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The Impact of Digital Transformation on Business Model Innovation: Evidence from Companies Listed on the Casablanca Stock Exchange

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Abstract

This study investigates the impact of digital transformation on business model innovation (BMI) using a sample of 45 companies listed on the Casablanca Stock Exchange. Drawing on a quantitative approach, the study employs Ordinary Least Squares (OLS) regression and Propensity Score Matching (PSM) to examine the relationship between digital transformation and the three core dimensions of BMI: value proposition, value creation, and value capture.

Digital transformation is measured through content analysis of annual reports using a keyword-based approach, while BMI dimensions are proxied by financial indicators. The empirical findings reveal that digital transformation does not have a statistically significant impact on value proposition and value creation innovation. However, it exhibits a negative and significant effect on value capture innovation, suggesting that firms undergoing digital transformation may face short-term challenges in appropriating value.

These results highlight that digital transformation is not an automatic driver of innovation and performance. Instead, it is a complex and resource-intensive process that requires strategic alignment and complementary organizational capabilities. The study contributes to the literature by providing empirical evidence from an emerging market context and by demonstrating that the benefits of digital transformation may vary across different dimensions of business model innovation

Keywords: Digital Transformation; Business Model Innovation; Value Proposition; Value Creation; Value Capture; PSM

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Introduction

Digital transformation has been conceptualized in various ways in the managerial literature, with several common elements emerging across definitions.

Transformation as a process: Digital transformation is not a single step (Feroz and al., 2021). Digital transformation involves change: The word "transformation" implies change, but the critical question debated in Anglo-Saxon literature is determining what this change entails. The change is related to the company's business model, meaning digital transformation changes how a company creates and delivers value to customers. Digital transformation, therefore, involves new business models (Verhoef and al., 2019). It affects the entire company and changes the company's business logic. This shift in business models is a strategic change, and digital transformation leads to innovative business models.

Digital transformation as a strategy: Business strategy research has followed the development of digital transformation in companies. These studies highlight the concept of the digital transformation strategy, which discusses the opportunities and threats of digital technologies for companies. On the other hand, they consider digital transformation strategy as the plan that supports companies in governance and transformation that occurs during digital technology integration and operations after the transformation. Thus, a digital transformation strategy involves strategic planning to allocate the necessary resources for digital transformation to achieve the company's goals (Verhoef and al., 2019).

Digital transformation as innovation: Digital transformation constitutes a disruptive phenomenon that will structurally modify companies' organizational, economic, and societal models. It is a profound change that impacts the company's traditional functions (marketing, production, human resources), influences its hierarchical levels, and radically restructures its various processes (functional or business). Furthermore, it relies on adopting new practices tied to the digital context, such as collaborative intelligence and open innovation... (Oumil, 2020).

Digital transformation as the transformation resulting from the implementation of digital technologies: It affects at least three of the seven dimensions identified by Lucas. Digital transformation is part of what (Dussart, 2015) calls innovation through complete transformation, which is the fourth and final type of innovation alongside process innovation, product innovation, and innovation in customer experience enhancement. As an innovation strategy, digital transformation supports company performance by introducing new ICT investments or strengthening the use of existing ICTs (Deltour & Lethiais, 2014). (Ferhan, 2019).

In the other hand, **Business Model Innovation (BMI)** has gained increasing attention in recent years and is considered a major emerging field in strategic management (Hope et al., 2015). However, despite its growing importance, the concept remains ambiguously defined in the literature, as many studies do not provide a precise definition.

In general, BMI refers to organizational actions aimed at adding new activities, linking activities in innovative ways, or changing the actors performing these activities (Clauß et al., 2019). Similarly, it involves enhancing customer value while simultaneously developing new mechanisms for value creation and revenue generation, enabling firms to capture value in novel ways (Matzler et al., 2013; Schaller & Vatananan-Thesenvitz, 2019). It is also described as the

search for new logics and methods for value creation and capture (Casadesus-Masanell & Zhu, 2013, cited in Rezazadeh & Carvalho, 2018). In this sense, BMI represents an organizational innovation that allows firms to redefine value propositions and improve value creation and capture for stakeholders (Ramdani et al., 2019).

Overall, BMI focuses on discovering new ways to generate revenue and redefine value propositions, either by modifying existing business models or creating entirely new ones (Hu et al., 2020).

BMI can be decomposed into three main dimensions:

Value Proposition Innovation : This dimension focuses on redefining what the firm offers to customers by identifying new needs, targeting new customer segments, and enhancing perceived benefits. Firms innovate by introducing new products/services, improving or adapting existing offerings, or altering their symbolic value (Ramadani et al., 2019; Rezazadeh & Carvalho, 2018). Key determinants include design, pricing, accessibility, branding, and customization, with increasing emphasis on personalization enabled by technology.

Value Creation Innovation: This dimension concerns how firms develop and deliver products or services through new processes, resources, and capabilities (Clauss, 2016). It involves reconfiguring internal resources (human, financial, technological) and reorganizing activities to improve efficiency and competitiveness. Unlike process innovation, value creation innovation emphasizes resource recombination and capability development, making it more difficult for competitors to imitate (Amit & Zott, 2001).

Value Capture Innovation: This dimension relates to how firms generate profits by modifying revenue streams and cost structures (Osterwalder & Pigneur, 2010). It includes:

- Pricing strategies, such as segmentation and freemium models,
- Access to financing, including crowdfunding mechanisms,
- Cost optimization, through automation, outsourcing, and efficient resource use (Rezazadeh & Carvalho, 2018).

These innovations enable firms to improve profitability by increasing revenues or reducing operational costs.

Despite the growing body of literature on digital transformation, most prior studies emphasize its positive effects on firm performance and innovation outcomes. However, limited attention has been paid to the potential non-linear and short-term negative impacts of digital transformation, particularly in emerging market contexts.

In addition, the relationship between digital transformation and the different dimensions of business model innovation remains underexplored, as most studies treat business model innovation as a homogeneous construct. This lack of distinction may obscure important differences in how digital transformation affects value proposition, value creation, and value capture.

Therefore, this study aims to fill this gap by providing empirical evidence on the differentiated and potentially asymmetric effects of digital transformation on business model innovation in the context of Moroccan listed firms.

The objective of this article is to address the following research question: ***To what extent does digital transformation contribute to business model innovation?***

To answer this question, we conduct an empirical study based on a sample of 45 companies listed on the Casablanca Stock Exchange. The study aims to analyze how digital transformation influences the different dimensions of business model innovation, namely value proposition, value creation, and value capture.

1. Literature review

In this literature review, we analyze studies that have examined the impact of digital transformation on business model innovation through its three dimensions, namely: value proposition innovation, value creation innovation, and value capture innovation

1. 1 Digital transformation and value proposition innovation

The ways in which value is proposed to customers are also subject to significant changes due to digital transformation. These changes stem from the need to acquire and apply new capabilities, redefine processes and activities according to an evolving perspective that supports global delivery, and revise roles and responsibilities within industrial ecosystems (Parida, Sjödin, & Reim, 2019).

A review of the literature shows that digital transformation enables firms to create new value propositions in several ways. Researchers have identified several impacts of digital transformation on value propositions that can be summarized in four main dimensions.

First, digital transformation enables firms to create new value propositions by revising and extending their existing portfolio of products and services. This extension particularly involves the dematerialization of physical products and the shift from a product logic to a service logic. Digital transformation also enhances existing value propositions. For instance, online banking applications and platforms have significantly improved banking services by facilitating operations such as transfers and payments (Parmentier & Gandia, 2022).

Similarly, digital transformation generates new needs that may lead to new value propositions. For example, the need for secure online payments has led to the emergence of digital payment platforms such as PayPal.

In addition, digital transformation simplifies customers' lives by providing multiple ways to use products through tutorial videos and online documentation. This approach can simultaneously create new value propositions and attract new customers. For instance, the Nickel Bank has simplified the process of opening bank accounts online and accessing banking services through various proximity points rather than traditional bank branches.

Second, digital transformation allows firms to adjust value propositions by better understanding customer needs and offering new value propositions aligned with their expectations. One type of value proposition involves high levels of customer personalization (Vaska et al., 2021, p. 4). This personalization can be achieved through various approaches, such as adding new functionalities to products and services, offering customized products and services through personalized configurations, or commercializing products and services that are not yet finalized in order to obtain customer feedback (as in the case of video games) (Parmentier & Gandia, 2022).

Third, digital transformation, through automation and optimization, allows firms to reduce production costs, particularly by lowering storage and distribution costs. Direct sales to customers also enable closer relationships with them and therefore constitute an important source of innovation through a better understanding of customer needs.

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Fourth, digital transformation can transform customer bases. The addition of digital functionalities to physical products enables firms to reach new customers and new market segments.

Finally, digital transformation opens the value proposition process. Products and services are no longer designed exclusively by organizations but are also co-created by online user communities that can modify existing value propositions or even create entirely new ones (Parmentier & Gandia, 2022, 166).

Therefore, we formulate the following hypothesis:

H 1: Digital transformation positively impacts value proposition innovation.

1.2 Digital transformation and value creation innovation

(Parmentier and Gandia, 2022) identify several impacts of digital transformation on value creation innovation:

• Reduction of production costs: Several digital technologies (additive manufacturing, artificial intelligence, automation, etc.) allow firms to reduce production costs while improving the quality of products and services, particularly through the reduction of storage and distribution costs.

• Opening value creation: Similar to value propositions, value creation processes are becoming more open thanks to platforms such as crowdsourcing platforms, which enable organizations to collect ideas from external contributors to solve specific problems.

• Reconfiguration of the value chain: Digital transformation can drive innovation in the value chain either through disintermediation (the disappearance of intermediaries due to e-commerce platforms) or through the emergence of new intermediaries, such as websites that compare bank credit rates, for example the Moroccan platform Afdal.

• Economies of scale: Digital platforms require significant initial investment, but their marginal implementation cost remains relatively low.

Therefore, we propose the following hypothesis:

H 2: Digital transformation positively impacts value creation innovation.

1.3 Digital transformation and value capture innovation

Digital transformation contributes to value capture innovation through changes in revenue sources and pricing mechanisms.

Regarding revenue sources, digital transformation introduces the principle of "third-party payment," which consists of providing a free service to users while revenue is generated from other parties. A typical example is searching engines and video platforms such as YouTube, which offer free services to users while generating revenue through advertising.

Moreover, digital transformation has enabled a shift from ownership models to access-based models, where customers pay for access to a service rather than owning the product. For example, customers may purchase temporary access to an application or software.

Regarding pricing mechanisms, digital transformation enables usage-based pricing models, such as insurance pricing based on the number of kilometers driven by vehicles, made possible by GPS technologies (Parmentier & Gandia, 2022).

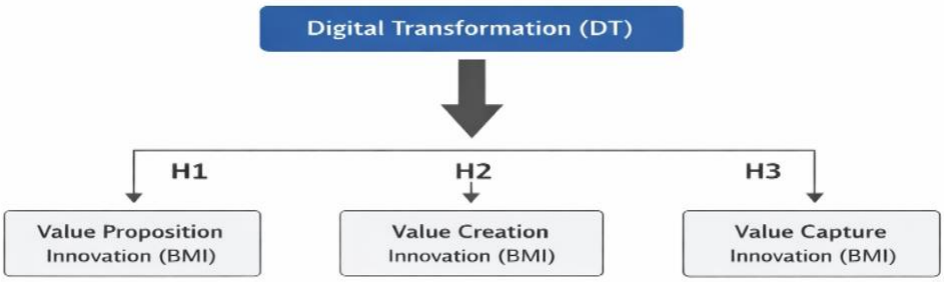
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Therefore, we formulate the following hypothesis:

H 3: Digital transformation positively impacts value capture innovation

The figure N 1 present the research model

Figure N° 1 : Research Model



Source: Established by authors

While the majority of prior studies highlight the positive role of digital transformation in enhancing innovation and firm performance, several recent works suggest more nuanced and sometimes contradictory effects. In particular, digital transformation may generate short-term performance declines due to high investment costs, organizational disruptions, and misalignment between digital initiatives and existing business models.

This suggests that the impact of digital transformation is not universally positive and may depend on firms' ability to develop complementary capabilities and align digital strategies with their business models. Therefore, adopting a more critical and balanced perspective is essential to better understand the complex relationship between digital transformation and business model innovation**.**

2. METHODOLOGY

2.1 Sample and Data Collection

This study investigates the impact of digital transformation on business model innovation using a sample of 45 companies listed on the Casablanca Stock Exchange. The data were collected from firms' annual reports for the year 2023, which provide comprehensive information on financial performance, organizational characteristics, and strategic initiatives. The selection of listed companies ensures data reliability and comparability across firms.

All result tables were generated using the Python programming language.

2.2 Measurement of Variables

Digital transformation is measured using a content analysis approach based on firms' annual reports. Following prior studies (e.g., Chen & Li, 2022; Ying & Jin, 2023), a predefined list of digital transformation-related keywords (e.g., "digitalization", "big data", "artificial intelligence", "cloud computing") is used.

The TN score is calculated as follows:

$$TN_i = \frac{\text{Number of digital keywords in firm } i}{\text{Total number of words in the report}}$$

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This measure captures the relative intensity of digital transformation discourse within firms. The keyword list is derived from prior studies (Chen & Li, 2022; Ying & Jin, 2023) and includes terms such as "digitalization", "artificial intelligence", "big data", and "cloud computing".
According to Xuab and Bin Abdul Kohara (2022) Business model innovation is measured by his three dimensions by:

- Value Creation (BMI Creation): measured using financial indicators (liquidity ratio and capital structure).
- Value Proposition (BMI Proposition): proxied by operational efficiency indicators (asset turnover and inventory turnover).
- Value Capture (BMI Capture): measured using performance indicators (revenue growth, profit growth, and operating profitability).
- To ensure comparability across dimensions and to avoid scale heterogeneity, all BMI variables were standardized using z-score transformation. This procedure results in variables with a mean of zero and a standard deviation close to one.

To isolate the effect of digital transformation, the following control variables are included:

- Firm Age (Age): number of years since firm creation
- Firm Size (Salaries): measured by the number of employees
- Sector Effects: dummy variables to control for industry-specific heterogeneity

2.3 Econometric Model

To test the research hypotheses, the following regression model is estimated:

$$BMI_i = \beta_0 + \beta_1 TN_i + \beta_2 Age_i + \beta_3 Size_i + \sum Sector + \varepsilon_i$$

Three separate models are estimated for each BMI dimension:

- Model 1: BMI Proposition
- Model 2: BMI Creation
- Model 3: BMI Capture

Ordinary Least Squares (OLS) regression is used for estimation.

2.4 Robustness Check: Propensity Score Matching (PSM)

To address potential selection bias, a Propensity Score Matching (PSM) approach is applied. Firms are divided into two groups based on their level of digital transformation (high vs. low TN). The propensity scores are estimated using a logistic regression model with Age and Size as covariates.
A nearest-neighbor matching method is then used to match treated and control firms. After matching, regression analyses are re-estimated on the matched sample to assess the robustness of the results.

2.5 Diagnostic Tests

Several diagnostic tests are conducted to ensure the validity of the models:

- Multicollinearity test (VIF): to verify that independent variables are not highly correlated
- Correlation analysis: to explore relationships between variables
- Model significance tests (F-statistic and p-values): to assess overall model fit

3. Results and discussions

This section begins with the presentation of descriptive statistics results

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3.1 Descriptive statistics

Table 1 : the descriptive statistics of the variables used in the empirical analysis.

Variable	Count	Mean	Std Dev	Min	Median	Max
TN	45	0.208	0.215	0.001	0.141	0.826
BMI Creation	45	0.00	1.29	-3.79	0.15	5.50
BMI Proposition	45	0.00	1.24	-2.88	0.13	3.42
BMI Capture	45	0.00	1.35	-4.31	-0.21	3.01
Age	45	62.95	31.52	9	61	113
Effectif	45	2831	4199	83	1255	20467

Source: Established by authors

Table 1 shows significant variability across the variables. The average digital transformation score (TN) is 0.208, indicating moderate levels of digital transformation among Moroccan listed companies.

To ensure comparability across dimensions and to avoid scale heterogeneity, all BMI variables were standardized using z-score transformation. This procedure results in variables with a mean of zero and a standard deviation close to one.

3.2 Correlation matrix

Table 2 : The correlation matrix between the study variables.

Variables	Age	Salarié	TN	BMI Creation	BMI Proposition	BMI Capture
Age	1.000	0.069	0.066	0.122	-0.034	-0.151
Salarié	0.069	1.000	0.573	-0.001	-0.024	-0.282
TN	0.066	0.573	1.000	0.026	0.059	-0.423
BMI Creation	0.122	-0.001	0.026	1.000	0.000	0.000
BMI Proposition	-0.034	-0.024	0.059	0.000	1.000	0.000
BMI Capture	-0.151	-0.282	-0.423	0.000	0.000	1.000

Source: Established by authors

The correlation matrix provides preliminary insights into the relationships between digital transformation (TN), firm characteristics, and business model innovation (BMI) dimensions. The most notable finding is a moderate negative correlation between TN and value capture innovation (BMI Capture) (r = -0.423), suggesting that higher levels of digital transformation may be associated with a temporary decline in firms' ability to capture value, possibly due to high implementation costs, organizational adjustments, or misalignment between digital strategies and revenue models. In contrast, TN shows no significant relationship with value

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creation (r = 0.026) or value proposition (r = 0.059), indicating that digital transformation does not directly translate into improvements in these dimensions in the short term. Additionally, firm size (measured by the number of employees) is positively correlated with TN (r = 0.573), implying that larger firms are more likely to adopt digital technologies, while it is negatively associated with value capture (r = -0.282), suggesting potential inefficiencies in larger organizations. Finally, firm age exhibits weak correlations with all variables, indicating a limited influence. Overall, the absence of high correlations (above 0.7) suggests no serious multicollinearity issues, supporting the validity of subsequent regression analyses.

The near-zero correlations between the three BMI dimensions suggest that they capture distinct and non-overlapping aspects of business model innovation. Therefore, estimating separate regression models for each dimension is appropriate to avoid aggregation bias and to better isolate the specific impact of digital transformation on each component

3.3 Regression results

Table 3 : The table of regression

Variables	BMI Creation Model	BMI Proposition Model	BMI Capture Model
TN	0.211 (0.186)	0.573 (0.578)	-1.956 (-2.248)
Age	0.005 (0.785)	-0.001 (-0.225)	-0.004 (-0.868)
Salaries	-0.000 (-0.159)	-0.000 (-0.444)	-0.000 (-0.314)
Sector Effect	Yes	Yes	Yes
Adj R^2	0.012	0.009	0.156
F (p-value)	0.48 (0.70)	0.37 (0.77)	2.85 (0.049)
Observations	45	45	45

Source: Established by authors

From an economic perspective, the negative coefficient associated with digital transformation in the value capture model suggests that an increase in digital transformation intensity is associated with a decline in firms' ability to appropriate value in the short term. Although the effect is statistically significant, it should be interpreted with caution given the relatively low explanatory power of the model.

This finding indicates that digital transformation may initially generate costs and inefficiencies that outweigh its benefits, particularly during early implementation stages.

Table 3 reports the regression results examining the impact of digital transformation (TN) on the three dimensions of business model innovation. The results show that TN does not have a statistically significant effect on value creation and value proposition. Although the estimated coefficients are not statistically significant, their magnitude is not necessarily negligible. The lack of significance suggests that digital transformation does not exert a robust effect on value proposition innovation and value creation innovation within the sample. This finding supports the argument that digital transformation may involve short-term costs, structural adjustments, and inefficiencies that negatively affect value appropriation. Regarding control variables, neither firm age nor firm size shows a significant impact across the models. The adjusted R^2 values indicate a relatively low explanatory power for value creation and value proposition models, while the value capture model shows a relatively higher explanatory capacity.

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Although the overall model for value capture is statistically significant (F-test), the relatively low adjusted R^2 indicates that a substantial proportion of the variance remains unexplained. This suggests that additional factors beyond digital transformation may influence value capture innovation. Overall, these findings highlight that the benefits of digital transformation may not be immediate and may differ across the components of business model innovation.

3.4 Multicollinearity test

Table 4: The Variance Inflation Factor (VIF) values for the explanatory variables.

Variable	VIF
TN	2.71
Age	1.75
Salaries	2.18

Source: Established by authors

The results show that all VIF values are well below the conventional threshold of 5, indicating the absence of serious multicollinearity issues."

3.5 Propensity Score Matching (PSM).

Table 5: The balance diagnostics after Propensity Score Matching (PSM)

Variable	Treatment (Mean); N = 22	Control (Mean); N = 22	p-value
TN	**0.346**	**0.093**	**0.000*** **
Age	**63.681**	**69.863**	**0.526**
Salaries	**3704.636**	**2968.727**	**0.188**
PSCORE	**0.508**	**0.495**	**1.000**

Source: Established by authors

Table 5 reports the balance diagnostics after Propensity Score Matching (PSM). The results indicate that the matching procedure is effective. As expected, the treatment variable (TN) remains significantly different between the two groups, confirming the validity of the treatment assignment. In contrast, no significant differences are observed for the control variables (Age and Salaries), suggesting a satisfactory balance after matching.

Subsequently, we present the PSM results for each model of BMI

Table 6 : PSM Regression Results – BMI Creation

Variable	Coefficient	t-statistic
Intercept	**-0.412**	**-1.205**
TN (Treatment)	**-0.376**	**-1.100**
Age	**0.006**	**0.842**
Salarie	**-0.000**	**-0.210**
Sector Effect	**Yes**	
Adj R^2	**0.028**	
F-statistic	**0.912**	
F p-value	**0.445**	
Observations	**44**	

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Source: Established by authors

Table 7: PSM Regression Results – BMI Proposition

Variable	Coefficient	t-statistic
Intercept	0.015	0.042
TN (Treatment)	0.225	0.614
Age	-0.002	-0.302
Salarie	-0.000	-0.398
Sector Effect	Yes	
Adj R^2	0.012	
F-statistic	0.543	
F p-value	0.654	
Observations	44	

Source: Established by authors

Table 8 : PSM Regression Results – BMI Capture

Variable	Coefficient	t-statistic
Intercept	0.698	1.845
TN (Treatment)	-0.521	-1.785
Age	-0.005	-0.901
Salarie	-0.000	-0.287
Sector Effect	Yes	
Adj R^2	0.134	
F-statistic	2.476	
F p-value	0.074	
Observations	44	

Source: Established by authors

The PSM regression results across the three models provide additional evidence regarding the impact of digital transformation on business model innovation. The findings indicate that digital transformation (TN) does not have a statistically significant effect on value creation and value proposition, as shown by the insignificant coefficients in the first two models. In contrast, the results for value capture reveal a negative and marginally significant effect ($\beta = -0.521$, $t = -1.785$), suggesting that firms with higher levels of digital transformation may face challenges in capturing value, even after controlling for selection bias through matching. This outcome is consistent with the baseline OLS results, although the level of significance is weaker. Overall, these findings suggest that the negative impact of digital transformation on value capture should be interpreted with caution.

The findings of this study are consistent with prior research highlighting the complex and non-linear nature of digital transformation. In particular, studies such as Westerman et al. (2014) and Kane et al. (2015) emphasize that digital transformation requires substantial investments and organizational changes, which may negatively affect firm performance in the short term.

Our results extend this perspective by showing that these challenges are particularly evident in the value capture dimension, where firms may struggle to translate digital initiatives into immediate financial returns.

The empirical findings provide important insights into the relationship between digital transformation and business model innovation. Contrary to expectations, the results show that digital transformation does not have a significant impact on value creation and value proposition innovation, leading to the rejection of H 1 and H 2. These findings suggest that digital transformation alone is not sufficient to enhance firms' capabilities in designing new value offerings or improving internal value creation processes. One possible explanation is that digital transformation requires complementary organizational capabilities, such as dynamic capabilities, strategic alignment, and human capital development, which may not be immediately available within firms.

More importantly, the results reveal a negative and statistically significant effect of digital transformation on value capture innovation, leading to the rejection of H 3. This finding indicates that higher levels of digital transformation are associated with a decline in firms' ability to appropriate value. This result can be explained by several factors. First, digital transformation often involves substantial upfront investments in technology, infrastructure, and training, which may reduce short-term profitability. Second, firms undergoing digital transformation may face organizational disruptions, inefficiencies, and resistance to change, which can negatively affect revenue generation. Third, the misalignment between digital strategies and existing business models may weaken firms' ability to effectively monetize digital initiatives.

These findings are consistent with prior studies suggesting that digital transformation is a complex and resource-intensive process that does not automatically lead to improved firm performance (e.g., Westerman George et al., 2014; Kane Gerald C. et al., 2015). In particular, these studies highlight that the benefits of digital transformation depend on the firm's ability to integrate digital technologies into a coherent strategic framework.

Overall, this study contributes to the literature by demonstrating that digital transformation may generate short-term performance trade-offs, especially in terms of value capture, and that its impact on business model innovation is neither automatic nor uniformly positive. These results highlight the need for managers to carefully align digital initiatives with their business models and to develop complementary capabilities to fully leverage the potential of digital transformation.

Conclusion

This study aimed to examine the impact of digital transformation on business model innovation within firms listed on the Casablanca Stock Exchange. Using a quantitative approach based on regression analysis and Propensity Score Matching (PSM), the findings provide nuanced insights into how digital transformation influences the different dimensions of business model innovation, namely value creation, value proposition, and value capture.

The results reveal that digital transformation does not have a significant effect on value creation and value proposition innovation, suggesting that the mere adoption of digital technologies is not sufficient to enhance firms' ability to design new value offerings or improve internal

processes. More importantly, the study highlights a negative and statistically significant impact of digital transformation on value capture innovation, indicating that firms undergoing digital transformation may face difficulties in appropriating value, particularly in the short term.

These findings contribute to the literature by challenging the widely held assumption that digital transformation automatically leads to improved firm performance and innovation outcomes. Instead, the results emphasize the complex, resource-intensive, and potentially disruptive nature of digital transformation processes. The study demonstrates that without proper strategic alignment and complementary capabilities, digital transformation may generate short-term performance trade-offs rather than immediate benefits.

From a theoretical perspective, this study contributes to the literature by demonstrating that digital transformation does not produce uniformly positive effects on business model innovation. Instead, its impact is heterogeneous across different dimensions and may be contingent upon firms' capabilities and strategic alignment.

This finding challenges the dominant assumption of a linear relationship between digital transformation and innovation and highlights the importance of considering short-term trade-offs and contextual factors.

From a managerial perspective, the findings suggest that firms should not view digital transformation as a purely technological initiative, but rather as a strategic transformation requiring organizational adaptation, investment in human capital, and alignment with existing business models. Managers should carefully plan and implement digital strategies to ensure that they contribute effectively to value capture and long-term performance.

This study has several limitations. First, the relatively small sample size (45 firms) may limit the generalizability of the findings. Second, the measurement of digital transformation based on keyword analysis may not fully capture the depth and quality of digital initiatives. Third, the use of financial indicators as proxies for business model innovation may not fully reflect its conceptual richness. Future research could address these limitations by using larger samples, longitudinal data, and alternative measurement approaches, such as survey-based or qualitative indicators.

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