

Organizational Innovation, Digital Transformation Strategy, and Sustainable Performance: The Mediating Role of Organizational Excellence at Aqaba Development Corporation

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Abstract

This study purposes to explain the concern between digital transformation and organizational innovation in achieving sustainable performance in the long term through the case study of the Aqaba Development Corporation. This study shows that digital transformation and instilling a culture of innovation are critical factors to increase operational efficiency and maintain competitive advantage. The steps of the digital transformation strategy are determined by the assessment of digital readiness, continuous learning, the benefit of data analysis, and the development of flexible infrastructure. Organizational excellence was tested as a mediating variable between the digital transformation strategy and organizational innovation and the sustainable performance of the Aqaba Development Corporation.

Keywords: Digital Transformation, Organizational Innovation, Sustainable Performance, Organizational Excellence, Case Study.

I. INTRODUCTION

In the era of Industry 4.0, digital transformation has become imperative for organizations and companies that wish to maintain their continuity as well as maintain a competitive advantage, and keep pace with developments and changes in the global environment, and it is necessary to adopt a digital transformation strategy and adopt a culture of organizational innovation in order to raise the level of performance and improve the customer experience (Chanias & Hess, 2016; Matt et al., 2015).

Digital transformation as a new phenomenon came from technological development and the use of up-to-date applications in all areas of life, as well as its use by organizations to achieve competitive advantage and improve performance better than it is (Chanias & Hess, 2016). Damanpour and Evan (1984) pointed out that environmental change and uncertainty lead to motivating the organization to make changes in its strategies as well as in the organizational structure, which in turn leads to the implementation of innovations, which helps maintain a balance between the social and technical systems, and this leads to high performance.

Digital transformation strategy focuses on technology advancements to simplify procedures, enhance effectiveness, and boost creativity, enabling businesses to adapt to modern technologies and market shifts for long-term success (Kraus et al., 2021; Reis et al., 2018; Verina & Titko, 2019). Digital transformation in organizations involves integrating digital technologies into all business processes to enhance efficiency and innovation. This requires a fundamental change in organizational culture, customer interactions, and support from senior management and administrative units (Kraus et al., 2021). Also, organizations should foster innovation in all aspects, including product development and modernization, to boost creativity and digital transformation. Senior management should foster a research environment and encourage employees to lead and innovate (Chaves et al., 2021).

Organizations should increase investment in technological infrastructure to facilitate team cooperation and use artificial intelligence tools and data analysis. This will improve innovation processes, customer insights, and decision-making, improving performance and effectiveness (Bogers et al., 2022; Kraus et al., 2022; Reis et al., 2018; Sayabek et al., 2020). Organizational excellence is a continuous process aimed at securing unique value and competitive advantage through continuous process and human resource development, achieving stakeholder objectives (Ringrose, 2016).

II. THEORETICAL BACKGROUND

A. Digital Transformation strategy

In 2000, the introduction of smart gadgets and social media platforms accelerated digital transformation (Yadav & Nisha, 2022). The term "digital transformation" refers to the need for institutions to seek appropriate ways to innovate and rely on new technologies to develop strategies that incorporate digital transformation applications and achieve better operational performance. It has recently gained attention from researchers and practitioners and is now a widely recognized phenomenon (Chaniias & Hess, 2016). The literature has confirmed that digital transformation in business organizations is important to maintain competitive advantage and is an urgent and motivating need to overcome management problems and achieve excellence at an accelerated pace (Matt et al., 2015). A digital transformation strategy outlines an organization's overall approach, including how and where to operate to maximize value creation. (Yadav & Nisha, 2022).

Digital transformation is a complicated process Osmundsen et al. (2018) that calls for a plan that will act as a focal point for organizing, setting priorities, and carrying out initiatives to digitize the business. Peillon and Dubruc (2019) emphasized that the strategy must drive digital transformation, not technology. The success of such transformation depends on how organizations achieve the complementarity of this technology within their business, leading to changing systems. Before the widespread adoption of digital technology, companies created technology strategies, including long-term plans for equipment and communication tools like fax machines and phones. technologies have become a key component of company strategies with the advent of the Internet and mainstream digital technologies. However, due to inadequate digital strategy, businesses were forced to alter too late and fell behind the curve (Levy et al., 2023).

Businesses in the digital age that invest to plan a digital business model have seen increased customer satisfaction and revenue (Yadav & Nisha, 2022). This forces companies to have a clear strategy and essence of "digital technology" in their plans in order to plan and execute digital transformation (Saarikko et al., 2020). Successful digital transformation necessitates that businesses match changes with their strategies.

B. Organizational Innovation

Organizational innovation, the ability to produce and implement novel concepts or actions, is essential for raising output and boosting corporate success (Jia et al., 2018). Organizational innovation is the creation of novel concepts, goods, services, procedures, or techniques that benefit an organization. Nonetheless, the literature acknowledges disagreement on the definition of organizational innovation (Camisón & Villar-López, 2014). According to Kwon and Cho (2016) organizational innovation can be accomplished by implementing new managerial techniques, offering new products, changing organizational structures, or altering organizational cultures. Thus, the degree to which centralization and formalization impact the exchange of ideas on work delegation and decision-making among members is correlated with organizational innovation (Supriyanto et al., 2023).

In addition to individual or group activities, organizational creativity involves knowledge generation and the environment. It is a collaborative process incorporating employee individual and collective creativity (Rumanti et al., 2023). The focus on business excellence is essential for efficient and effective innovation investments, thus improving a company's competitiveness in its target markets (Mihic et al., 2015).

C. Sustainable Performance

Sustainability has become the main concern of business organizations as it provides opportunities for long-term development, through which financial gains and competitive advantages can be realized. However, being sustainability-oriented can be difficult for organizations as it requires broad consensus and concerted efforts among stakeholders (Dey et al., 2022). Ethical leadership for better sustainable performance: Role of employee values, behavior, and ethical climate. Businesses need to use enterprise performance measures to evaluate their performance in relation to predetermined goals and identify any (El-Khalil & Mezher, 2020). while sustainability is crucial, there is disagreement and difficulty in defining it, particularly regarding how business frameworks and procedures should incorporate sustainability (Hourneaux Jr et al., 2018)

The significance of sustainable performance is supported by the fact that organizations, which comprise the majority of the global economy, bear a great degree of responsibility. Consequently, in order to facilitate business and help it into a new phase, companies must make decisions that transform their organizations into ones that serve the interests of the environment, society, and economy while also protecting stakeholders. This makes sustainable performance crucial because it creates integration between these areas. Based on previous studies (Zhu & Sarkis, 2004; Azevedo et al., 2011; Miguel & Brito, 2011; Hassini et al., 2012), the most important dimensions of sustainable performance (economic performance, environmental performance, social performance).

D. Organizational Excellence

Organizational excellence is crucial in determining any organization's success (Evans & Jack, 2003; Pearlle & Burad, 2022); organizational excellence is defined as identifying and putting into practice excellent management practices common to high-achieving businesses that, when done correctly, can benefit the organization (Ringrose, 2016)

Tanner and Porter (2013) stated that organizational excellence results from highly efficient, standardized, simplified, and managed centrally controlled procedures allowing the organization to deliver customer services. The definitions of organizational excellence elucidate the significance of this attribute within any given organization. There is a perception that specific organizational elements could support or facilitate the achievement of excellence inside the organization (Aldarmaki & Yaakub, 2022)

Organizational excellence is one of the fundamentals of organizational development and improvement. It requires an increase in performance levels through the development of workers' skills, abilities, and competencies and the members of an organization's governing body. It also requires the existence of an arrangement of actions that prevail in the spirit of teams, innovation, renewal, initiation, and competition so that every individual working people feels that they own an organization.

According to Edmund and Juran (2008), organizational excellence is achieved by focusing on three main areas: customer satisfaction, employee satisfaction, and process improvement. Sharma and Kodali (2008) established a model for evaluating organizational excellence. It includes the following components: environmental manufacturing, global maintenance systems, flexible operations, knowledge management, leadership, manufacturing strategy, micro-manufacturing, customer relationship management, and total quality management. Salaheldin (2009) points out that performance, organizational learning, and innovation are all improved when institutional excellence is implemented, regardless of the industry or size of the company.

E. Hypothesis Development

Organizational excellence and sustainability are critical measures or indicators of an organization's progress, achievement, attainment, and competitiveness. Sustainable performance (SP) is attained through organizational excellence (OEC), Figure 1 shows the path modeling and direct relationship values based on previous analyses of these variables.

In the current business environment, the relationship between the strategy for digital transformation and sustainable performance is significant and interconnected. An organization's long-term performance can be greatly enhanced by a digital transformation strategy that is implemented well (El Manouar & Idrissi, 2020; Akanmu et al., 2023; Yang

& Han, 2023; Zhao et al., 2023). A digital transformation strategy, for instance, can boost better communications with markets and consumers, save costs, improve customer experience, and increase process efficiency. Moreover, a digital transformation strategy can foster innovation and create new goods and services that satisfy consumer demands, ultimately boosting the enterprise's competitiveness and improving its long-term performance.

The intervening influence of organizational excellence between digital transformation and sustainable performance. Digital transformation significantly enables sustainability (Guandalini, 2022; Lu et al., 2023, 2023). Al Dhaafri et al. (2014) highlight the significance of organizational excellence in attaining desired performance. They argue that excellence is more than just winning honors or awards; it is also about developing strategies and practices. Organizations attain sustainability when they have the ability to lead to supreme value and excellence (Akanmu & Mohamad, 2021).

In general, Organizational excellence is key to rising and improving long-term performance (Akanmu et al., 2023). Al Masadeh et al. (2024) highlight digital transformation's significant impact on institutional excellence. Also, focusing on business excellence is essential for efficient and effective innovation investments, thus improving a company's competitiveness in its target markets (Mihić et al., 2015). Consequently, the hypotheses are proposed as follows:

H1: Digital transformation strategy has a significant impact on sustainable performance.

H2: Organizational innovation has a positive impact on sustainable performance.

H3: Digital transformation strategy has a positive impact on organizational excellence.

H4: Organizational innovation has a positive impact on organizational excellence.

H5: Organizational excellence has a positive impact on sustainable performance.

H6: Organizational excellence mediates the relationship between digital transformation strategy and sustainable performance.

H7: Organizational excellence mediates the relationship between organizational innovation and sustainable performance.

F. Research Framework

In accordance with the review of relevant literature, a conceptual framework has been developed to study the direct and indirect relationships among DTS, OI, and SP, as well as the mediating function of OE. Figure 1 depicts the suggested study model.

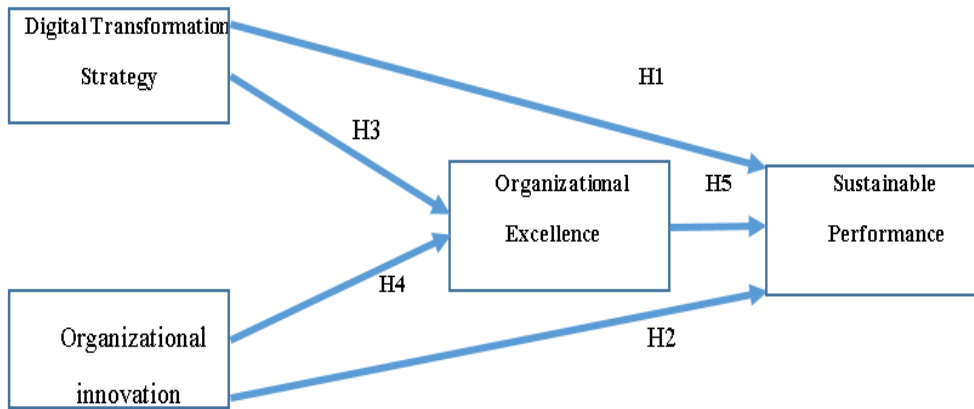


Figure 1. Conceptual framework

III. Methodology and results

The study used a quantitative methodology to collect information from 120 managers and employees within Aqaba Development Corporation. 120 questionnaires were distributed, with 83% fully completed. After eliminating incomplete questionnaires, 96 were selected for data analysis. Table 1 illustrates Demographic characteristics.

Table 1. Demographic profile

Gender		Frequency	%
	Male	59	54.4
	Female	37	45.6
	total	96	100
Academic education	Bsc	46	44.3
	Master	12	30.3

	others	11	25.4
		79	100
Age	Less than 35	26	32.9
	35-less than 45	27	34.1
	45 less than 50	16	20.3
	More than 50	10	12.7
		79	100
Experience	Less than 10	12	15.3
	10- less than 15	36	45.5
	More than 15	31	39.2
		79	100

Convergent Validity

The study model's external and internal validity were evaluated, and AVE values were tested for convergent validity. Cronbach alpha coefficients and composite reliability demonstrated internal consistency. Objects with factor loadings less than 0.50 were removed to confirm convergent validity and prevent AVE drops. Each measurement item had a VIF of less than five which is shown in Table 2. (Fornell & Larcker, 1981; Hair et al., 2014).

Table 2. Measurement model

Construct	Items	Factor loading	Cronbach's alpha	CR	(AVE)
Digital Transformation Strategy	DTS 1	0.822	0.886	0.922	0.747
	DTS 4	0.894			
	DTS2	0.827			
	DTS3	0.911			
Organizational Excellence	OE1	0.855	0.907	0.931	0.728
	OE2	0.882			
	OE3	0.861			
	OE4	0.852			
	OE5	0.816			
Organizational Innovation	OI2	0.863	0.905	0.933	0.777
	OI3	0.907			

	OI4	0.899			
	QI 1	0.854			
Sustainable Performance	SP1	0.831	0.908	0.932	0.732
	SP2	0.834			
	SP3	0.898			
	SP4	0.874			
	SP5	0.840			

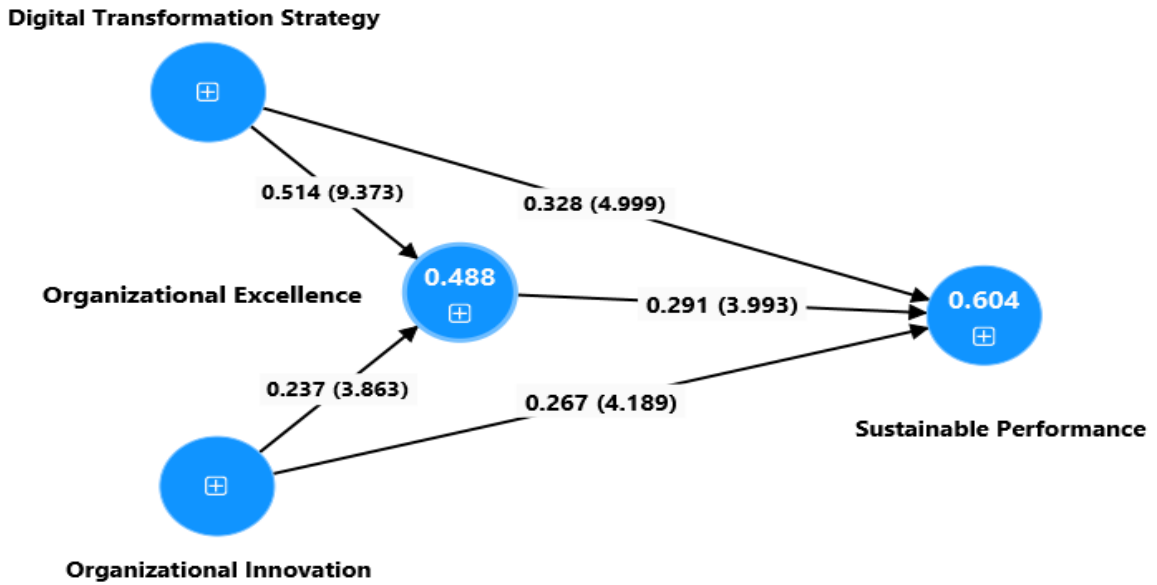


Figure (2) Bootstrapping

discriminant validity

Fornell and Larcker (1981) technique and heterotrait-monotrait (HTMT) ratio of correlations technique were used to verify discriminant validity (Henseler et al., 2015) illustrations that all HTMT values of the constructs were under 0.918. It is deliberated that the scale of the items used to assess the latent variable and their relative items in the CFA model was wholly valid and reliable. As displayed in table 3

Table 3. Fornell-Larcker criterion

Fornell-Larcker criterion					HTMT			
	DT	OE	OI	SP	DT	OE	OI	SP
DT	0.864							
OE	0.677	0.853			0.753			
OI	0.689	0.591	0.881		0.761	0.642		

SP	0.708	0.670	0.664	0.856	0.781	0.732	0.715
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Table 4. Structural Model Assessment and Testing Hypothesis (direct paths)

Path	St.β	St.d	R2	F2	Q2	VIF	T.value	P values
DT -> OE	0.514	0.055	0.488	0.271	0.479	1.904	9.373	0.000
DT -> SP	0.328	0.066	0.604	0.112	0.553	2.419	4.999	0.000
OE -> SP	0.291	0.073		0.109		1.952	3.993	0.000
OI-> OE	0.237	0.061		0.058		1.904	3.863	0.000
OI -> SP	0.267	0.064		0.089		2.014	4.189	0.000

Table 5. Results of Indirect Paths

	St.β	St.d	T.value	P values
DTS -> OE -> SP	0.149	0.041	3.604	0.000
OI -> OE -> SP	0.069	0.028	2.460	0.014

The direct relationships in the structural model explained in Figure 2, Table 4, and Table 5 all these relationships were significant with ($p < 0.05$), the DT -> OE, DT -> SP, OE -> SP, OI-> OE, and OI -> SP paths. The signs and levels of the significant path coefficients are diverse. The DT -> OE (0.514), DT -> SP (0.328), OE -> SP (0.291), OI-> OE (0.237), and OI -> SP (0.267) relationships are positive and considered moderate; the only strong positive relationship is found for DT -> OE (0.514) relationship.

The results obtained from smart PLS indicated positive and significant direct impacts of the five direct paths. DT -> OE ($\beta=0.514$, $t\text{-value}=9.373$, $p\text{-value}=0.000$); DT -> SP ($\beta=0.328$, $t\text{-value}=4.999$, $p\text{-value}=0.000$); OE -> SP ($\beta=0.291$, $t\text{-value}=3.993$, $p\text{-value}=0.000$); OI-> OE ($\beta=0.237$), $t\text{-value}=3.863$, $p\text{-value}=0.000$); OI -> SP ($\beta=0.267$) $t\text{-value}=4.189$ $p\text{-value}=0.000$ and finally, in this study, the mediation effect follows contemporary guidelines by first examining the indirect effect, then assessing the strength of the indirect effect to conclude the size of the intervention, and ultimately using the bootstrapping test to establish the significance of the indirect effect (Memon et al., 2018; Nitzl et al., 2016).

To calculate the confidence limits and conduct significance tests for the mediated effect, a method that considers the product's non-normal distribution should be utilized. (MacKinnon et al., 2012). thus, the bootstrapping technique is applied to find these measures.

This study also examined the mediating effects of OE on the relationship between DTS and SP. The findings show that H6: OE positively and significantly mediates between the relationship of DTs and SP $\beta = 0.149$, $t = 3.604$, $p < 0.000$, and the H7: OE positively and significantly mediates between the relationship of OI and SP $\beta = 0.069$, $t = 2.46$, $p < 0.014$.

Discussion and conclusions

The paper debates how organizational innovation and digital transformation strategies can drive long-term performance by promoting an innovative culture and applying digital technologies. It highlights the significance of balancing economic, social, and environmental objectives for long-term success. The study pinpoints organizational excellence as a key moderator that increases the positive effects of innovation and digital strategy.

First hypothesis: Based on the first hypothesis test results, Aqaba Development Corporation can significantly improve its sustainable performance by implementing a digital transformation strategy (Yadav & Nisha, 2022). Aqaba Development Corporation must have a clear strategy and digital technology essence in their plans for successful digital transformation, ensuring they align changes with their strategies (Gill & VanBoskirk, 2016).

Savastano et al. (2022) found that the digital business model's maturity positively impacts sustainable businesses' success. Tsou and Chen (2023) In his study, he emphasizes that using digital technology positively impacts digital transformation strategy and organizational innovation, which affects firm performance.

The second hypothesis examines the organizational digital transformation strategy, which significantly impacts the sustainable performance of Aqaba Development Corporation. This study confirms the positive relationship between organizational innovation and sustainable performance. Asad et al. (2018) found that all four kinds of innovation significantly and positively impact financial performance, customer performance, internal business process performance, and learning and growth. Green product and process innovation have positively and significantly impacted economic and environmental performance Saudi et al. (2019) Also, Maletič et al. (2014) revealed that sustainable innovation practices are significantly linked with organizational performance.

The third hypothesis is that the Established organizational digital transformation strategy significantly impacts organizational excellence, which determined that the digital business model's maturity positively impacts sustainable businesses' success. Savastano et al. (2022) highlight that analyzing digital transformation strategy significantly affects organizational excellence. Digital transformation influences the measurements of institutional excellence (leadership, knowledge, and human resources) (Al Masadeh et al., 2024).

The fourth hypothesis: According to a study, organizational innovation significantly impacts organizational excellence. Mihić et al. (2015) Highlight that best innovation practices significantly impact business excellence and motivate the managers of the studied companies to strengthen their innovation capability to improve the business excellence classification scale. In their study, Kavukoğlu & İsci (2023) confirm that organizational innovation positively impacts strategic planning awareness and business excellence. The current study demonstrates that Aqaba Development Corporation can achieve business excellence through organizational innovation.

The fifth hypothesis: the current study found a positive relationship between organizational excellence and sustainable performance. In their study, Dawabsheh et al. (2019); and Al Dhaafri et al. (2014) show a positive relationship between organizational excellence and sustainable performance. Ubaid et al. (2020) highlight to comprehend the factors influencing the excellence journey beyond the implementation stage and propose a methodology or framework to sustain exceptional performance. Also, Al-Dhaafri et al. (2016) show a positive relationship between organizational excellence and sustainable performance.

The sixth and seventh hypotheses: the study approved of organizational excellence as a mediator in the relationship between digital transformation and sustainable performance and also as a mediator in the relationship between organizational innovation and sustainable performance; the results of the study consist with (Al-Dhaafri et al., 2014; Al-Dhaafri et al., 2016; Dawabsheh et al., 2019). This study found that digital transformation leads to long-term performance and achieves the benefits of digital transformation more efficiently in the long term when organizations achieve excellence in their administrative and operational practices. The study also found that organizational innovation significantly impacts performance when the relationship mediates organizational excellence. Here, we must focus

on organizational innovation through distinguished administrative and operational practices to benefit from digital transformation and innovation, including instilling a culture of excellence and permanent and continuous improvement.

8. Implications

8.1 Theoretical Implications

This paper offers a unified framework that conglomerates digital transformation strategy, organizational innovation, sustainable performance, and organization excellence, enriching the literature and the field of digital transformation strategy, organizational innovation, and organizational excellence. This study is unique in exploring the influence of digital transformation and organizational innovation on sustainable performance and organization excellence mediation in Jordanian and global environments.

The study's hypothetical significance lies in its subject and dimensions. It is a reference for future research on digital transformation strategy and organizational innovation and its role in achieving sustainable performance.

8.2 Practical Implications

This paper offers practical significance from the practical aspect of its findings. This provides evidence that managers and employees can use to gain sustainable performance by keeping up with the fast-paced environmental changes and progress in modern technology, particularly digital transformation, organizational innovation, and organizational excellence. while Organizations can benefit from digital transformation and innovation by focusing on excellence in operations and management practices, including continuous improvement and cultivating a culture of excellence. These outcomes help employees and managers at Aqaba Development Corporation better use digital transformation, organizational innovation, and organizational excellence. This allows them to find the most significant modern technology transformation and collect and analyze data, resulting in highly sustainable performance.

9. Recommendation

The study highlights the importance of organizational excellence, digital transformation, and organizational innovation in promoting and improving sustainable

performance. It recommends that researchers Invest in cutting-edge digital tools to enhance productivity and data management. Training and resources can help stand in an innovative culture. Employing best practices can help organizations attain better success. Using key performance indicators (KPIs),

10. Limitation and Future Studies

The study's limited sample size restricts its generalizability to other sectors, but future research could expand to other businesses. The study highlights the importance of organizational excellence, digital transformation, and organizational innovation in promoting and improving sustainable performance. It also suggests exploring Training and resources to help stand in an innovative culture. Employing best practices can help organizations attain better success. Using key performance indicators (KPIs).

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