

“Digital transformation and new management and organizational modes: Impacts on companies’ financial performance”

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DIGITAL TRANSFORMATION AND NEW MANAGEMENT AND ORGANIZATIONAL MODES: IMPACTS ON COMPANIES' FINANCIAL PERFORMANCE

Abstract

Digitalization in conjunction with new management and organizational methods (NMMO) is a significant contributor to companies' financial performance. However, there is a considerable gap in current empirical literature that investigates how these two characteristics contribute to financial performance. This paper aims to highlight the results of the combination of digital transformation, NMMO implementation, and financial performance in Moroccan SMEs. This study adopts a quantitative research design. Five hypotheses were examined through a regression analysis on a sample of 104 digitally transforming SMEs adopting NMMOs.

Empirical evidence reveals that the use of new means of organizational management through digitalization, the use of digitalization in the management of financial resources, the use of digital tools for managing human resources, and the use of NMMO through remote work and empowering teams in SMEs have contributed enormously to their financial performance. However, the integration of digitalization with financial risk management has no significant contribution to financial performance. The study emphasizes the significant contribution of digital transformation combined with the adoption of NMMOs in advancing financial performance among Moroccan SMEs.

Keywords

digital transformation, organizational innovation, financial performance, Moroccan SMEs

JEL Classification

M15, L25, O33, M21

INTRODUCTION

In a constantly changing environment, marked by the market globalization, technological acceleration, and the rise of the digital economy, companies must continuously innovate to maintain their competitiveness. Digital transformation, defined as the integration of digital technologies into all organizational activities and processes, has become a key driver for performance optimization (Westerman et al., 2014). At the same time, the emergence of new methods of organizational management (NMMO), such as remote working, team empowerment, and the adoption of more flexible structures, revolutionizes managerial practices by providing greater agility and resilience in the face of economic change (Hamel, 2012).

These changes have direct consequences on the financial performance of companies. Digitalization allows for better resource allocation, reduced operational costs, and an optimization of decision-making through the exploitation of real-time data (Teece, 2018). It also promotes process automation and financial transparency, which helps reduce the risk of errors and fraud (Brynjolfsson & McAfee, 2014). By

reinventing modes of collaboration and focusing on employee engagement, NMMOs positively influence productivity and innovation capacity, two key factors in economic growth (Fitzgerald et al., 2014).

However, these changes are not without challenges. Digitalization can create new risks, such as cybersecurity, technology obsolescence management, and initial investment costs (Amit & Zott, 2012). Similarly, the adoption of NMMOs requires a profound cultural change and a redesign of organizational processes, which can lead to internal resistance. The ability of companies to overcome these barriers is a major determinant of their success in improving financial performance (Kane et al., 2017).

Therefore, it is interesting to establish the effects of digital transformation and the adoption of new management practices on the profitability and productivity of Moroccan SMEs, demonstrated by the adoption of new organizational management practices combined with digital transformation. This includes the use of digital tools for human resources management, the adoption of NMMOs focused on remote work and teamwork empowerment, and the digital transformation of the financial resources department through automation of financial flows.

1. LITERATURE REVIEW AND HYPOTHESES

Digitization, which is tied to the technological revolution, refers to the conversion of data, information, and processes into a digital or electronic form. This major transition has dramatically changed how people inhabit contemporary society, the way humans interact and consume, including, and especially, the ways people work. Management, defined as the discipline of organizing resources of an organization, has been profoundly affected by the shift to digital mode. Today, new management practices are developing that would fundamentally rely on flexibility and agility, and strategize on using digital technology.

Digitization and novel managerial approaches have transformed the organization and activities of companies in recent decades. Technologically, the introduction of artificial intelligence, automated processes, and big data analysis allows for greater efficiencies in operation and competitiveness in the business landscape (Brynjolfsson & McAfee, 2014). Simultaneously, new management methods, including organizational flexibility, remote work, and team empowerment, can affect the company's ability to respond to changes in its environment (Teece, 2018).

Multiple empirical studies have also indicated the positive impact that digital transformation has on organizational and financial performance. Bharadwaj et al. (2013) suggested that a firm

adopting and utilizing digital technologies is likely to improve its resource allocation, reduce transaction costs, and thereby increase profitability. On the other hand, Sebastian et al. (2017) indicated that firms that had made strategic investment and commitment toward digitalization solidified their market position and gained additional competitive advantage.

From a managerial perspective, adopting more flexible models, such as participatory management or network structures, helps organizations to optimize their innovation capability and to utilize their employees more (Hamel, 2007). According to Kotter (2012), organizational agility is critical to responding to economic and technological developments.

The inclusion of digitalization into management functions, especially related to human resources and financial management, is yet another performance lever. In the human resources area, digital tools assist in talent management, employee engagement, and inter-departmental collaboration (Bresciani et al., 2021). Similarly, artificial intelligence and blockchain technologies, besides being beneficial for financial risk management, also pose concerns related to cybersecurity and technology obsolescence (Gomber et al., 2018).

Fitzgerald et al. (2014) found that the digitalization of organizational processes can reduce operating costs considerably, ensure financial transparency,

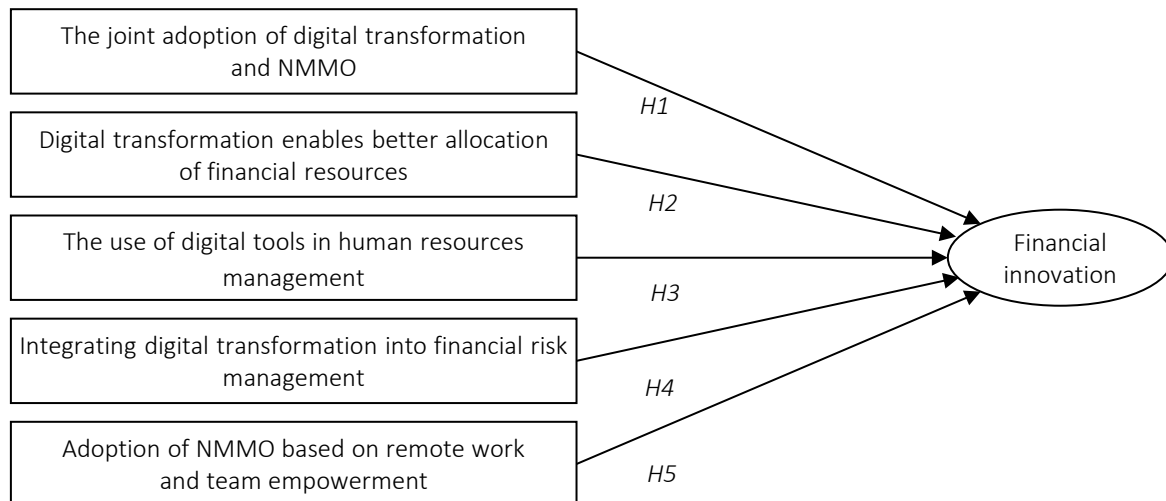


Figure 1. Conceptual model

and create more profit. Digital integration of management can also lead to innovation, particularly by creating more customization in products and services (Bughin et al., 2019).

Finally, Aghina et al. (2018) and Gajendran and Harrison (2007) discussed practices like remote work and empowerment of teams, because of their contributions to motivation, creativity, and organizational responsiveness.

While embracing digital transformation alongside new management methods can be a game-changer, it certainly comes with its fair share of hurdles. Companies need to tackle internal pushback, invest in building digital skills, and keep a close eye on implementation costs and data security risks (Davenport & Ronanki, 2018; Westerman et al., 2014; Vial, 2023).

The literature review shows that blending digitalization with innovative management techniques can be a game-changer for boosting both organizational and financial performance; that said, how well this works really hinges on how strategically aligned these efforts are, how adaptable the companies are, and how proactively they manage risks.

The study aims to establish the effects of digital transformation and the adoption of new management practices on the profitability and productivity of Moroccan SMEs, as demonstrated by the adoption of new organizational manage-

ment practices (NMMOs) combined with digital transformation, through the use of digital tools for human resources management, through the adoption of NMMOs focused on remote work and empowerment of teamwork, by the digital transformation of the financial resources department and the automation of financial flows.

The research hypotheses that were exposed to testing, based on the regression analysis, on a population of 104 Moroccan SMEs who had been digitized and embraced NMMOs, are the following:

H1: The joint adoption of digital transformation and NMMO improves the agility and adaptability of companies in a changing environment.

H2: The integration of digital transformation into financial resources management will increase the profit margin and improve the financial performance of companies.

H3: The use of digital tools in human resources management promotes employee engagement and satisfaction, positively impacting productivity.

H4: The integration of digital transformation in financial risk management systematically reduces companies' financial risks by automating processes and improving visibility on financial flows.

H5: The adoption of NMMO based on remote work and team empowerment has a positive effect on overall performance, fostering creativity and innovation.

Behind the hypotheses, Figure 1 illustrates the conceptual model that has a visual presentation to describe the relationships and factors that are important in the investigated study.

2. METHOD

2.1. Data collection

Empirical data were based on information gathered via face-to-face interviews from managers of Moroccan SMEs that adopted digitalization practice and NMMO. In this sense, it is necessary to mention the absence of a recorded database of Moroccan SMEs that have applied NMMOs and are undergoing digital transformation. Additionally, the analysis indicates a particular interest in the use of primary data (El Hammoumi et al., 2024).

We have thus sent a questionnaire on other themes besides the one addressed in this paper to the stakeholders such as business executives and managers, digital transformation and innovation leaders, operational managers and team leaders, employees and co-workers concerned, and academic researchers and experts. Interpersonal relationships were determinant in our studies, allowing appointments with respondents in view.

Using the questionnaire tool, we examined 104 of the initial 420 SMEs targeted, with a particular focus on those that went beyond a simple business

transaction between partners and were one year or older. Table 1 shows the breakdown of respondents by occupational category.

2.2. Data processing

After receiving the data, a processing stage was merged using two multivariate statistical tests with the assistance of SPSS 25 software.

The first test comprises factor analysis, i.e., principal component analysis (PCA), and Cronbach's alpha to scale the measurement scales of the conceptual model's dependent variable (digital transformation and adoption of NMMO in Moroccan SMEs). During this stage, a clear factorial structure has been reported for both versions of this variable, surpassing the Hair et al. (2006) standards for measurement scale validity and reliability (Table 2).

The second category of tests is used for multiple linear regression analysis. They are utilized to determine, on the one hand, whether the conceptual model in general holds, and on the other hand, whether each of its explanatory variables is significant.

3. RESULTS

Regarding the result of the test of the conceptual model (Table 3), the probability associated with the Fisher test under the ANOVA model presents a value below the 5% error threshold ($Sig = 0.000 < 0.05$), thus indicating null hypothesis rejection and that the model is significant in general. Precisely, the explained portion by the model (regression = 19.728) far surpasses the unexplained portion (residuals = 11.272).

Table 1. Summary of the population interviewed

Category	Specific Examples	Number	Percentage, %
Business leaders and managers	CEO, General Manager, Operations Director, Human Resources Director	18	17.31
Digital transformation and innovation leaders	Chief Digital Officer (CDO), responsible for IT, data analysts, digital transformation experts, and organization consultants	26	25.00
Operational managers and team leaders	Direct supervisors of teams applying remote work and the NMMO, Finance Managers	35	33.65
Employees and collaborators concerned	Employees working under new organizational patterns, teleworkers, and autonomous teams	15	14.42
Academic experts and researchers	Researchers specializing in management, digitalization, and innovation, change management, and organizational performance consultants	10	9.62
Total		104	100

Table 2. Validity and reliability of measurement scales

Components	Alpha Cronbach	Items	% variance explained	Number of items
The adoption of new methods of organizational management (NMMO) combined with digital transformation	0.735	<ul style="list-style-type: none"> Organizational flexibility and digital tools Team empowerment and digitalization of processes Data-driven decision making and new governance modes Change management and digital adoption Continuing training and digital learning 	76%	5
The use of digital transformation in financial resources management	0.736	<ul style="list-style-type: none"> Use of analytical tools to track financial indicators in real time The integration of AI for financial risk assessment Interactive dashboards help optimize budget management The use of blockchain or other technologies to secure financial transactions 	72%	4
The use of digital tools in human resources management	0.746	<ul style="list-style-type: none"> Digitalization of employee recruitment and integration Automated administrative management and payroll Online training and skills development via e-learning platforms. Performance assessment and talent management via a digital tool Digital engagement and internal communication 	71.542%	5
Adoption of NMMO based on remote work and team empowerment	0.730	<ul style="list-style-type: none"> Implementation of remote work Autonomy and accountability of teams Digitalization and collaborative tools Culture of feedback and remote performance monitoring 	69.758%	4
The use of digital transformation in financial risk management	0.743	<ul style="list-style-type: none"> Use of digital tools to identify, assess, and monitor financial risks Use of specialized software to automate the detection of financial anomalies and fraud The use of interactive dashboards to monitor financial risk indicators in real time The use of digital tools to detect suspicious behavior in financial transactions 	75.61%	4
Financial performance	0.793	<ul style="list-style-type: none"> Profitability and profit margins Growth and expansion Cost management and optimization of expenses Solvency and liquidity management Financial management effectiveness 	79.67%	5

Table 3. Regression indices of the ANOVA model

		ANOVA ^a				
Variable		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	19.728	5	3.945	34.008	.000 ^b
	Residuals	11.272	97	.116		
	Total	31	102			

Note: a. Dependent variable: financial performance. b. Predictors: (Constant), The adoption of new methods of organizational management (NMMO) combined with digital transformation, the use of digital transformation in financial resources management, the use of digital tools in human resources management, the adoption of NMMO based on remote work and team empowerment, and the use of digital transformation in financial risk management.

This is consistent with the value of the adjusted *R*-squared statistic (0.592) that also provides some insights regarding the quality of the econometric model (Table 4). Thus, it means that the variables reflecting the adoption of NMMO in the light of digital transformation among Moroccan SMEs explain 59.2% of the variance in their performance.

Regarding the assessment of the significance of the variables (Table 4), the Student's *t*-test values and probabilities generated by SPSS 25 indicate that four variables are significant ($t > 2$ and $\text{sig} < 5\%$). These variables are the adoption of new organizational management methods (NMMO) associated with digital transformation, the use of digital transformation in financial resource

Table 4. Summary of the models

Model	R	R-two	R-two adjusted	Standard error of estimate	Edit statistics					Durbin-Watson
					Variation of R-two	Variation of F	ddl1	ddl2	Sig. Variation of F	
1	.764 ^a	.592	.571	.39598	.592	34.008	5	99	.000	1.653

Note: a. Predictors: (Constant), The adoption of new methods of organizational management (NMMO) combined with digital transformation, the use of digital transformation in financial resources management, the use of digital tools in human resources management, adoption of NMMO based on remote work and team empowerment, the use of digital transformation in financial risk management. b. Dependent Variable: Financial performance.

management, the use of digital tools in human resource management, the adoption of NMMO based on remote work and team accountability, the use of digital transformation in financial risk management within Moroccan SMEs that have adopted NMMO and are undergoing a digital transformation.

This finding is in accordance with the first, second, third, and fifth hypotheses of our study. It is also noted that the variable “the use of digital transformation in financial risk management” has no

significant effect on the financial performance of Moroccan SMEs that have implemented NMMO and are experiencing a digital transformation. This is because digitalization is able to lower some risks, but also create new ones, such as cybersecurity or technological obsolescence. Student *t* index does not meet the guidelines that data analysis experts propose. We can therefore discard the hypothesis concerning this variable (H4).

Table 6 presents a summary of the results obtained.

Table 5. Coefficients^a of individual significance

Model	Non-standardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics		
	B	Error standard	Beta			Tolerance	VIF	
(Constant)	-.023	.510		-.045	.964			
1	The adoption of new methods of organizational management (NMMO) combined with digital transformation	.414	.189	.539	2.426	.017	.530	1.887
	The use of digital transformation in financial resources management	.324	.128	.246	2.527	.013	.537	1.676
	The use of digital tools in human resources management	.553	.069	.214	2.227	.008	.555	1.081
	Adoption of NMMO based on remote work and team empowerment	.287	.104	.336	2.761	.007	.576	2.803
	The use of digital transformation in financial risk management	-1.44	.070	-2.01	-1.047	0.043	.534	4.873

Note: a. Dependent Variable: Financial performance.

Table 6. Synthesis of hypotheses results

Hypotheses	Explanatory variables	Variables to explain	Coefficient β	Significance	t Student	Validation
H1	The adoption of new methods of organizational management (NMMO) combined with digital transformation	Financial performance	.414	.017	2.426	Confirmed
H2	The use of digital transformation in financial resources management	Financial performance	.324	.013	2.527	Confirmed

Table 6 (cont.). Synthesis of hypotheses results

Hypotheses	Explanatory variables	Variables to explain	Coefficient β	Significance	t Student	Validation
H3	The use of digital tools in human resources management	Financial performance	.553	0.008	2.227	Confirmed
H4	The use of digital transformation in financial risk management.	Financial performance	-1.44	0.043	-1.047	Discarded
H5	Adoption of NMMO based on remote work and team empowerment	Financial performance	.287	0.007	2.761	Confirmed

4. DISCUSSION

The use of digital tools in human resources management is the variable that explains most of the financial performance of digitized Moroccan SMEs adopting NMMOs ($\beta = 0.553$, $p = 0.008 < 0.01$). It has a positive influence on the financial performance of SMEs. Thus, the more SMEs are digitized and adopt NMMOs, the better their performance improves. This result is consistent with previous research. Fichman and Melville (2014) confirm that digital transformation strengthens companies' adaptability and enables them to use their human resources more efficiently, thus promoting growth and profitability. Gargallo-Castel and Galve-Górriz (2007) also claim that SMEs that adopt innovative management practices and support them with digital tools experience an increase in their competitiveness and financial performance.

The study supported the influence of new organizational management approaches (NMMO) and digital transformation ($\beta = 0.414$, $p = 0.017 < 0.05$). Thus, the more Moroccan SMEs utilize digital transformation and the adoption of NMMO, the better their financial performance. This view is complemented by some prior literature, e.g., Hammer and Champy (1993), who indicated the impact of organizational and digital change on business performance by means of increased process efficiency. In addition, Brynjolfsson and Hitt (2000) illustrated how the combination of digital transformation and organizational changes reinforces business performance.

This paper found the significant and positive contribution of the integration of digitalization in the allocation of financial resources on the financial performance of Moroccan SMEs ($\beta = 0.324$, $p = 0.013 < 0.05$). Thus, the more Moroccan SMEs integrate digitalization into their financial resource allocation,

the better their financial performance. This finding is echoed in some earlier research, such as the study by Fink (2011), which highlights the link between digital capabilities, financial optimization, and performance of SMEs. Moreover, Kohli and Grover (2008) explored how the strategic use of digital technologies can optimize resource allocation and improve business profitability.

Next, the paper confirmed the significant and positive contribution of the adoption of NMMO based on remote work and team empowerment on the financial performance of Moroccan SMEs ($\beta = 0.287$, $p = 0.007 < 0.01$). Thus, the more Moroccan SMEs adopt NMMO based on remote work and team empowerment, the better their financial performance. This finding is echoed by Gibson and Gibbs (2006), who showed that team empowerment and virtual management promote innovation and organizational performance. Additionally, Tortorella et al. (2021) highlighted the role of empowerment and remote work in improving the financial and organizational performance of digitized companies.

The conclusions of our analysis also reveal that the use of digitalization to manage financial risks has no effect on the financial performance of Moroccan SMEs that have adopted NMMOs and are undergoing digital transformation ($\beta = -1.44$, $p = 0.043 < 0.01$). This result is explained by the fact that digitalization can reduce some risks, but it can also create new ones, such as cybersecurity or technological obsolescence. This finding is echoed by Romanosky (2016), who explores the impact of cyber incidents on corporate financial performance, reinforcing the idea that digitalization can create as many risks as it eliminates. Finally, Luo et al. (2011) discussed how digital transformation exposes businesses to new types of risk, including phishing attacks and internal fraud.

CONCLUSION

This study investigated how digital transformation and new management strategies affect the financial performance of small and medium-sized enterprises (SMEs) in Morocco. By analyzing a sample of 104 SMEs that are undergoing changes, the findings reveal that four key aspects of digital transformation and managerial innovation significantly influence their financial outcomes.

The results underscore that the success of digital transformation hinges on how well it aligns with the existing organizational practices. In this regard, the study adds valuable insights to the fields of managerial innovation and digitalization, emphasizing the critical roles of agility, collaboration, team empowerment, and the application of digital tools in decision-making processes.

However, it is important to acknowledge some limitations. The relatively small number of firms in the sample restricts the generalizability of the findings. Additionally, certain vital aspects, like artificial intelligence, big data management, and agile methodologies, were not included in the analysis.

These insights pave the way for future research opportunities, such as broadening the study to encompass other sectors and regions, as well as incorporating additional technological and organizational factors.

AUTHOR CONTRIBUTIONS

Conceptualization: El Mahdi El Massaoudi.

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Project administration: Mohamed Karim Bennacer, Mohamed Lahmouchi.

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Supervision: El Mahdi El Massaoudi, Meriem Rachid, Nabil Seghyar, Mohamed Lahmouchi.

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Writing – original draft: El Mahdi El Massaoudi, Mohamed Karim Bennacer, Ahmed El Hammoumi, Nabil Seghyar.

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