Chapter- 5

The impact of digital transformation on the performance of trading companies in the United Arab Emirates: A case study approach

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Abstract

To maintain a competitive advantage in today's digital landscape, businesses must prioritize digital transformation as a fundamental aspect of their operations. The integration of digital transformation with technologies like artificial intelligence, machine learning, Industry 4.0, social media, cloud computing, and big data analytics is crucial for enhancing customer relationships, improving business processes, generating revenue, and maximizing company value.. It is also seen that the introduction of disruptive technologies may cause threats to the existing strategies of business enterprise and encountered various challenges such as data security issues, lack of control, lack of interoperability in the existing technologies.

This paper aims at why the company undergoes digital transformation and how it affects their business operations. This paper also focuses on major challenges faced by the organization during the process of digital transformation. This study utilized a case study approach focused on Acquosoft Electronic Trading LLC, located in Saudi Arabia and the UAE. A structured questionnaire was employed to gather data from owners, managers, and employees. The analysis included mean, standard deviation, chi-square tests, and t-tests. The findings revealed that digital transformation has a direct impact on company performance across all areas. However, both respondents and the organization faced several challenges during the digital transformation process.

Keywords: Digital transformation, Acquosoft Electronical Trading LLC, cloud computing, business process

1. Introduction

Digital transformation is always necessary for every firm to enhance operational efficiency, risk mitigation and achieve sustainability outcomes. Digital transformation is widely implemented across departments such as finance, sales, IT, and human resources. Digital transformation is about survival. It's about unlocking new value and efficiency to stay competitive in an increasingly digital world (Westerman et al., 2019). The main objective of the study is to find out why the organization undergo digital transformation and what are the challenges faced by the organization before implementing the digital transformation and during the process and what they gained after the implementation. Digital transformation is the process of adoption and implementation of digital technology in an organization to modify the existing products, services and operations by the means of translating business process in to a digital format. Digital transformation is a journey, is not a destination Battistoni, et al., 2023). The most successful companies are ones that view digital transformation as a cultural change, not just a technological one (Barrenchea M.J., 2015). Digitalization analysis is commonly called the analysis and interpretation of digital transformation implemented in the firm.

2. Review of literature

Numerous studies have been conducted by researchers on the digital transformation of various industry sectors worldwide. Many of these studies focus on the impact of digital transformation on operational efficiency and the challenges companies face before, during, and after its implementation. Findings indicate that, among three organizational capabilities, only marketing mix capabilities had a direct positive effect on both new product quality and speed to market, while technological capabilities showed no significant direct impact on these aspects of new product competitive advantage (Akroush, M. N., 2012).

Another study found that environmental responsibility leads to financial improvements and enhanced relationships with employees and customers (Nejati et al., 2014). The success of companies mainly

depends on the digital capabilities integrated into all aspects of their operations. Business Process Management (BPM) suggests that enterprises can use an effective BPM as a foundation for digitalization, while developing the necessary digital capabilities over time (Imgrund et al., 2018). By adopting new technologies, firms can drive significant business improvements to remain competitive and cultivate new growth opportunities. The study emphasizes that digital transformation is a crucial undertaking for all organizations, as it has the potential to optimize and reshape established business activities, making it a vital strategy for business development (Stief et al, 2016).

Through a systematic literature review, one of the studies shown that the fundamental concepts in the domain of study are digital technologies, digital business strategy and digital transformation, digital leadership, business models, digital innovation, digital transparency, and digital maturity. There is a key relationship between business strategy and digital transformation strategy. A model is also developed which depicts the interrelationship of all these concepts (Brown, N., & Brown, I., 2019). It has seen that there is a moderate strong demand for digital transformation in the business development. Although the objectives of digital transformation are clear, organizations need to focus on heavily preconditions for successful implementations (Kő et al., 2019). But the traditional companies follow partial implementation of digital environment in the business operations. The study says that nature of digital transformation is only partially covered by conventional frameworks on organizational change (Hanelt et al., 2021).

To attain economies of scale, the companies can use various digital technologies and these digital transformation achieved through digital technologies such as mobile technologies, social media, cloud computing, interest of things, big analytics and artificial intelligence. Now digital transformation managerial actions that include organization-centric activities related to achieving economies of scale (Balakrishnan, R., & Das, S., 2020). The implementation of digital transformation directly is influenced on the firm internationalization and the literature shows that the digital transformation can positively and negatively impact firm internationalization at the individual, firm, and macro levels. Feliciano-Cestero et al., 2023).

According to Nadella. S., 2018 'Digital transformation is not just a technology; it's about reimagining your company. Digital transformation in an organization involves the comprehensive integration of digital technologies to optimize processes enhance customer experiences and drive innovation implementation begins with a strategic assessment of current systems and processes, identifying areas for improvement and innovation. This is a followed by selection and deployment of technologies like cloud computing, artificial intelligence and data analytics. It requires a cultural change that embraces innovation and agility. Digital transformation is not about technology, it's about people (Tabrizi et al, 2019). Digital transformation is more about minds than a machine (Leodolter, W., 2017). Digital transformation is the integration of digital technology in to all areas of a business, fundamentally changing how you operate and deliver value to customers (Westerman et al., 2019). Digital transformation is not optional. It's a do-or-die proposition for most firms. It's about staying relevant and competitive in a fast-changing business environment (Day, G. S., & Schoemaker, P. J., 2016). Digital transformation is about using technology to drive business outcomes. It's not just about the technology itself, it's about how leverage it to create value and improve performance (Fenwick, N., & Strategy, R., 2015).

The competitive advancements in digital technologies have promoted the organizations to embrace digital transformations in order to enhance operational efficiency, gain a competitive advantage, and achieve sustainable objectives however the successful adoption of digital technologies necessities the careful consideration of various factors, such as customer engagement, cost mitigation, sustainable goals, strategic decision making and implementation support. Implementation of digital transformation in an organization is essential for improving operational efficiency and productivity as well as adapting to technological advancements and staying competitive. Nowadays the organization including multinational companies focuses on sustainability and do their business process in an eco-friendly manner. The business landscape is undergoing a rapid and profound shift towards digitalization, compelling organizations to stay competitive and relevant. In this study the researcher tried to focus on the impact of the

digital transformation on the performance of Aqua soft Electrical Trading LLC. The study also made an attempt to find out the primary reasons to undergo digital transformation and the challenges that they faced before the implementation, during the implementation and what they gained after the implementation. To suggest how the firm can carry out it's activities with enhanced efficiency and sustainability the absence of the proper management of company survive in the world. The study will very much helpful to know the before and after effects of digital transformation and whether to know the company is successful or not after the implementation.

3. Objectives of the study

1. To know the impact of digital transformation on the performance of the company with respect to the gender, age, department level of employees, owners and managers**.**
2. To identify the challenges faced by the departments like finance, sales, IT, HRA before, during and after the implementation process.
3. To examine the benefits gained by the departments like finance, sales, IT, HRA after the implementation of digital transformation.

4. Aqua soft Electrical Trading LLC

Aqua Soft Electrical Trading LLC is a rapidly growing electrical trading company in the Middle East, specializing in high-quality water purification and filtration systems throughout the UAE. They cater to both residential and industrial needs, offering comprehensive services that include the installation and maintenance of RO water filters, RO purifiers, water softeners, custom RO plants, and a variety of electrical and plumbing accessories. The company has introduced digital transformation across all departments to enhance operational performance and has implemented the system effectively.

5. Research Methodology

The study utilized a case study approach, focusing on a detailed analysis of the operational efficiency of Aqua Soft Electrical Trading LLC before and after the implementation of digital transformation. It also employed a descriptive cross-sectional design to illustrate the characteristics of the phenomenon of digital transformation. Primary

data was collected from the owners, managers, and other employees of Aqua Soft Electrical Trading LLC through a structured questionnaire, with 2 owners, 7 managers, and 41 employees participating as respondents.

6. Result analysis

Table 1. Demographic variables of owners and managers

Variables		Frequency	Percent
Age	Below 25	1	11.1
	25-35	5	55.6
	Above 35	3	33.3
	Total	9	100
	Male	5	55.6
Gender	Female	4	44.4
	Total	9	100
	Owner	2	22.2
Designation	Manager	7	77.8
	Total	9	100
	Finance	1	11.1
	Sales	4	44.4
Department	IT	2	22.2
	HRM	2	22.2
	Total	9	100

Source: Primary data

Table 1 clearly presents the demographic variables of the owners and managers. Among the respondents, 55.6% fall within the age group of 25-35, while 33.3% of respondents belongs to the age group of above 35. . In the case of Gender, 55.6% are male and 44.4% are female. The table also indicates that 77.8% of the respondents are managers, whereas 22.2% are owners. Regarding departmental affiliation, 44.4% of respondents work in the sales department, followed by 22.2% in both the IT and HRM departments.

Table 2. Demographic variables of employees

Variables		Frequency	Percent
Age	Below 25	9	22
	25-35	14	34.1
	Above 35	18	43.9
	Total	41	100
Gender	Male	21	51.2
	Female	20	48.8
	Total	41	100
Department	Finance	9	22
	Sales	10	24.4
	IT	16	39
	HRM	6	14.6
	Total	41	100

Source: Primary data

The above table 2 revealed that 43.9% employees belong to the category of above 35 and 34.1% of total employees belong to the age group of 25-35. Additionally, the table indicates a nearly equal distribution of male and female employees.

6.1 Impact of digital transformation initiatives on operational performance

Table 3. Impact of digital transformation initiatives on operational performance

Descriptive Statistics						
Effects	**N**	**Minimum**	**Maximum**	**Mean**	**Std. Deviation**	**Variance**
Over all understanding of digital initiatives	41	3	5	4.1707	0.44173	0.195
Support of digital transformation initiatives to remote work arrangement	41	3	4	3.1463	0.35784	0.128
Access of HR related task	41	2	4	3.1463	0.61486	0.378

Source: Primary data

The table 3 indicates that the mean value for overall understanding of digital initiatives is 4.17, reflecting a good understanding about digital initiatives. In the case of support for digital transformation initiatives related to remote work arrangements, the mean value is 3.14, suggesting moderate support for remote work. Regarding HR-related tasks, the mean value is also 3.14, indicating that these tasks are fairly easy to access.

6.2 Association between gender and department of respondents

H1: There is an association between gender and department of respondents.

Table 4. Chi square test for association between Gender and department

Gender	Department				Total	Chi square value	p value
	Finance	Sales	IT	HRM			
Male	3	7	9	2	21	3.494	.321
	14.30%	33.30%	42.90%	9.50%	100.00%		
Female	6	3	7	4	20		
	30.00%	15.00%	35.00%	20.00%	100.00%		
Total	9	10	16	6	41		
	22.00%	24.40%	39.00%	14.60%	100.00%		

Source: Survey data, Figures in the parenthesis refer to Row Percentage

Table 4 indicates the Chi square and it evaluates the association between gender and department. With a p-value of 0.321 and 3 degrees of freedom, the result is not statistically significant at the 0.05 significance level. Therefore, the results do not provide strong evidence to reject the null hypothesis of no association between gender and department based on the Pearson analysis. There is a no correlation between the gender of respondents and their respective departments.

6.3 Differences in the impact of digital transformation on company performance with respect to the gender of owners and managers

H2 : There is significant difference in the impact of digital transformation on the performance of the company with respect to the gender of owners and managers.

Table 6. Difference in the impact of digital transformation on the performance of the company with respect to the gender of owners and managers

Effects of Digital transformation	t-test for Equality of Means			H1
	t	df	Sig. (2-tailed)	
Financial and operational benefits	1.619	7	0.150	Not supported
Align with mission and Vision	1.205	7	0.267	Not supported
Improvement in business area	1.29	7	0.238	Not supported
Challenges in workflows	0	7	1.000	Not supported
Awareness level of Employees	0.743	7	0.482	Not supported
Security and privacy concerns	0.14	7	0.893	Not supported
Challenges in leveraging data	1.742	7	0.125	Not supported
Improvement in HR department	1.064	7	0.323	Not supported

Source: Survey data

The table 6 indicates differences in the impact of digital transformation with respect to gender of owners and managers. Since the p-values for all impacts of digital transformation exceed 0.05, the null hypothesis is failed to reject at the 5% significance level for all variables related to these effects, hence H1 is not supported and indicates that there is significant no difference in the impact of digital transformation on the performance of the company with respect to the gender of owners and managers.

6.4 Difference in the impact of digital transformation on the performance of the company with respect to the gender of employees

H3 : There is significant difference in the impact of digital transformation on the performance of the company with respect to the gender of employees.

Table 7. Difference in the impact of digital transformation on the performance of the company with respect to the gender of employees

Effects of digital transformation	t-test for equality of Means			H1
	t	df	Sig. (2-tailed)	
Efficiency in work	2.109	39	0.048	Supported
Advantage after digital implementation	-1.681	39	0.101	Not supported
Change after digital implementation	0.871	39	0.389	Not supported
Effect on inter departmental communication	-1.224	39	0.228	Not supported

Source: Survey data

The table 7 indicates differences in the impact of digital transformation with respect to employee gender. For work efficiency, the T value is 2.109 and the p-value is 0.048, which is less than 0.05, leading to the rejection of the null hypothesis at the 5% significance level with respect to work efficiency. It means that there is no significant difference in how digital transformation affects the company's performance based on employee gender. However, for all other variables related to the effects of digital transformation, H1 is not supported.

6.5 Difference in impact of digital transformation on the performance of the company with respect to the department level of employees

H4: Impact of digital transformation on the operations of company differ based on performance of department level of employees.

Table 8. ANOVA for significant difference in the impact of digital transformation on the operations of company with respect to performance of department level of employees

Effects of digital transformation	F	Sig.	H1
Efficiency in work	0.753	0.527	Not supported
Advantage after digital implementation	1.249	0.306	Not supported
Change after digital implementation	1.275	0.297	Not supported
Effect on inter departmental communication	1.28	0.295	Not supported

Source: Survey data

The table 8 illustrates the differences in the impact of digital transformation with respect to employees' departmental levels. Since the p-values for all impact of digital transformation exceed 0.05, the null hypothesis is failed to reject at the 5% significance level for all variables related to these effects, indicating that H1 is not supported and indicates that The impact of digital transformation on a company's operations does not vary based on the performance levels of employees in different departments.

6.6 Difference in impact of digital transformation with respect to age of employees

H5: Impact of digital transformation on the operations of company differ based on the age of employees.

Table 9. ANOVA for significant difference in impact of digital transformation on the operations of company with respect to the age of employees

Effects of digital transformation	F	Sig.	H1
Efficiency in work	1.238	0.301	Not supported
Advantage after digital implementation	0.604	0.552	Not supported
Change after digital implementation	0.688	0.509	Not supported
Effect on inter departmental communication	1.385	0.263	Not supported
Efficiency in work	0.452	0.64	Not supported

Source: Survey data

From the table it explains the significant difference in impact of digital transformation with respect to age of employees. In the case of all effects of digital transformation, p values are more than 0.05, the null hypothesis is failed to reject at 5% level of significance with regard to all variable of effects of digital transformation, H1 is not supported. Hence, the impact of digital transformation on a company's operations is consistent regardless of the age of employees.

6.7 Difference in impact of digital transformation with respect to age of owners and managers

H6: Impact of digital transformation on the operations of company differs based on the age of owners and managers.

Table 10. ANOVA for significant difference in impact of digital transformation on the operations of company with respect to the age of owners and managers

Effects of digital transformation	F	Sig.	H1
Financial and Operational benefits	1.234	0.356	Not supported
Align with mission and Vision	0.37	0.705	Not supported
Improvement in business area	1.231	0.357	Not supported
Challenges in workflows	0.649	0.556	Not supported
Awareness level of Employees	1.855	0.236	Not supported
Security and privacy concerns	3.864	0.083	Not supported
Challenges in leveraging data	5.333	0.047	Supported
Improvement in HR department	0.108	0.899	Not supported

Source: Survey data

From the table it explains the significant difference in the impact of digital transformation with respect to age of owners and managers. In the case of challenges in leveraging data, the p value is (0.047) is less than 0.05 the null hypothesis is rejected at 5% level of significance with regard to challenges in leveraging data. The impact of digital transformation on a company's operations varies based on the age of owners and managers when it comes to challenges in leveraging data. In the case of all other variable of effects of digital transformation, H1 is not supported.

6.8 Difference in impact of digital transformation on the operations of company with respect to the department level of owners and managers

H7: Impact of digital transformation on the operations of company differ based on the department level of owners and managers

Table 11. ANOVA for significant difference in impact of digital transformation on the operations of company with respect to the department level of owners and managers

Effects of digital transformation	F	Sig.	H1
Financial and Operational benefits	0.694	0.594	Not supported
Align with mission and Vision	0.019	0.996	Not supported
Improvement in business area	0.144	0.929	Not supported
Challenges in workflows	0.385	0.769	Not supported
Awareness level of Employees	1.169	0.409	Not supported
Security and privacy concerns	3.551	0.103	Not supported
Challenges in leveraging data	4.259	0.076	Not supported
Improvement in HR department	0.605	0.64	Not supported

Source: Survey data

From the table 11, it explains the difference in the impact of digital transformation with respect to department level of owners and managers. In the case of all effects of digital transformation, p values are more than 0.05, the null hypothesis is failed to reject at 5% level of

significance with regard to all variable of effects of digital transformation, H1 is not supported and reveals that the impact of digital transformation on a company's operations do not varies depending on the department level of owners and managers.

7. Discussions and conclusion

The purpose of this study is to analyze the impact of digital transformation on the operational performance of a trading company before and after implementation of digital transformation with special to Aquasoft Electrical Trading LLC, United Arab Emirates. The result shows that the firm gained enhanced efficiency, achieve sustainable goals, operational efficiency, financial benefits, risk mitigation after the implementation of the digital transformation. The result shows that firm faced a numerous challenges in the operations before the implementation of digital transformation like time consuming, data migration, paper based workflows, delay in works. These problems can be overcome by the implementation of digital transformation activities like of Quick books, Pay fort, Share point, Cyber security measures, web application fire walls, Oracle HCM Cloud, concord, Microsoft Dynamics in different departments.

To enhance efficiency, mitigate risks, and achieve sustainable goals, organizations should implement digital transformation initiatives. This requires increasing the adoption of digital technologies across various departments, including finance, sales, IT, and HR. Organizations committed to eco-friendly practices can leverage digital technologies to enhance their operations. For instance, firms can use QuickBooks in the finance department to manage financial transactions efficiently. Implementing Oracle HCM Cloud in HR can improve employment processes and self-service capabilities. Additionally, deploying web application firewalls in the sales department can help identify and mitigate security threats.

The firm can implement multi-factor authentication (MFA) in the IT department to provide multiple layers of identification before granting access to critical systems and data. Additionally, introducing

more technologies can strengthen the organization. To enhance operational efficiency and achieve sustainability, it's essential to adopt further digital initiatives. Improving efficiency will lead to higher sales and profitability, and the firm should develop better strategies to stay competitive by embracing new digital technologies.

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