-IT strategic alignment and IT governance mechanisms in the context of IT projects in public-sector organisations in Saudi Arabia? (RQ2)
3. What is the impact of the quality of IT project planning on IT project outcomes (organisational performance, service innovation, and operational excellence) in public-sector organisations in Saudi Arabia? (RQ3)

Research significance

The successful implementation of IT projects is an issue of particular relevance to SA. There are presently a range of technological, cultural, organisational, and social issues facing the SA government in its efforts to implement its National e-Government Strategy 2030. Although SA is classified as a high-income country, there is little research and insight to guide the successful adoption of digitalised government services (Shehry et al. 2009). What is generally understood is that when an organisation embarks on a transition towards a digital strategy there is an increase in the potential for “misalignments between the emergent strategy and resources to give rise to tension” (Yeow, Soh and Hansen 2018). Currently, however, there have been only a limited number of studies to focus on how organisations achieve alignment between their IT and business strategies while developing or implementing IT projects. As such, there is no practical approach available to test strategic alignment at the strategic planning level in SA (Alshehri and Drew 2010).

This study is therefore important because the findings generated will be of value to SA public-sector organisations during implementation of the National e-Government Strategy to increase efficiency and productivity outcomes for public-sector organisations as part of the initiative to diversify investment and the economy.

Literature Review

Challenges to improving Business-IT alignment

Many business practitioners and researchers have underscored how it is critical to align business strategies with IT strategies. For instance, the services provided and the adoption of IT projects, both of which generally leads to higher levels of return on investment, should be the actions performed on the firm’s projects (Reynolds and Yetton 2015). It has also been noted that a business’ failure to leverage IS may significantly decrease its performance and feasibility (Besson and Rowe 2012; Ilmudeen et al. 2019). Furthermore, the absence of IT strategies amongst business goals and objectives is always associated with a lack of IT credibility and subsequent reduction in IT investment. In comparison to research results on the importance of Business-IT alignment, there is an entire set of challenges that they trigger. Despite the importance of IT to achieving government milestones or business goals, many challenges hinder the attainment of Business-IT strategy alignment (Alaceva and Rusu 2015). This is due in no small part to many business executives and government officials struggling to understand the specific needs of their businesses as far as IT is concerned.

Effective IT-business alignment is characterised by whether technology has end-goals equal to those of the other disciplines involved in the business such as production, sales, operations and, most importantly, product development (Alsudiri et al. 2013; Reynolds and Yetton 2015). These disciplines work in unison towards the overall success of a business. Nonetheless, the major challenge is always related to how individual groups can align themselves around universal goals. Another challenge arises when key players fail to identify the drivers of these goals and how they combine to achieve organisational goals.

Adding to the challenges to attaining Business-IT strategy alignment in organisations today is that executives with little knowledge of technology make most of the IT decisions (Gerow et al. 2014b). This includes the potential leveraging of artificial intelligence (AI) technologies as drivers of innovation initiatives (Chedrawi and Howayeck 2019). It is generally the Chief Executive Officers (CEOs) and Chief Financial Officers (CFOs) of businesses who make IT decisions guided by what they read in magazines or what vendors and contractors tell them. In most cases, the costs are known to offset the gains. In the end, the organisation appears to be structurally stronger, but in fact remains the same or even worse. Another issue in Business-IT strategy alignment is related to the outsourcing of IT management in an organisation. It is always important to seek professional assistance, especially when it comes to IT matters (Renaud et al. 2016). However, many businesses get the idea of assistance wrong. Most companies are fully directed by technology-driven IT organisations with limited understanding of the actual needs of their business. As a result, IT organisations are unable to translate business requirements into technology solutions. Companies thus fail to align their IT affordances with business goals (Krotov 2015).

IT governance and top management literature

Governance of IT primarily deals with the effective use of IT (Wu et al. 2015) and usually falls under the responsibility of the organisation's top management and board of directors (Turel et al. 2017). Top management refers to those employees responsible for controlling and overseeing all operations and resources in an organisation. As such, they are integral to goal setting, strategic planning, company policy development, and general decision making around the strategic direction of the organisation (Raes 2011). The role of top management support in achieving Business-IT strategic alignment in Saudi public-sector organisations is particularly important in this study. As indicated in the literature, such support underpins the mobilisation of resources within an organisation as well as determines the amount of time devoted to alignment outcomes in proportion to costs and to the follow-up processes on results (Raes 2011).

In terms of the research literature, Wu et al. (2015) drew on IT governance and the Resource Based View (RBV) paradigm to develop a model for assessing the influence of top management support and IT governance mechanisms on IS strategic alignment and organisational performance. They found "a positive, significant, and impactful linkage between IT governance mechanisms and strategic alignment and, further, between strategic alignment and organisational performance" (Wu et al. 2015 p. 497). In addition, Turel et al. (2017) studied the key determinants that help translate top management support for IT governance approaches into improved organisational performance. The authors found that support for the implementation of robust IT governance mechanisms had a mediating effect on the strategic alignment in the organisation (Turel et al. p. 117).

Theoretical framework

Gaps in our academic understanding

A review of the literature revealed a general lack of understanding and analysis of how different industries compare in relation to Business-IT strategy alignment issues and their resolution. The studies of strategic alignment reviewed primarily focused on a specific industry or workplace setting; for example, project management in telecommunications companies (Alsudiri et al. 2013). Comparative studies on strategic alignment across different business sectors and industries will therefore help to explain the primary catalysts of Business-IT strategy alignment as well as expand our understanding of potential solutions to Business-IT strategy alignment issues.

In turn, a key finding to emerge from a review of the literature is that IT planning and shared domain knowledge such as top management knowledge of IT, top management participation in business planning, and participation in strategic IT planning are important factors when assessing the impacts of contextual factors on Business-IT strategic alignment (Kearns & Sabherwal, 2006; Turel et al. 2017; Wu et al. 2015a).

A useful theoretical framework to better understand the quality of IT projects is an assessment of strategic alignment derived from prior studies and adapted to fit our context (Kearns & Sabherwal, 2006; Turel et al. 2017; Wu et al. 2015a). Table 1 shows the Construct Definitions, Measurement, Impact, and Source.

Design Principle	Impact	Source or Basis
IT governance mechanisms: 'The degree to which an organisation implements critical IT governance best Practices'. Themes: (Decision-Making Structure, Formal Process , Communication Approach and Operational Excellence)	Business-IT strategic alignment. Quality of IT project planning. Organisational operational excellence. Organisational performance.	(Wu et al. 2015)
Top management (TM) characteristics: Top management support (behaviour) 'explicit and active support of the top management towards the introduction and development of new information technology' Themes: (Top managers' knowledge of IT, top management (TM) participation in business planning, and participation in strategic IT planning)	Business-IT strategic alignment The relationship between IS governance mechanisms and Business-IT strategic alignment.	(Kearns and Sabherwal 2006) (Wu et al. 2015) (Turel et al., 2017) (Denison and Mishra, 1995)
Organisational characteristics: 'Such as the organisation's identity, culture, entrepreneurial orientation, and governance structure may influence the relationship between individual characteristics and dynamic managerial capabilities.' Themes:(Organisational culture and Organisational structure)	Business-IT strategic alignment and the quality of IT project planning.	(Denison and Mishra 1995) (Roberts et al. 2016); Amar and Romdhane 2019); (Alonso et al. O'Shea 2018)
Quality of IT project planning: Is defined as "a set of methods, processes and practices that are repeatedly carried out to deliver IT projects	Organisational performance. Service innovation. Organisational operational excellence.	(Kearns and Sabherwal, 2006); (Arundela, Bloch and Fergusonb 2019)

Table 1 Construct Definitions, Measurement, Impact and the source

Methodology

Research design

This study adopted a qualitative approach develop a deeper understanding of the aspects of strategy alignment apparent in these organisations. Specifically, a qualitative approach was used to explore the maturity level of alignment between business and IT in the selected case organisation. According to Cooper et al. (2012), this method could closely investigate operational aspects both with and across multiple organisations.

Organisation and participant sample

A key objective of this study was to ensure the sampling process provided the collection of meaningful qualitative data related to Business-IT strategic alignment in IT projects, rather than achieving highly generalisable results. As such, five case study public-sector organisations implementing a digital transformation plan in SA and 15 employees working in these organisations comprise the sample. The

five case study organisations were selected based on services provided and size (large and medium size, specifically). These sizes were selected because Business-IT strategic alignment and its relationship to organisational performance is more often prioritised and practiced in larger organisation (Wu et al. 2015a). The services provided by the public-sector organisation were selected based on the classification of the Saudi e-government program in “Yesser” (Yesser 2016). An important consideration when making the selection was the capacity of the organisation to participate in the study according to its schedule.

In terms of participants, 15 participants (12 men; 3 women) working at the five case organisations were recruited. We considered them as an appropriate target population for this study (Yesser 2016) as identified in the 2016 directories published in the e-government program. The sample included top management (executives, senior managers) and employees in the Vision Realization Office in each organisation. The rationale for selecting these participant groups was to access staff engaged in strategic planning, project management, and information technology at the strategic level of the organisation (see Table 1 for further details). As Wu et al. (2015) explains, given strategic alignment and organisational performance issues require strategic level decision making by higher-level managers/executives, they are best suited to providing meaning data on the nature of the relationship between alignment initiatives and performance outcomes.

Regarding the relatively small sample size, Collins (2016) points out that sampling for meaning sees the recruitment of participants is undertaken primarily to understand their subjective views of the research issue; that is, to gain an insider's perspective. Therefore, the representativeness of the relatively small sample was enhanced because the experiences of the participants as relayed during the interviews were embedded in shared cultural norms and expectations (Creswell 2013; Collins 2016).

Case ID	Size	Industry	Position	Qualification	Duration (minutes)	Code
Case 1	Large	Communication & Technology	Governance Manager	Master	61	GM
			Strategy Director	Master	81	SD1
			Deputy Minister	PhD	35	DM
Case 2	Medium	Technology & Transformation	Deputy General Manager	Bachelor	54	DGM
			Governance Director	Master	52	GD
			Products and Services Director	Master	37	PSD
			Standards and Development Director	Master	75	SDD
Case 3	Large	Labour sector	Strategy Director	Master	46	SD2
			CFO	Bachelor	55	CFO1
			Deputy Minister for IT and Business Development	Master	42	DM
			Strategy Officer	Master	36	SO
	Large	Finance & Economics	Transformation, Planning and development VP	Master	28	TPD

Case 4			Core Business VP	Master	41	CB
			IT/PMO Director	Master	30	IPD
			Public Relations Manager	Master	34	PRM
Case 5	Large	Labour sector	CIO	Master	50	CIO
			GM (Core business)	Bachelor	33	GMC
			Infrastructure Director	Bachelor	43	ISD
			CFO	Master	22	CFO2
^A Organisation size: Medium > 1000 employees, Large > 1500 employees.						

Table 2 Overview of interviewees, cases and participant information

Data collection

Data were collected from employees at five case organisations via in-depth, semi-structured and open-ended interviews. The interviews were conducted in Riyadh, the capital of SA from 21 January 2019 to 7 February 2019, the location of the headquarters of all Ministries and organisations. Each face-to-face interview was approximately 45 minutes' duration and was conducted in Arabic or English depending on the participant's preference. The interview processes followed the interview protocol to ensure plausibility, dependability, and consistency among the interviews (Judd, Smith and Kidder 1991). Before every interview, the researcher presented himself and explained the objectives of the study, including what was expected from the participant (Houghton et al. 2013). The UOW's Human Research Ethics Committee (HREC) approved the research proposal (Application 2018/277) for compliance.

Data analysis

All interview transcripts were analysed using qualitative data analysis software, NVivo 12, employing two coding sessions as recommended (Creswell 2013). Specifically, a thematic analysis was conducted to explore, identify and analyse the key determinants of business value related to IT projects using a Business-IT strategy alignment perspective in Saudi public-sector organisations (Braun and Clarke 2006).

Results

The analysis resulted in the identification of the following nine themes based on the experiences of the participants:

IT Governance and the Digital Transformation

To help answer RQ1 in this study the participants were asked about their understanding of the relationship between IT governance and the digital transformation in their organisation. The analysis of the interview responses revealed that many participants (GM, DGM, GD, CFO and SD2) stressed that the lack of governance is one of the main challenges during a digital transformation. Moreover, several participants (PRM, DGM and SD2) pointed to the lack of resources and capabilities within the organisations to effectively lead the digital transformation programs. The following statement reflects the views of most interviewees when it came to describing the challenges and success factors for large-scale digital transformations in SA:

DGM: *“Currently, digital transformation is taking place, and this requires significant IT involvement and is driven by the business sector and not IT.”*

Formal IT governance mechanisms

Regarding the impact of IT governance mechanisms on business-IT strategic alignment success in the context of IT projects (RQ1), the data analysis revealed that the success of IT projects was linked by the participants to governance quality at all levels. This included decision-making structures, formal processes, and specific communication approaches. During the interviews, the participants indicated that an absence of governance or weak governance is a concern for the organisation when implementing an IT project. Moreover, the participants indicated that even if there is an identified governance mechanism to oversee Business-IT strategic alignment during the IT project implementation, it may not have been implemented well enough to ensure quality. This sentiment is revealed in the following participant comments:

GD: *The issue is that the governance sometimes is not built properly, and this improper construction can cause misunderstandings, delays and a reduction in the quality of projects. I always say that building IT governance must be done properly, whether internal or external, to help increase quality.*

SD1: *In general, there is a disparity in the maturity of governance mechanisms implemented in public-sector organisations. This may be due to organisational culture and the recent adoption of information technology.*

Moreover, none of the participants mentioned during the interviews that their organisation had established a Steering Committee to oversee the IT project. This has clear implications for the capacity of the public-sector organisation to successfully achieve Business-IT strategic alignment in the context of IT projects.

Top managers' knowledge of information technology

RQ2 in this study calls for an examination of the effects of top management characteristics (e.g. support, knowledge of IT etc.) on Business-IT strategic alignment outcomes in IT projects in the nominated SA public-sector organisations. The results from the data analysis show that the study participants perceived the attention and interest of the Saudi government to be directed towards ensuring that top managers have knowledge of IT by appointing leaders who have experience in technology. This is revealed in the following comment:

It was noted that many of the new leaders (new Ministers) appointed in the public-sector have a technical background and this helped to adopt the information technology significantly. At the same time, it has also raised the ceiling of expectations.

Top manager participation in business planning

Another top management characteristic of interest to this study to help answer RQ2 is top manager participation in business planning. The manager participants varied in their views on the importance of top management participating in this arena. 10 participants indicated having committed to modest participation (CIO, GMC, and ISD); whereas four indicated that their organisation did not have an overall strategic plan. As revealed in the following quotes, the plan is still in the process of being developed:

SD1: *In terms of our work in the Ministry, we first found suffering and then a maturity assessment was made in building the strategy.*

DGM: *We are fully reliant on the strategy consultancy company that developed the strategic plan which are often developed based on the direction of the organisation first leader.*

DGM: *If the strategy is developed without the participation of employees at all levels, top management will face significant problems. But strategies that are bottom up and involve all employee levels are often successful.*

Top manager participation in strategic IT planning

The extent to which top management in the selected Saudi public-sector organisations participated in strategic IT planning and its impact during the implementation of IT projects is also relevant to RQ2.

Across all five public-sector organisation, the interviewees indicated their views that the following factors to either positively or negatively affected the quality and implementation of IT projects:

Positive: realistic and achievable timelines and realistic and effective staffing plans.

Negative: lack of clear communication among participants, unclear statement of overall goals, and unclear delineations of responsibilities and authorities.

Notwithstanding this belief, the level of participation in IT planning by top managers in the organisations was below what might reasonably be expected. Fourteen of the participants made it clear that they have never participated in IT planning. This was confirmed by many IT managers as illustrated in the following quotes:

GMC: *There is no participation at all. ... We have no science in the planning of information technology or any of the services to be provided. And there is no participation for any related work.*

SD2: *We do not see their participation as effective, because the plan is particularly technical.*

Top management Support

In terms of top management support for IT project implementation as a ‘characteristic’ of interests (RQ2), the analysis results revealed that top management support has a positive influence on IT project implementation and potential success. For example, the participants revealed that staff responded well to top management support in the form of feedback and guidance throughout an IT project. Moreover, the participants reported that proper support from executives in the organisation such as defining how the project is executed, monitored, controlled, and closed during the execution phase positively impacted the project implementation process. Lastly, the participants indicated that top management support was mostly related to estimating, budgeting, and controlling. The generally positive impact of top management support towards achieving Business-IT strategic alignment is illustrated in the following comment:

GM: *In case there is a problem in the approval of the project, top managers will find you a solution to support and complete the project, until it is fully implemented.*

Business-IT strategic alignment

To answer RQ3, the participants were asked during interview about their understanding of Business-IT strategic alignment. The rationale for this question is due to the premise underpinning this research that Business-IT strategic alignment is linked to enhanced potential for IT project success and organisational performance improvement.

It emerged from the analysis of the interview responses that this question caused confusion among many of the participants, with only a few appreciating the importance of alignment. This outcome may be because their work specialises in measuring the performance of organisations or those who work in project management. The following participant comments reflect the sentiments of other participants in the study:

IPD: *Successful alignment has a significant and obvious impact on the project timeline, budget and communication effectiveness.*

DGM: *The language is incomprehensible to the business sector and this, in turn, made the business sector unable to deliver the information accurately. This affected the projects and their quality and therefore the alignments, such as some difficult terms (architecture - artefacts) and this is common in many sectors and organisations.*

Organisational performance

Further to the relationship between IT project planning quality and project outcomes (RQ3), the results from the data analysis provide limited insights only. To clarify, the analysis revealed that the participants perceived the government sector to still be in the construction phase of the digital transformation initiative as part of the National e-Government Strategy. As a result, it may be too early to gauge the relationship between project planning quality and project outcomes because it takes time to reach the maturity level of institutional performance. Nonetheless, some participants indicated that

they thought the National Public Performance Indicators Measurement Centre established by the Saudi government was representative of an attempt IT project planning quality. The aim of the Centre is to follow the progress of, and offer support to, public-sector organisations implementing IT programs and initiatives, to assist them to achieve their targets. This includes ensuring that organisations are committed to achieving national goals, highlighting any delays in the implementation of initiatives. However, it also emerged from the data analysis that some participants believed the government and public-sector organisations were mainly interested in measuring customer satisfaction in general, but not in measuring return on investment and return on equity. This perspective is revealed in the following comment:

GM: *In the public-sector there is probably no measurement of return on investment and return on equity because the focus in public-sector organisations is on providing services to the citizens.*

Service innovation

Service innovation is linked to organisational performance improvement (Mergel 2018) and to RQ3 specifically in this study. Results from the analyses of the participants' statements indicate a variety of approaches are adopted in Saudi public-sector organisations to achieve service innovation while also improving profit and performance. However, some participants pointed to the lack of a clear plan to achieve service innovation. Moreover, others pointed to competition between the public and private sectors as an obstacle to innovation outcomes. Overall, the analysis results suggest that the progress towards service innovation in Saudi public-sector organisations is still at the immature stage:

GM: *Due to complicated procedures and administrative barriers.*

GD: *Some organisations still operate in a very traditional way, as they were established more than twenty years ago.*

DM: *In some sectors there is resistance to introducing new innovations due to concerns about dealing with innovative technology.*

Discussion

This study undertook a qualitative exploration of how Business-IT strategy alignment perspectives are deployed in order to explore the aspects of strategic alignment in the context of IT project implementation in SA public-sector organisations. Towards this end, the effects of IT governance mechanisms, top management characteristics, and quality IT project planning on Business-IT strategic alignment and outcomes were reported.

The finding in this study that a lack of IT governance mechanisms in the case organisations is having an adverse impact on business-IT strategic alignment (RQ1) suggests that lack of governance is one of the main challenges facing the digital transformation of Saudi public-sector organisations. IT project success was linked by the participants to governance quality at all levels. However, it emerged that not all governance mechanisms are being implemented well enough to ensure quality.

In terms of the broader findings, a key take-home message is that public-sector organisations in SA that define and communicate their business and IT strategies and objectives accurately and clearly increase the likelihood of achieving successful IT project outcomes. Importantly, such communication should be formal in nature and extended across all departments in order to raise the overall level of organisational performance (Ilmudeen et al. 2019). The improved performance can then be leveraged to pursue more innovative and higher quality services (Mergel 2018). This link between ensuring clarity around business-IT objectives accurately and successful IT project or organisational performance outcomes is supported theoretically to some extent in the RBV of management and governance. The RBV was developed by Barney (1991) as a strategic tool to facilitate understanding of the relationship between resource access and utilisation and organisational performance. As such, the RBV has been extensively used in IS research to identify IT resources particularly that promote improved organisational performance Guangming Cao et al. 2016; Ravichandran and Lertwongsatien 2005; Ilmudeen et al. 2019). For instance, Park et al. (2017) used the RBV to conceptualise internal and external IT governance. Then, they proposed three alignment types between approaches to

governance and assess their impact on organisational performance and found a hierarchy-based alignment structure improves the operational efficiency of firms.

In terms of RQ2 and the effects of top management characteristics on strategic alignment and IT governance outcomes, top management knowledge of IT emerged as the characteristic of most interest to participants. This study found that the Saudi government initiative supports the acquisition of such knowledge by top managers by appointing leaders who have experience in technology. This indicates that important steps are being taken by the government in SA to address the IT knowledge gap of top management in public-sector organisation. In turn, this can arguably contribute to better Business-IT strategic alignment in these organisation given findings reported by Alghazi (2017) which show a lack of knowledge of technology across different levels of employees in Saudi public-sector organisations (Alghazi et al. 2017). Moreover, previous research findings suggest top management knowledge of the technology facilitates their participation in both strategic planning and technology planning. It also helps to involve design technology managers in business planning, both of which have an impact on strategic alignment between business and IT and implementation of IT projects (Kearns and Sabherwal 2006). Lastly, IT executives' increased business knowledge facilitates the integration of business and IT capabilities. (Rockart et al. 1996; Kearns and Sabherwal 2006). The reported findings also suggest a close relationship among IT governance mechanisms, top management participation in business planning and strategic IT planning, and the quality of IT project outcomes. These results are consistent with those reported by Gerow et al. (2014b), Huang et al. (2010) and Wu et al. (2015) who noted that the patterns in which IT-related policies, guidelines and procedures are delivered affects the likelihood that the organisation will achieve an appropriate IT project value and return on investment.

This study also found that IT projects contributed to business performance, operational excellence, and service innovation. However, the capacity of IT projects to leverage return on investment in Saudi public-sector organisations is negatively impacted by both inadequate IT governance mechanisms and poor-quality approaches to the implementation of IT projects. Moreover, the finding of an inconsistent approach by the public-sector organisations towards measuring return on investment and optimal project profitability suggests a lack of alignment between business processes and objectives potentially leading to operational challenges (Melnyk et al. 2014). Indeed, this study found that Steering Committees were not always established in the organisation to oversee IT project implementations. This is of some concern given Steering Committee are considered as one of the effective governance mechanisms for aligning IT-related decisions and actions with an organisation's strategic and operational priorities (Huang et al. 2010). In response to RQ3, this indicates that the lack of quality IT project planning in some cases can hinder optimal achievement of IT project outcomes including organisational performance and service.

The importance of having the resources and capabilities in place to provide quality IT planning has theoretical support in Dynamic Capabilities (DC) theory. Proposed by Teece et al. (1997), DC has proven to be a valuable theory in IS (see Bradley 2002; Pavlou and El Sawy 2006 2010; Shaker and Gerard 2002) to better understand an organisation's "ability to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments" (Gerow et al. 2015, p. 469). In turn, the main current objective for public-sector organisations in SA is to integrate, build, and reconfigure processes is to realise innovation and performance improvement (Mergel 2018). This may also include the use of big data analytics to reveal hidden information about the operations of the firm and potentially translate into higher productivity and lower operating costs (Chedrawi and Atallah 2019). As such, the central premise of DC that the capabilities of an organisation such as alignment can be improved deliberately over time (Alonso, Kok and O'Shea 2018; Baker et al. 2011). This arguably offers a theoretical framework for Saudi public-sector organisation to address issues that remain around IT program implementation.

This study also found a lack of mature governance mechanisms in Saudi public-sector organisations to adequately oversee IT project implementation. This may be due to organisational culture factors. The adoption of IT in organisations across the public-sector in Saudi Arabia is relatively recent. As such, there is a general lack of understanding (i.e. maturity) in how to rely on properly exploit IT to improve organisational performance. This will impact IT project outcomes as organisational governance is central to the effectiveness of employees to utilise IT in combination with knowledge management practices to improve the performance of the organisation (Handley 2017; Amar and Romdhane 2019).

Conclusion and Limitation

This study contributes to existing literature on organisational performance through its analysis of the determinants of business value related to IT projects based on business/IT strategy alignment. The aim of the IT projects is to improve organisational performance and leverage return on investment in the public-sector in SA. This study found that the digital transformation plan in SA is strengthened through an alignment between IT with business goals in Saudi public-sector organisations. Such alignment delivers IT value to the organisation and mitigates IT risks to business performance. This study also found that effective IT governance mechanisms are vital to improving alignment between the business and IT entities by drawing together the different sets of subsystems in the organisation including processes, structures, and relational mechanisms. Thus, robust governance mechanisms to support Business-IT strategy alignment in Saudi public-sector organisations can improve organisational performance and return on investment.

To identify the key determinants of business value related to IT projects using a business/IT strategy alignment, this study analysed the perspectives of experts in strategic planning, project management, and information technology. However, given that the generalisability of this study's findings might be limited, future research studies should include different organisations. This may lead to different results given the complex nature of public bureaucracy, organisational culture and organisational structure. In addition, future research should aim to include the perspective of stakeholders and customers. Lastly, future research should also aim to include transaction cost and stakeholder theories to analyse the maturity level of alignment between IT strategy and business strategy.

Theoretical contribution

The examination in this study of the primary factors contributing to Business-IT strategy alignment in Saudi public-sector organisations adds to the academic and practical understanding of how such alignment is achieved and how it effects organisational performance. Previous research examining Business-IT strategy alignment in public-sector organisations in SA is limited. As such, this empirical study of Business-IT strategy alignment in this context contributes to the development of alignment models and theories to inform the decision making by managers regarding Business-IT strategy alignment in their firms. In addition, the research model and findings presented in this study add insights into the applications of the theories of RBV and DC in this field. Lastly, this study contributes to the research investigations of IT strategic management and leadership by building on current understanding of emergent leadership roles and the key forces shaping these roles in digital technology era.

Practical contribution

This study contributes preliminary knowledge related to IT-related factors to influence public-sector organisational performance in SA. In addition, it provides top management with a comprehensive picture of the factors to enable or hinder the implementation of a digital transformation strategy to achieve IT project success.

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