

Diagnosing The Mediating Impact of IT Core Competency on The Link Between IT Flexibility and Sustainable Competitive Advantage During Covid-19 Pandemic

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Abstract

This study aims to look at the integration impact of IT flexibility (ITF) and IT core competency to look at the mediating impact of IT core competency on the link between ITF and sustainable competitive advantage (SCA), as well as to investigate if ITF influences SCA. To assess the impact of IT core competency on SCA, the researcher connected a quantitative and cross-sectional approach, for obtaining information from 60 Jordanian public shareholding companies with a focus on upper-level managers. In particular, this study initiated its inquiry by conducting 60 study surveys with open shareholding firms in Jordan. Hence, the information acquired from the basic condition modeling (SEM) method offers a significant amount of knowledge for the investigation. Thus, follow-up inquiry is required involving several nations as this would offer more support to the development of an understanding of the ITF and sustainable competitive advantage issue. Such inquiry would also generate different conditions and outcomes in various settings.

Keywords : IT Flexibility, IT core competency, SCA, capability

Introduction

The COVID-19 pandemic has had a remarkable effect on the global economy through several variables till now. Jordan was hit by the pandemic a short while after the other nations, but it was very serious about protecting the wellbeing of the citizens as well as its financial matters (Almajali & Hammouri, 2021c). The term IT core competency was coined by driving specialists Hamel and Prahalad (1990) in vital administration. With the current increase in vulnerability and a great amount of disappointment in trade maintainability and core competency, IT core competency could be an asset that enables organizations to provide one-of-a-kind benefits to customers and develop an effective administration (Almajali et al., 2016). They can accomplish this by empowering the enterprise to define progress, overhaul, and send interesting assets that can play a pivotal role in generating sustainable competitive advantage (SCA) (Hsiao & Hsu, 2018; Almajali et al., 2021a). IT flexibility (ITF) and IT vital understanding utilize advanced computing capabilities, compelling data handling, trade analytics capability, consideration of customer needs and expected inclinations, competitors' activities and responses, and the directions and laws of unused markets (Al-Surmi et al., 2020; Almajali, 2021b). IT capability also is significant in making unused items fit customer needs (Almajali et al., 2021a).

An empirical research by Almajali and Zulkhairi (2010a) indicated that in energetic situations particularly, the stress on IT core competency and its outcomes (e.g., firm execution and SCA) contributes to weak understanding of SCA accomplishments in terms of their circumstances. In any case, giving more consideration to IT core competency empowered by ITF makes difference managers ignore the key handle of the IT core competency effect on SCA. Relevantly, Ravichandran and Lertwongsatien (2005) indicated that there is a high impact on the relationship between ITF for IT core competency and its execution. Appositely, Rivard et al. (2006) discovered that IT core competency generates a critical effect on firms' benefits. Contrariwise, Almajali and Zulkhairi (2010b) reported the effect of IT for core competency on firms in terms of their key flexibility. Therefore, the motivation for implementing this investigation was to autonomously integrate observational understanding into the coordinate connections of specific IT variables on core competency, thereby empowering companies to execute particular crucial exercises through harmonization and dealings of IT with commerce techniques. Instead of analyzing the coordinated impact of IT on SCA, this investigation assessed the official effect of ITF on IT core competency and the degree to which this figure empowers the core competency for possessing SCA. This basic commitment can help analysts in their discovery of other methods for diverse IT dimensions to upgrade SCA, while also making available assistance to directors in clarifying the uncertainty regarding the connection between ITF and IT core competency in order to enhance a particular capability to further boost SCA. Subsequently, this basic lost interface between ITF, IT core competency, and SCA is bridged by the present study.

The research, therefore, consists of five parts beginning with an introduction. It is followed by an argument on the theoretical structure and hypothesis development. The ensuing third part explains the methodology chosen. Further, the fourth part presents a description of the data analysis alongside its conclusion, while the final part discusses the study conclusions, the results interpretations, and hypotheses validations.

Theoretical structure and hypotheses formulation

IT flexibility, IT core competency, and SCA

Reddy (2006) discovered that the need for ITF hinders the firm's competence to organize with commerce forms. An observational assessment by Lim (2014) on the impact of ITF on four measurements for possessing competitive advantage among US-SMEs revealed that ITF emphatically impacts all the measurements: (1) quality of items, (2) quick and solid conveyance, (3) generation costs, and (4) adaptability of item plan. Moreover, the investigation confirmed that ITF makes strides for the flexibility of an item plan. Earlier investigators (Akkermans et al., 2003; Sambamurthy et al., 2003; almajali et al., 2015; Almajali, 2021d; Tiwana & Konsynski, 2010) highlighted that ITF is significant for companies' SCA. More critically, in accordance with the resource-based view (RBV) hypothesis, one primary reason can validate the link between ITF and SCA. Thus, the following was hypothesized:

H1: The higher the level of IT flexibility, the greater the influence on SCA.

IT assets develop a core that promotes competencies by successfully increasing initiative to platform needs, proactively acting based on rivals' activities, analyzing client data and requests, and then deciding their needs and necessities (Ravichandran & Lertwongsatien, 2005). The centers for showcasing competency are the client, the market, and the competitors (Wang et al., 2004). ITF can reallocate, reconfigure, and overhaul commerce forms by creating modern assets for improved core competency. Also, firms use IT for advancing their item plan, emphasize center trade exercises that yield more noteworthy value addition, and update and decide the scope of commerce openings (Celuch et al., 2007; Almajali, 2021e). Hence, the following was hypothesized:

H2: The higher the level of ITF, the greater the influence on IT core competency.

IT core competency and sustainable competitive advantage

Teece et al. (1997) contended that joining and arranging the competencies of firm would help further develop the obtainable competencies, while ceaselessly generating the firm's competitive focal points. Accordingly, in Banerjee (2003), IT core competency was referred as the capability of firm to function viably during its identification of commerce openings. Hamel and Prahalad (1990) accordingly explained in their study that efficient supervisors need to have the capacity in tracking openings through a pre-emptive assessment of the competencies that other companies cannot replicate for their commercial purposes. Previously, analysts such as Stelzer and Brecht (2011) recognized mechanical and promotion competencies as major resources that drive SCA. Thus, the following was hypothesized:

H3: The higher the level of IT core competency, the greater the influence on SCA

ITF leads to the design of unused items, permitting firms to supply clients utilizing items of various types to cater to their needs. In this regard, ITF becomes the commerce pillar that joins all exercises in accordance with the vision and objectives set by top-management, with a specific focus on the items design as it stimulates the firm to improve its development. Hence, ITF may be a basic forceful force that empowers companies to deliver savvy and advanced products. In any case, this examination deals with the primary ones to explore the part played by ITF as an enabler of vital assets that aims to back the dealings of core competency measurements (innovation, promotion, and integrative capabilities) to generate SCA. ITF assets make a difference in the definition of firm's fundamental competency measurements; hence, ITF is core to a firm's SCA. ITF in this study is thus regarded as a powerful estimate of the core's competency in SCA accomplishment. Thus, the following was conjectured:

H4: IT core competency mediates the relationship between ITF and SCA.

After the above argument, this study developed a proposed model that interrelates three constructs: SCA, IT core competency, and ITF (Figure 1). Moreover, these attribute competencies is dictated by the survival of functional capacities inside the corporations' IT

departments. As such, knowledge, technical resources, and relationships acquired by the IT area, have impact on these competencies

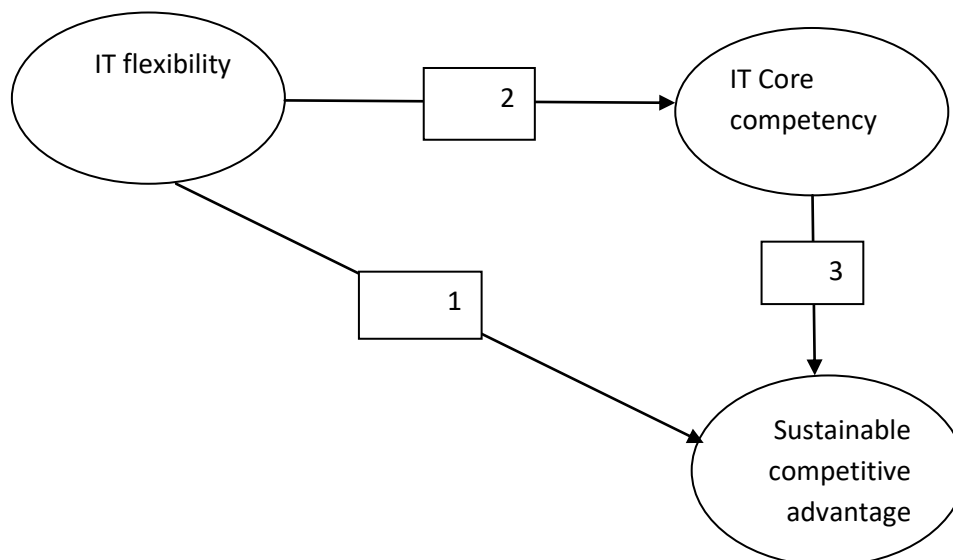


Figure 1: Research model

Methodology

Sampling and targeted respondents

The focal point of the present study was the concepts of IT core competency, ITF, and SCA in Jordanian public shareholding firms. There are 65 firms listed on Amman Stock Exchange, a government database (2021). Drawing on the study by Krejcie and Morgan (1970) alongside the application of stratified random sampling, 60 companies were utilized as the study sample. Data were obtained from top managers in order to accomplish the study objectives. In addition, this research used a self-administered and postally distributed questionnaire to attain data. From March 2021 to May 2021, out of 60 distributed questionnaires, 55 questionnaires were completed and returned, which corresponds to a response rate of 91%.

Measurement of variables

The researcher developed a measurement that is appropriate for the research situation in Jordan. For the dimensions of IT core competency, ITF and SCA, the items used in this study to measure them were adopted from previous studies, specifically, Wang and Lo (2003) and Wang et al. (2004) for IT core competency, Byrd and Turner (2001) and Byrd (2000) for ITF, and Kearns and Lederer (2003) and Tian et al. (2010) for SCA.

Data analysis and results

To examine if the ITF and IT core competency discussed above could affect SCA and to verify whether IT core competency imparts a mediating effect on the link between ITF and SCA among firms of public shareholding operating in Jordan, many statistical tests were executed via structural equation modeling (SEM). Accordingly, the various types of goodness of fit indices in the assessment of the present study's initial specified model can be viewed in Table 1 in the appendix. Furthermore, for the research indicators, their standardized regression weights were examined in this study and the results show a low loading of some indicators towards their latent variables, namely, $ITF2 = 0.327$, $ITC1 = 0.281$, and $SCA3 = 0.331$. Notably, the initial fit indices were found to be moderately fit for the sample data. Hence, they were all eliminated for not meeting the proposed factor loadings value of 0.50 (Newkirk & Lederer, 2006). In other words, they were not analyzed further. Consequently, the measurement model was modified into one that was well fit for the data (see Table 1). For the final model, χ^2/df and RMSEA were unchanged. Following the deletion of the low factor loading items, the modified values of $IFI = 0.80$, $TLI = 0.87$, and $CFI = 0.90$ denoted a better fit for the data.

Discussion

The present research is a valued addition to SCA studies via its specifications of ITF to humanize and empirically examine a causal chain model of IT core competency. Table 2 accordingly illustrates the path coefficient and t-value of each proposed path. There were four hypotheses proposed and tested, and all of them were supported. The attained results clearly demonstrate the significant impact of ITF on SCA ($P = 0.036$), implying support to H1. Thus, the findings indicate a positive link between ITF and SCA, as was also reported in Lim and Trimi (2014). Relevantly, utilizing four competitive advantage aspects (i.e., quality of products, fast and reliable delivery, production costs, and flexibility of product design), Lim (2014) examined IT infrastructure flexibility (ITIF) among US-SMEs and concluded the positive impacts of ITIF on all of these four aspects. The author further affirmed that ITIF enhances product design flexibility and product quality. Meanwhile, Reddy (2006) reported that the ability of company in its incorporation of business processes is impeded by lack of ITF. These findings support H2 which proposed a significant positive effect ITF on IT core competency ($P = 0.016$). Therefore, the empirical study found that through the determination of the core actions that create high added value, ITF needs to be strategically included to assure high receptiveness in the midst of business fluctuations scrutiny. The positive and significant effect of ITF on IT core competency was also demonstrated by the study findings, lending support to H3 considering the significant impact of IT core competency on SCA ($P = ***$). This is in line with the findings reported by Hsiao and Hsu (2018) and Wang et al. (2004). Furthermore, IT core competency appears to impart a mediating impact on the link between ITF and SCA. Thus, H4 is also supported (as shown in Table 3 in the appendix). Yang et al. (2017) relevantly found significant mediation of ITF on the link between IT core competency and strategic flexibility.

On the other hand, in their study, Yang et al. (2017) could not determine which IT coordinates that factor the IT core competency in accomplishing high strategic flexibility. In examining the link between ITF and SCA, this research found the major impact of IT core competency. Lastly, this study focused on covering the crevices in writing where, in the past, researchers hypothetically pondered and experimentally ignored the basic effect of ITF on IT competency to attain SCA. Hence, the present research has inspected the interrelationships that exist between these variables. The theorization and quantification of both terminologies within a single figure results in equivocalness of accepting and an increase in the wrangle among researchers on the IT core competency and its linkage with other organizational works.

Notwithstanding, this research offered momentous theoretical support by investigating the impact of various IT core competencies for achieving SCA. Hence, major literary gap was closed. Equally, this research provides support to managers by offering a practical solution for implementing a close ITF integration within IT core competencies. Notably, the present study recognized IT core competency as a mediator between ITF and SCA. This adds to the discovery of new organizational practices in business value assessment especially.

Limitations and Recommendations

There are a few restrictions to be considered. The primary restriction is that the study subject is grounded upon the cross-sectional information from Jordanian public shareholding firms. Moreover, longitudinal examinations can generate better suggestions for IT core competency, and are thus better alternative. Furthermore, the information and the occurrences detailed in this paper are based on the research conducted on the firms of just one nation namely Jordan. As such, the information and findings are more pertinent to the Jordanian setting. For this reason, generalizability of the findings to other societies and characteristic settings is questionable. Subsequently, follow-up investigations are required with other nations to concentrate on this issue. Additionally, in Jordan, the information collection strategy was quite costly. Also, the survey dissemination in this country was exceptionally long.

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Appendix:

Table1: Measurement Model Fit Indices

Model	χ^2	Df	P	χ^2/df	IFI	TLI	CFI	RMSEA
Initial Estimation	1221.113	552	0.00	2.21	0.70	0.74	0.70	0.101
Final model	662.441	351	0.00	1.88	0.80	0.87	0.90	0.08

Table 2: Summary of Proposed Results

Research proposed paths	Coefficients value(std.est im)	t.value C.R	p-value	Empirical Evidence
P1:IT flexibility → Sustainable competitive advantage	0.124	2.331	0.036	Supported
P2: IT flexibility → IT core competency	0.144	2.014	0.016	Supported
P3: IT core competency → Sustainable competitive advantage	0.301	6.155	***	Supported

Note. ITF: IT flexibility; ITC: IT core competency; SUS: Sustainable Competitive Advantage.

Table3: Mediating Effect of IT Core Competency

Hypotheses	From	mediation	To	Direct effect	Indirect effect	Total effect	mediating
H4	ITF	ITC	SCA	0.004	0.033	0.037	Supported