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## The Digital Transformation Impact on Business Models in SMEs in Iraq

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### ABSTRACT

The business structure of Iraqi Small and Medium Enterprises faces transformations due to Digital Transformation. The main economic driver of Iraq consists of SMEs that encounter multiple barriers to technological implementation mainly due to poor infrastructure along with financial backing and specialized expertise deficiencies across local spaces. The maximum business benefits await Small medium Enterprises (SMEs) when they accept digital transformation. The research investigates digital technology utilization by Iraqi SME businesses and their work model evolution. The study uses both quantitative and qualitative approaches to determine its research methodology. The study confirmed that adopting digital transformation would lead both to operational improvements and enhanced performance and business competitive advantage while recognizing existing implementation challenges.

### INTRODUCTION

Modern business digital transformation uses digital technologies in every operational sector to deliver major changes in organizational performance (Westerman *et al.*, 2011). Cloud computing, big data and artificial intelligence (AI) along with Internet of Things (IoT) technologies fulfill this concept that enhances business functions and customer interaction (Bharadwaj *et al.*, 2013). The majority of Iraqi private enterprises are small and medium businesses that experience strong advantages when they transform their operation through digital means. The companies encounter numerous difficulties because they suffer from restricted ground-based infrastructure and insufficient funding and experienced staff shortage (Al-Mashaqba, 2020).

The current practice of Iraqi Small and Medium Enterprises (SMEs) includes digital business modeling and productivity elevation which results in improved market competitiveness. Most research about digital transformation within small and medium-sized enterprises (SMEs) has focused on developed nations (Wang & Gunasekaran, 2019) even though specific industrial domain studies across developed economies remain scarce (Rind, 2020) and there is minimal available literature demonstrating digital transformation impacts on SMEs productivity and business model development as well as competitive capabilities in the Iraqi setting (Al-Omouh *et al.*, 2019). The study examines digital transformation effects on Iraqi SMEs by addressing vacant knowledge gaps.

### Problem Statement

The digital migration process of Iraqi Small and Medium Enterprises blocks economic health achievement.

Developing countries depend on SMEs for promoting their economy and job market because small and medium businesses create the fundamental support for economic growth. The available digital applications for Iraqi SMEs remain unusable because the businesses lack proper digital infrastructure combined with financial obstacles alongside technical inexperience according to Al-Mashaqba (2020). Very limited research exists about determining factors in digital transformation of Iraqi SMEs since digital transformation serves as a vital base for global business success.

Research examines how digital transformation impacts business models as well as productivity and competitive standing of SMEs operating in Iraq's business environment.

### Objectives

1. The primary goal of this general study includes the following objectives.
2. The research evaluates how digital transformation affects the business models implemented by emerging small and medium enterprises in Iraq.
3. The research investigates the problems which prevent Small and Medium Enterprises in applying digital technologies throughout their operations in Iraq.
4. The research analyzes the production effects of digitization implementations for small and medium enterprises across Iraq.
5. The research seeks to measure the effect of digital transformation on the competitive advantage of small and medium enterprises operating in Iraq.
6. This research strives to provide useful guidelines for SMEs and policy makers in Iraq which will support digital transformation initiatives.

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**LITERATURE REVIEW**

**A Business Model for Digital Transformation**

The process of restructuring company operations through business model transformation enables organizations to adapt to shifts in their industry markets. Discussed in Westerman *et al.* (2011), Digital Transformation (2012) the market’s evolving characteristics drive organizations into digital service provision. The new opportunities and challenges push organizations to build faster and more flexible business structures which perform better at responding to market needs and opportunities (Bharadwaj *et al.*, 2013).

According to Osterwalder and Pigneur (2010) digital technologies in business models result in evolving business models as opposed to maintaining static structures. Digital transformation in use by SMEs creates new business model possibilities which enable them to enter previously inaccessible markets while delivering their products and services (Jonathan *et al.*, 2020).

**Challenges Faced by SMEs in Digital Transformation**

Many SMEs adopted digital technologies because they faced limitations in financing resources and infrastructure needs and digital knowledge acquisition Al-Mashaqba (2020). Digital and technological difficulties in Iraq become worse because of political turmoil and insufficient access to fast internet (Al-Omoush *et al.*, 2019). SMEs frequently lack the ability to invest in new technologies so they become less likely to implement digital transformation completely.

**Benefits from Digital Transformation**

The benefits of digital transformation for small and medium-sized enterprises (SMEs). The study performed by Irfan *et al.* revealed significant information. Digital development allows SMEs to find success in the digital age through improved supply chains and enhanced internal processes as well as competitor innovation of products and services (Jonathan *et al.*, 2020).

**Variables and Hypotheses**

The examined research documents have helped develop the following hypotheses:

The assessment of digital transformation effects on SME business models within Iraq constitutes H1.

Digital technology implementation within SMEs in Iraq leads to higher productivity among businesses.

Digital transformation acts as an enhancer of competitive advantages for small and medium enterprises operating within Iraq.

The main link between these elements demonstrates how small businesses must adapt their customer infrastructure through an agile approach. Digital technology integration enables businesses to enhance their productivity by automatically processing tasks and enhancing communication pathways and managing resources more effectively. Successful implementation of digital

technology allows SMEs to gain stronger market position and improved competitive advantage.

**MATERIALS AND METHODS**

**Research Design**

The research will utilize both qualitative and quantitative research methods to deliver the study results. A quantitative survey alongside qualitative interviews will serve to assess the digital transformation levels of Iraqi SMEs while examining their challenges and successful practices for digital technology adoption.

**Data Collection**

A structured questionnaire will be distributed to 200 SMEs operating in Retail, Manufacturing and Services sectors of Iraq. The research survey aims to measure both levels of digital adoption and its effects on business modes and work force performance and market competitiveness. The researcher will arrange 15 qualitative interviews with SME opinion leaders in parallel to the survey to understand challenges associated with digitalization.

**Data Analysis**

The researchers will use statistical packages for social sciences (SPSS) to analyze quantitative data through descriptive statistics, correlation and regression analysis. A thematic analysis will process the qualitative data to identify significant themes and patterns.

**RESULTS AND DISCUSSION**

**Results**

**Distribution of SMEs by Industry**

A summary of SME data including distribution exists in the following table by industry type. The table keeps strict adherence to the diverse industrial spectrum of SMEs and establishes subcategories for these types of SMEs. Percentage distribution analysis allows businesses to identify which specific industries are adopting digitalization methods and which ones are resisting it. The fact that numerous businesses in the “Retail” Category transform digitally should correspond to the retail industry’s dominant position in digital transformation.

**Table 1:** Distribution of SMEs by Industry

Industry	Frequency	Percentage
Retail	50	25%
Manufacturing	60	30%
Services	40	20%
Information Tech	50	25%

The sample distribution according to sector reveals that Manufacturing and Retail sectors together represent fifty-five percent of cases while both traditional industrial sectors (manufacturing) and customer interface sectors (retail) account for the majority. The Information Technology sector comprises twenty-five percent of the overall sample population.

### Digital Transformation Towards Business Model Innovation

The research hypothesis correlation results present themselves while the Person Correlation Coefficient

indicates the level of linear connection between variables. The two variables show positive correlation when the increase of one variable leads to an equivalent increase of the other variable.

**Table 2:** Digital Transformation Related to Business Model Innovation

Variable	Digital Transformation	Business Model Innovation	Productivity	Competitive Advantage
Digital Transformation	1	0.80	0.75	0.70
Business Model Innovation	0.80	1	0.70	0.85
Productivity	0.75	0.70	1	0.80
Competitive Advantage	0.70	0.85	0.80	1

#### Interpretation

Business Model Innovation aligns highly positively with Digital Transformation as indicated by a value of  $r = 0.80$  ( $r = 0.80$ ) — This shows organizations which practice digital transformation tend to change their business model simultaneously.

Organizations utilizing digital technologies for innovative business model transformations can achieve strong competitive advantages (0.85): A very strong connection exists between these factors.

The positive significance of the relationship between digital transformation and productivity shows that digital transformation leads organizations to improve operational productivity (0.75).

Companies that achieve higher productivity levels end up generating better competitive advantage (0.80).

#### Results of the Regression Analysis of Digital Transformation and Business Model Innovation

The analytical method known as regression analysis makes predictions about dependent variables (Business Model Innovation, Productivity and Competitive Advantage) using the independent variable (Digital Transformation) values presented in Table 1. An analysis of the relationships between variables yields results that appear in the table under R-squared analysis together with Beta Coefficients and p-values.

**Table 3:** Regression Analysis for Digital Transformation and Business Model Innovation

Dependent Variable	R-squared	Beta Coefficient	p-value
Business Model Innovation	0.75	0.65	0.001
Productivity	0.80	0.55	0.002
Competitive Advantage	0.70	0.60	0.003

#### Interpretation

##### Productivity ( $R^2 = 0.80$ , $Beta = 0.55$ , $p\text{-value} = 0.002$ )

This indicates that digital transformation positively affects productivity, accounting for 80% of the variance observed in productivity. The p-value also suggests statistical significance.

##### Competitive Advantage ( $R^2 = 0.70$ , $Beta = 0.60$ , $p\text{-value} = 0.003$ )

Results indicate a salient effect of digital transformation on competitive advantage, explained by 70% of the variance.

participating them in digital morality campaigns that explain new technology adaptation. Results tables from the section present the positive connections that link digital transformation to business model innovation and business model innovation to productivity which then leads to competitive advantage. The research points to a recommendation that Iraqi SMEs should make investments in digital technologies and enhance digital literacy together with the construction of related infrastructure.

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#### CONCLUSION

The study shows digital technological evolution functions as a primary factor for business model innovation and it plays a major role in improving productivity and competitive strength of Iraqi SMEs. Digital technology adaptation by SMEs beyond their financial or infrastructure or digital literacy obstacles enables them to achieve better market efficiency and competition levels. Very limited progress is anticipated when it comes to teaching SMEs about digital transformation value or

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