



## Digital Transformation and Firms Competitiveness among Family-Owned Businesses

Chinenye Nuel-Okoli <sup>1\*</sup>, Ifeanyi Nuel Okoli <sup>2</sup>, Ezeanolue Uju Scholastica <sup>3</sup>

<sup>1</sup> Chukwuemeka Odumegwu Ojukwu University, Igbariam, Nigeria

<sup>2-3</sup> Nnamdi Azikiwe University, Awka, Nigeria

\* Corresponding Author: **Chinenye Nuel-Okoli**

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### Article Info

**ISSN (Online):** 2582-7138

**Impact Factor (RSIF):** 8.04

**Volume:** 07

**Issue:** 02

**March-April 2026**

**Received:** 16-01-2026

**Accepted:** 18-02-2026

**Published:** 20-03-2026

**Page No:** 463-467

### Abstract

In today's digital economy, firm competitiveness increasingly depends on the ability to integrate and leverage digital technologies for efficiency, innovation, and customer engagement. This study investigates the relationship between digital transformation and competitiveness among family-owned businesses (FOBs) in Anambra State, Nigeria. Family businesses constitute a significant share of the economy but often face structural and generational challenges that hinder digital adoption, including limited resources, lack of digital skills, and reliance on traditional business models. Using a quantitative research approach, the study employed a cross-sectional survey design with a sample of 175 registered FOBs. Data were collected via structured online questionnaires and analyzed using Spearman's Rank Correlation Coefficient at a 5% significance level. Findings indicated that digital transformation significantly enhances firm competitiveness ( $\rho = 0.536$ ,  $p < 0.05$ ), demonstrating its critical role in improving operational efficiency, customer engagement, and long-term sustainability. Additionally, results revealed that top management support is positively associated with digital transformation adoption ( $\rho = 0.615$ ,  $p < 0.05$ ), underscoring the importance of leadership commitment in overcoming internal resistance and facilitating organizational change. The study highlights that while FOBs face barriers such as generational gaps and cost of technology adoption, proactive leadership and strategic investment in digital tools can drive competitive advantage. The study concluded that digital transformation is no longer optional but a strategic necessity for FOBs in developing economies. It recommended integrating digital strategies into succession planning, fostering a culture of innovation, and leveraging scalable technologies to ensure sustainable competitiveness in a rapidly evolving marketplace.

**DOI:** <https://doi.org/10.54660/IJMRGE.2026.7.2.463-467>

**Keywords:** Digital Transformation, Competitive Advantage, Family-Owned Business, Top Management

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### 1. Introduction

The competitiveness of a firm reflects its ability to maintain or advance its market position by making effective use of resources, capabilities, and strategies. In the digital age, competitiveness is increasingly tied to a firm's ability to harness digital technologies to enhance productivity, customer engagement, and operational efficiency. For family-owned businesses, digital transformation offers a unique opportunity to overcome traditional barriers and unlock new growth potential. Digital transformation has become a transformative force in the global business landscape, reshaping industries and redefining competitiveness. It involves the integration of digital technologies such as cloud computing, artificial intelligence, data analytics, e-commerce, mobile apps, and social media into business processes, products, and services to drive efficiency, innovation, and customer satisfaction (Bharadwaj *et al.*, 2013) <sup>[4]</sup>. McKinsey and Company (2020) <sup>[19]</sup> urge that businesses that embrace digital transformation are more likely to experience revenue growth and improved profitability compared to their competitors. Digital transformation necessitates changes in values and knowledge, leading to its impact being reflected in various aspects such as processes, products, services, relationships, values, and knowledge within family businesses (Ano & Bent, 2022; Škare and Soriano, 2021) <sup>[2, 27]</sup>

Family-Owned Businesses (FOBs) are the oldest form of business, which constitute a significant part of the global economy. Despite the emerging need and potential benefits of digital transformation, FOBs face difficulties in achieving digital transformation due to their family structure (Guo & Xu, 2021) <sup>[8]</sup>. Okafor (2020) <sup>[21]</sup> stressed that only 30% of small and medium enterprises in Anambra State have adopted basic digital tools, such as accounting software or e-commerce platforms, while the majority still rely on manual processes. Lashitew (2023) <sup>[14]</sup> found that family members belonging to different generations have varying levels of digital knowledge and cognitive approach, leading to limited use of the internet and digital technologies for entrepreneurial purposes among FOBs, and often lack the necessary digital skills and resources (Zapata-Cantu *et al.*, 2023) <sup>[35]</sup> hence affecting their competitiveness. Okoli, *et al.* (2024) <sup>[22]</sup> stressed that lack of digital innovation may result in the erosion of competitive advantage.

Most, family-owned businesses in Nigeria, face a lot of challenges in adapting to the digital economy. Many of these businesses still rely on traditional methods of operation, which limits their ability to compete effectively in an increasingly digital marketplace. The lack of digital infrastructure, high costs of technology adoption, and a shortage of skilled personnel further escalate these challenges (Okafor, 2020) <sup>[21]</sup>. While digital transformation has been widely studied in developed economies, there are rare researches on its effect on family-owned businesses in developing regions like Nigeria, particularly in Anambra State. This lack of research makes it difficult for policymakers and business owners to understand the specific needs and barriers faced by these businesses in their digital transformation journey. Without a clear understanding of these issues, family-owned businesses risk falling behind in the global digital economy, thereby losing their competitive edge, thus the crux of this study.

## 2. Literature Review and Hypotheses Development

### 2.1. Digital Transformation

Digital transformation refers to a process that aims to improve an entity by triggering significant changes to its properties through combinations of information, computing, communication, and technologies connectivity (Vial, 2019) <sup>[29]</sup>. Digital transformation is the process of increasing productivity, value creation and social well-being by adopting disruptive technologies (Lozić, and Fotova, 2024) <sup>[15]</sup>. Westerman, *et al* (2014) <sup>[33]</sup> sees digital transformation as the integration of digital technologies into all areas of a business, fundamentally changing operations and value delivery. Lamarre (2023) <sup>[13]</sup> argue that digital transformation is about building a competitive advantage through the continuous implementation of large-scale technologies, with the ultimate goal of improving user experience and reducing costs. Digital transformation focuses on increased efficiency and greater agility, and as the ultimate goal is aimed at creating new value for employees, users and shareholders (Accenture, 2023) <sup>[1]</sup>. It includes the use of new technologies such as artificial intelligence and cloud computing to drive growth, streamline operations and increase competitive edge (Marr, 2023) <sup>[17]</sup>. Digital transformation is driven by significant flows of digital innovation that can cause a significant shift in organizational value (Barthel & Hess 2020; Demlehner & Laumer 2020; Wessel, *et al.* 2021) <sup>[3, 7,</sup>

<sup>32]</sup>. Mitki, *et al* (2019) <sup>[20]</sup> averred that as digital transformation is driven by advanced digital and hyper-connected technologies, it requires a rethinking of how people and technology interact within the organization. Digital transformation is the process of using digital technologies to create new or modify existing business processes, culture, and customer experiences to meet changing business and market requirements. It involves the integration of digital technologies such as cloud computing, big data analytics, artificial intelligence (AI), and the Internet of Things (IoT) to drive innovation and improve business performance (Warner & Wäger, 2019) <sup>[31]</sup>. There are three main factors that lead firms towards the digital transformation process, namely changes in the macro environment, a high level of competitive intensity (Kohli and Melville, 2019) <sup>[11]</sup> and changing customer demands (Verhoef, *et al.*, 2021) <sup>[28]</sup>. Digital transformation process requires organizations to overcome several challenges. These challenges can range from technical issues such as digital skills gap, legacy systems and infrastructure to organizational challenges such as data privacy and security concerns.

### 2.2. Digital Transformation and Firms Competitiveness

Firm competitiveness is a complex concept that represents an organization's ability to outperform rivals in profitability, expand market share, and sustain long-term growth. Shehadeh *et al.* (2023) <sup>[26]</sup> emphasized that digital transformation rests on three main pillars: customer experience transformation, operational transformation, and business model transformation. Consequently, in today's competitive landscape, organizations pursuing digital transformation must address these three areas. Firms also need to adopt both incremental and novel digital initiatives to maintain their competitive edge (Zhou *et al.*, 2019) <sup>[36]</sup>. Competitiveness involves delivering products or services more efficiently and effectively than competitors, thereby securing a stronger market position. Martínez-Caro *et al.* (2020) <sup>[18]</sup> stressed the importance of technology in achieving competitive advantage, recommending that firms leverage digital technologies such as computing, information integration, and connectivity to maintain a sustainable edge. Xue *et al.* (2022) <sup>[34]</sup> noted that achieving sustainable competitive advantage requires organizations to rethink traditional service logic and drive digital transformation across operations, organizational structure, and strategic planning. Companies that treat technologies like cloud computing, big data, social technologies, and mobile platforms as central to their infrastructure tend to realize higher profitability and greater market valuation than competitors. These technologies act as key enablers for achieving competitive advantage through digital transformation (Schwertner, 2017) <sup>[25]</sup>. Based on this discussion, the following hypothesis was formulated: Hypothesis 1 (Ho1): Digital transformation does not significantly relate to firm competitiveness.

### 2.3. Top Management as a Determinants of Digital Transformation

Top management encompasses the engagement, motivation, and commitment of senior leaders in driving digital transformation (Infinedo, 2011) <sup>[9]</sup>. A firm's success heavily depends on the capabilities and dedication of its top managers

in effectively recombining resources. Strong and committed leadership at the executive level is a key determinant of entrepreneurial success and can influence the achievement of organizational objectives (Okoli *et al.*, 2020) <sup>[23]</sup>. Effective leadership is critical for any form of transformation, including digital initiatives (Cichoz *et al.*, 2020) <sup>[6]</sup>. Lutfi *et al.* (2022) <sup>[16]</sup> examined the factors affecting the adoption of big data analytics in Jordan’s small and medium-sized hotel industry, highlighting that support from senior management fosters technology learning and dissemination within organizations, which is vital during adoption phases. Greater endorsement from top managers reduces resistance during internal integration processes, enabling higher investments in digital transformation and improving the organization’s capacity to leverage its benefits and anticipate future trends (Vogelsang *et al.*, 2018) <sup>[30]</sup>. The ability of managers to continuously monitor market developments, identify technological opportunities, and convert them into practical business applications is increasingly important (Karimi & Walter, 2015) <sup>[10]</sup>. According to Qatawneh (2024) <sup>[24]</sup>, top management support promotes digital transformation by coordinating change initiatives, securing essential resources, and facilitating communication among specialized departments. Such support also plays a crucial role in shaping organizational culture and encouraging employees to embrace digital transformation as a core aspect of their responsibilities. Based on these insights, the following hypothesis is proposed:

Hypothesis (H2) Top management does not significantly relate with digital transformation adoption.

### 3. Methodology

This study uses a quantitative approach to examine the hypotheses of the study. A cross sectional survey design was employed to gather data from all registered family-owned businesses in Anambra State. The difficulties in reaching and including all targeted owners and employees from the research population of one hundred and seventy-five (175) registered family-owned businesses led to the employment of a convenience sampling method. This method allowed for obtaining the required data while ensuring its accurate representation of the total population. An online questionnaire was designed utilizing Google Forms for data collection. The respondents were provided with the link to this questionnaire after obtaining the required approval. The questionnaire was validated using face and content validity. The reliability analyses were run with Cronbach Alpha to depict the internal consistency of the key variables. For analysis, the study employed Spearman’s Rank Correlation Coefficient as a test of hypotheses tool. Spearman’s correlation is appropriate because it measures the strength and direction of the relationship between two ordinal variables, such as Likert-scale data. It is particularly useful when the data do not meet the assumptions required for parametric tests. Each hypothesis in the study was tested at a 5% significance level ( $p < 0.05$ ). The decision rule for hypothesis testing is as follows:  $p \leq 0.05$ : reject the null hypothesis (there is a significant relationship) and,  $p > 0.05$ : accept the null hypothesis (there is no significant relationship).

### 4. Data Analysis and Test Results

**Table 1:** Digital transformation does not significantly relate to firm competitiveness. Correlation for Hypothesis One

		Firm competitiveness	
Spearman's rho	Digital transformation	Correlation Coefficient	.536**
		Sig. (2-tailed)	.000
		N	175

Source: SPSS Output Version 26

The result of the first hypothesis test shows a positive correlation between digital transformation and firm competitiveness, with a coefficient of  $\rho = .536$ . This indicates that as digital transformation adoption increases, firm competitiveness to the industry tends to increase. The magnitude of the correlation suggests a moderately strong positive influence, implying that digital transformation plays

a noticeable role in firm competitiveness. The corresponding p-value of 0.000 indicates that this influence is statistically significant at the 5% level ( $p < 0.05$ ). Thus, we accept the alternate hypothesis and conclude that digital transformation has a significant positive influence on firm competitiveness ( $\rho = -0.536$ ;  $p\text{-value} = 0.000$ ).

**Table 2:** Top management does not significantly relate with digital transformation adoption. Correlation for Hypothesis Two

		Digital transformation	
Spearman's rho	Top Management	Correlation Coefficient	.615**
		Sig. (2-tailed)	.000
		N	175

Source: SPSS Output Version 26

The results for the second hypothesis indicate a positive and stronger relationship between top management and digital transformation, with a correlation coefficient of  $\rho = .615$ . This suggests that top management support is a critical success factor in the formulation and implementation of digital transformation for family-owned businesses. The magnitude of the correlation reflects a moderate positive influence, indicating that top management capabilities

positively promote the improvement of digital transformation. The p-value of 0.000 confirms that this relationship is statistically significant at the 5% level ( $p < 0.05$ ). As a result, we accept the alternate hypothesis and conclude that top management has a significant positive influence on the digital transformation adoption for family-owned businesses ( $\rho = 0.615$ ;  $p\text{-value} = 0.000$ ).

## 5. Discussion of Findings

This study makes the contribution to the deep understanding of processes of digital transformations in family-owned businesses in order to carry out scientific and effective resources allocation in digital transformation processes. This study empirically examines the effect digital transformation on firms' competitiveness among family-owned businesses in Anambra State. The results indicate the following findings: Firstly, that digital transformation has a significant positive influence on firm competitiveness. The study indicated that through successful digital transformation, owners, founders and managers of family-owned businesses can expect to gain a competitive advantage over their rivals. This result is consistent with the findings of Kretschmer and Khashabi (2020) <sup>[12]</sup> who demonstrated that in this turbulent market environment, digital transformation is becoming an important driver of competitive advantage. This result is also supported using a study by Martínez-Caro, *et al.* (2020) <sup>[18]</sup> who found that digital technologies including computing, information combinations, and connectivity technologies are necessary in achieving firm's sustainable competitive advantage.

Secondly, this study also found that top management has a significant positive influence on the digital transformation adoption for family-owned businesses. This suggests that firms with a high proportion of qualified, skilled employees are more likely to achieve successful digital transformation outcomes. When top management is strongly supportive of digital projects, an inventive and adaptive culture is created across the organization, hence top managers have supported digital reforms. This is consistent with prior researches by Qataweh (2024) <sup>[24]</sup> and Lutfi *et al.* (2022) <sup>[16]</sup>, suggesting that top management support enhances digital transformation by coordinating change activities, securing vital resources, and facilitating communication among specialized divisions.

## 6. Conclusion

This study examined the relationship between digital transformation and firms' competitiveness among family-owned businesses. The findings reveal that digital transformation has become a strategic imperative rather than an optional choice in today's rapidly evolving business environment. Family-owned businesses, which often rely on tradition, close-knit management, and intergenerational continuity, face both opportunities and challenges in adopting digital tools and practices. The research shows that the integration of digital technologies, such as e-commerce platforms, data analytics, digital marketing, and cloud solutions enhances operational efficiency, market reach, customer engagement, and overall competitiveness. However, resistance to change, limited financial resources, lack of digital skills, and generational differences remain major barriers for family businesses.

In conclusion, digital transformation is a critical driver of sustainable competitiveness for family-owned firms. Those who strategically embrace digital innovation are better positioned to adapt to market disruptions, strengthen customer relationships, and sustain long-term growth in increasingly competitive markets. Based on the findings, the following recommendations are proposed:

1. Family businesses need to integrate digital transformation into their long-term strategic plans, aligning it with their unique values, culture, and succession goals for sustainable firms' competitiveness.

2. Family-owned businesses should focus on affordable and scalable digital tools, such as cloud-based applications and social media marketing, to maximize impact while minimizing costs. Management of family-owned business need to cultivate an open mindset towards technological change, encouraging experimentation, adaptability, and continuous improvement.

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#### How to Cite This Article

Nuel-Okoli C, Okoli IN, Scholastica EU. Digital transformation and firms competitiveness among family-owned businesses. *Int J Multidiscip Res Growth Eval*. 2026;7(2):463–467. doi:10.54660/IJMRGE.2026.7.2.463-467

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