



AI and Organizational Readiness as Catalysts for Digital Transformation in Firm Performance of Shanghai's Publishing Industry

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ABSTRACT

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In the digital era, traditional publishing enterprises in Shanghai face unprecedented challenges and opportunities driven by technological advancements. This study explores how Artificial Intelligence (AI) adoption and Organizational Readiness (OR) influence Firm Performance (FP), with Digital Transformation (DT) serving as a mediating variable. Drawing on the Technology Acceptance Model (TAM) and Theory of Planned Behavior (TPB), a quantitative survey of 260 managers was conducted, and data were analyzed using Structural Equation Modeling (SEM). The findings reveal that AI positively impacts digital transformation but does not directly enhance firm performance without strategic integration. Organizational readiness, surprisingly, exhibited a negative effect on digital transformation, indicating potential cultural or strategic barriers. Digital transformation positively influenced firm performance and significantly mediated the relationships between both AI and FP, and OR and FP. The results underscore that effective digital transformation is essential to translate technological and organizational initiatives into performance gains. This study provides theoretical insights into technology adoption in traditional sectors and offers practical strategies for fostering successful digital transformation initiatives in legacy industries.

KEYWORDS:

Artificial Intelligence (AI), Organizational Readiness, Digital Transformation, Firm Performance, Traditional Publishing

1.0 INTRODUCTION

In the heart of Shanghai, the traditional publishing sector is undergoing a transformative shift, spurred by the digital era's relentless advances (Wu, 2022). This transition is not just about adopting new technologies; it's a redefinition of centuries-old practices, prompted by the emergence of Artificial Intelligence (AI) and digital technologies. This paper delves into how AI and organizational readiness are redefining the performance of traditional publishing enterprises in Shanghai, with digital transformation serving as a crucial mediator in this evolution.

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1.1 Background

China's publishing history dates to its ancient culture, characterized by significant advancements like woodblock printing in the Tang Dynasty and the introduction of moveable type (Chen, 2024). These technologies have had significant impacts on the transmission of culture and literacy, thoroughly integrating publishing into the fabric of society. Nevertheless, the digital revolution, marked by swift technology progress and changing consumer demands, poses a challenge for these conventional strongholds to adapt or face becoming outdated.

The incorporation of AI into this significant combination signifies a crucial transformation (De Sousa et al., 2019). AI offers operational efficiency by automating tasks, improved decision-making through data analytics, and individualized customer interactions using learning algorithms (Bharadiya, 2023). However, implementing these technologies in conventional businesses such as publishing is filled with

difficulties. The change necessitates a comprehensive overhaul of not only technical advancements but also company processes and cultural standards.

Organizational readiness is a crucial factor in this situation, comprising technological, cultural, and strategic aspects (Machado et al., 2021). The efficient utilization of these changes requires more than just the implementation of new tools; it necessitates the reconfiguration of organizational structures and mindsets to fully embrace and exploit them. Shanghai's historic publishing firms are facing the realities of digital transformation, which is a common trend happening in several sectors worldwide. Their experience represents a larger story of how tradition and innovation intersect in the face of digital change (Flew et al., 2019).

1.2 Problem Statement

The incorporation of artificial intelligence (AI) and digital technologies into Shanghai's traditional publishing sector is faced with numerous obstacles arising from various aspects (Wang, 2019). The technical divide is the main concern. Several conventional publishing companies lack the essential digital framework, which hinders their capacity to efficiently embrace and incorporate emerging technology such as AI (Todaro, 2024). This gap encompasses not just the physical aspects of hardware, but also includes software and technical knowledge.

There is a notable obstacle in terms of culture, which is caused by the existing resistance to change inside the organization (Hradecky, 2022). A significant number of companies in this industry adhere to established customs and procedures that are unyielding to alteration. The workforce, which is typically deeply rooted in traditional practices, may perceive digital technologies as a menace rather than a facilitator. The lack of comprehension and proficiency in digital technology is further exacerbated by a deficiency in knowledge and literacy across all echelons of the company, ranging from senior executives to frontline employees (Kinkel, 2022).

In addition, company readiness for digital transformation includes not just technological and cultural preparedness, but also necessitates strategic readiness. Numerous companies do not own a distinct digital strategy that is in harmony with their business goals. In the absence of strategic guidance, attempts to use digital technology might lack coherence and efficiency, resulting in the squandering of resources and the overlooking

of opportunities (Machado et al., 2021).

To tackle these difficulties, it is necessary to make a focused endeavor to enhance technology capabilities and foster a digital mentality throughout the firm. It encompasses the process of providing instruction and improving skills, creating a long-term plan, and ensuring strong dedication from leaders to bring about the required changes in culture and operations for digital transformation.

1.3 Significance of the Study

This research is important since it focuses on the pressing requirement for traditional publishing companies in Shanghai to comprehend and utilize the capabilities of AI and organizational readiness in effectively managing the challenges of digital transformation. This study attempts to provide a detailed understanding of how technological improvements and organizational strategies interact to influence business performance by analyzing the function of digital transformation as a mediator.

This research is anticipated to provide useful insights into the strategic planning required for traditional publishing houses to succeed in a marketplace that is predominantly digital. These insights will provide tactics for increasing the use of AI, raising the readiness of organizations, and eventually, gaining a long-lasting competitive advantage through digital transformation (Jöhnk, Weißert, & Wyrтки, 2021). This study makes a valuable contribution to the wider discussion on digital transformation in culturally diverse and technologically advancing economies by examining the specific context of Shanghai's conventional publishing business. The findings of this research have significant consequences, offering a clear plan of action for other companies who are encountering comparable transitional difficulties.

To summarize, this research aims to shed light on how Shanghai's conventional publishing organizations can adapt to the digital era, considering their historical legacy and technical innovation. The incorporation of artificial intelligence, supported by the preparedness of the organization and facilitated by digital transformation, is crucial for accessing new levels of effectiveness, consumer interaction, and commercial expansion. This guarantees the significance and durability of this esteemed industry in response to worldwide digital patterns.

1.4 Research Objectives

RO1: To examine the impact of Artificial Intelligence on Firm Performance of Traditional Publishing Enterprise in Shanghai

RO2: To determine the impact of organizational readiness on Firm Performance of Traditional Publishing Enterprise in Shanghai

RO3: To explore the impact of Artificial Intelligence on Digital Transformation of Traditional Publishing Enterprise in Shanghai

RO4: To investigate the impact of organizational readiness on Digital Transformation of Traditional Publishing Enterprise in Shanghai

RO5: To determine the impact of digital transformation on Firm Performance of Traditional Publishing Enterprise in Shanghai

RO6: To investigate the mediating role of Digital Transformation in the relationship between Artificial Intelligence, organizational readiness, and firm performance in traditional publishing enterprises in Shanghai?

1.5 Research Questions

RQ1: How does Artificial Intelligence impact the firm performance of traditional publishing enterprises in Shanghai?

RQ2: What is the impact of organizational readiness on the firm's performance of traditional publishing enterprises in Shanghai?

RQ3: In what ways does Artificial Intelligence influence digital transformation within traditional publishing enterprises in Shanghai?

RQ4: How does organizational readiness affect digital transformation efforts within traditional publishing enterprises in Shanghai?

RQ5: How does digital transformation impact the firm performance of traditional publishing enterprises in Shanghai?

RQ6: What is the mediating role of digital transformation in the relationship between Artificial Intelligence, organizational readiness, and firm performance in traditional publishing enterprises in Shanghai?

2.0 LITERATURE REVIEW

Artificial Intelligence

Artificial Intelligence (AI) is a transformative force that is changing the way technology is used in different sectors, including traditional publishing. AI comprises several technologies such as machine learning, natural language

processing, data mining, and picture identification. These technologies have significant consequences for corporate operations and marketing strategies (Łapińska et al., 2021; Khalid, 2020). These technologies facilitate the analysis of vast amounts of data, enhance decision-making processes, and enhance customer interactions by offering individualized recommendations and automating customer service (Johnson et al., 2022; Saura et al., 2021). The swift advancement of AI not only presents fresh prospects for economic expansion but also transforms competitive environments by improving enterprises' operational effectiveness and consumer interaction methods (Hughes et al., 2020; Shareef et al., 2021).

Organizational Readiness (OR)

Organizational readiness is critical for the successful adoption and integration of new technologies like AI. This concept extends beyond mere preparedness to include employees' readiness for change, which is crucial for dynamic and competitive business environments (Matthysen & Harris, 2018; Samaranayake & Takemura, 2017). The readiness to embrace new technologies impacts how effectively these technologies are integrated into daily operations and can significantly influence a firm's performance (Rani & Reddy, 2019). Research highlights the importance of workplace creativity and big data in driving organizational performance, suggesting that readiness involves both technological and cultural dimensions that support innovation and strategic decision-making (Mikalef & Gupta, 2021; Ghasemaghaci, 2021).

Digital Transformation (DT)

Digital transformation in traditional publishing involves the integration of digital technology into all areas of a business, fundamentally changing how businesses operate and deliver value to customers. It includes the transition from analog to digital formats, enhancing the accessibility and distribution of content. This transformation is facilitated by the adoption of AI, which automates tasks and optimizes marketing strategies, thereby reducing human error and improving the efficiency and effectiveness of digital campaigns (Hall, 2019). Moreover, digital transformation extends to digital payment options and e-commerce, which are increasingly important for reaching broader markets and improving the customer purchasing experience.

Firm Performance

Firm performance in the context of digital transformation and AI integration is measured by a variety of indicators including

productivity, sales, cost-efficiency, and customer satisfaction (Bughin et al., 2019). AI and digital transformation directly contribute to improved firm performance by enabling better resource management, enhanced customer relationships, and streamlined operations. The literature suggests that firms that leverage AI and digital technologies effectively are likely to achieve superior performance outcomes, distinguishing themselves in increasingly competitive markets (Chen & Lin, 2021; Mikalef et al., 2021).

2.1 Interrelationships between AI, Organizational Readiness, and Digital Transformation

The interaction between Artificial Intelligence (AI), Organizational Readiness, and Digital Transformation in the traditional publishing industry in Shanghai showcases a dynamic relationship where each element has a substantial impact on and improves the effectiveness of the others in driving competitive advantage and firm performance.

The incorporation of artificial intelligence into traditional publishing is significantly impacted by the level of readiness inside the company. Artificial intelligence (AI) technologies, such as machine learning and natural language processing, have the potential to revolutionize business operations by automating tasks and improving decision-making (Buhalis & Sinarta, 2019). Nevertheless, the effectiveness of these technologies is largely contingent upon the readiness of the organization, encompassing factors such as the technological framework, staff assimilation, and the cultural acceptance of innovation. Organizations that are well equipped to embrace these changes can successfully harness the powers of AI, thereby optimizing its advantages to promote innovation and enhance operational efficiency (Fountaine, McCarthy, & Saleh, 2019).

AI plays a crucial role in driving digital transformation by offering necessary tools for substantial changes in content creation and delivery methods. Artificial intelligence-powered data analytics empower publishers to acquire profound understanding of market trends and consumer preferences, supporting well-informed decision-making and focused content strategies. In addition, through the automation of repetitive processes, artificial intelligence improves operational effectiveness and reallocates resources to strategic endeavors that strengthen digital interaction and visibility (Kusal et al., 2022).

The achievement of digital transformation initiatives is closely tied to the readiness of the organization. This preparedness extends beyond technological features and includes human considerations such as support from leaders, training for employees, and a culture that encourages innovation and risk-taking. Organizations that are well prepared may conduct digital transformations with more ease, efficiently adjusting to the demands of the digital economy and enhancing their competitive position (Hess et al., 2020).

When artificial intelligence (AI) and digital transformation are adequately facilitated by organizational readiness, they generate synergistic outcomes that greatly enhance business performance. This improvement is evident in different ways, such as improved operational efficiency, enhanced customer happiness, and the development of new markets or sources of revenue (Kane et al., 2017). Integrating AI with digital transformation plans in a holistic manner, supported by organizational readiness, not only improves the efficiency of the business model but also provides the firm with the ability to quickly adjust to fast-paced market developments (Vial, 2019).

The process of digital transformation serves as a vital channel via which the impact of AI, organizational readiness, and firm performance on real business outcomes is mediated. By fully embracing digital transformation, companies may access the complete potential of artificial intelligence and utilize their preparedness for change, ultimately resulting in improved performance and sustainability.

2.2 Underpinning Theories

Theory of Acceptance Model (TAM)

The Technology Acceptance Model (TAM), developed by Davis in 1989, provides a robust framework for understanding how users come to accept and use a technology. At its core, TAM proposes that two primary factors, perceived usefulness and perceived ease of use, determine an individual's intention to use a system and actual usage behavior (Mohd Amir et al., 2020). Perceived usefulness is defined as the degree to which a person believes that using a particular technology would enhance their job performance (Tahar, 2020). Perceived ease of use, on the other hand, refers to the degree to which a person believes that using the technology will be free of effort. These factors help predict acceptance and are crucial for successful technology implementation, particularly in environments resistant to change.

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Theory of Planned Behavior (TPB)

The Theory of Planned Behavior (TPB), introduced by Ajzen in 1991, extends the explanatory scope of human behavior by incorporating behavioral intentions (Cheng, 2019). TPB posits that individual behavior is driven by behavioral intentions where three kinds of considerations play a role: attitudinal, normative, and control. The attitudinal component refers to the positive or negative evaluation of performing the behavior; the normative component involves the perceived social pressure to perform or not perform the behavior; and the control component reflects the perceived ease or difficulty of performing the behavior, known as perceived behavioral control. This theory is particularly effective in dealing with behaviors over which people have incomplete volitional control.

Integration of TPB and TAM

The integration of the Technology Acceptance Model (TAM) with the Theory of Planned Behavior (TPB) enriches the theoretical framework by providing a more comprehensive perspective on the adoption of technology in companies (Ruiz-Herrera et al., 2023). This comprehensive approach encompasses a wide range of elements that contribute to the adoption of technology. It recognizes that technology adoption is driven not just by individual acceptance, but also by corporate culture, peer influence, and managerial actions. An extensive comprehension is essential for dealing with both the pragmatic evaluation of the technology and the wider behavioral goals that impact its adoption (Dong, 2023). The integration enables a subtle equilibrium between individual cognitive processes and wider organizational dynamics. The maintenance of this equilibrium is especially vital in conventional industries such as publishing, where there might be substantial opposition to change. The framework helps in building interventions that address personal and societal barriers to technology adoption by comprehending these

dynamics. This guarantees that tactics are not solely customized to promote individual acceptance, but also to cultivate an organizational atmosphere that is favorable to change (Abbas & Mehmood, 2021).

By incorporating TPB into TAM, the analysis becomes more comprehensive as it considers additional elements such as the perceived ability to govern technology usage and the social influences associated with its adoption. This factor aids in forecasting both the adoption and utilization of AI and digital transformation technologies in organizational operations. Gaining a comprehension of these components aids in anticipating possible obstacles and opposition that may not be apparent only through the Technology Acceptance Model (TAM). Moreover, the knowledge acquired from this comprehensive theoretical framework is crucial in directing the execution of technology adoption plans within the publishing industry. For instance, if the investigation indicates that perceived behavioral control is a substantial obstacle, strategies could be devised to improve employee competencies and furnish them with the essential tools to enable their empowerment. Similarly, if subjective norms provide a significant obstacle, change management tactics could include implementing leadership endorsement and peer support initiatives to effectively transform these norms in a positive direction.

In summary, the incorporation of TAM (Technology Acceptance Model) and TPB (Theory of Planned Behavior) into the theoretical framework offers a strong and effective method for investigating and promoting the acceptance of technology in the conventional publishing industry. This strategy guarantees the inclusion of both individual and organizational variables, resulting in a more effective deployment and exploitation of new technology.

2.3 Conceptual Framework

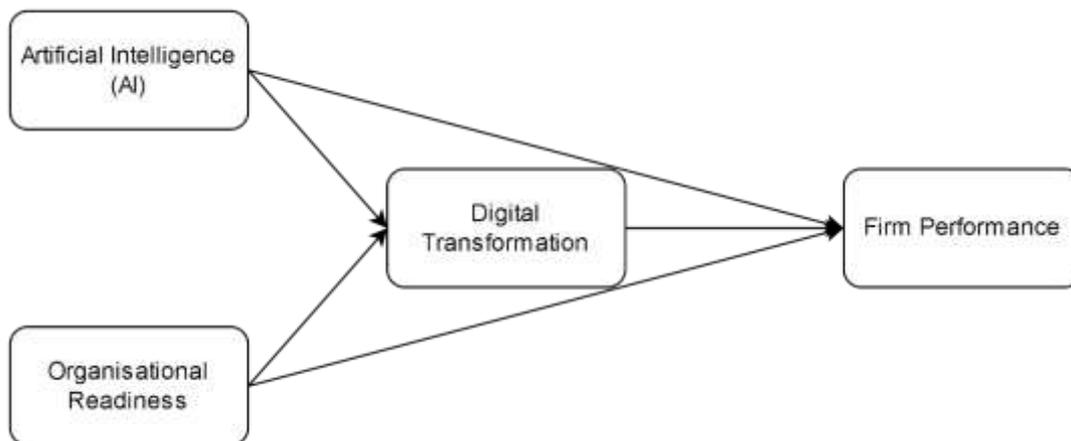


Figure 1: Conceptual Framework

2.4 Research Hypotheses

- **H1:** The implementation of Artificial Intelligence (AI) positively impacts the firm performance of traditional publishing enterprises in Shanghai.
- **H2:** Higher levels of organizational readiness positively impact the firm performance of traditional publishing enterprises in Shanghai.
- **H3:** Artificial Intelligence positively influences the digital transformation efforts within traditional publishing enterprises in Shanghai.
- **H4:** Organizational readiness positively affects the digital transformation efforts within traditional publishing enterprises in Shanghai.
- **H5:** Digital transformation positively impacts the firm performance of traditional publishing enterprises in Shanghai.
- **H6:** Digital transformation mediates the relationship between Artificial Intelligence and firm performance in traditional publishing enterprises in Shanghai.
- **H7:** Digital transformation mediates the relationship between organizational readiness and firm performance in traditional publishing enterprises in Shanghai.

3.0 METHODOLOGY

3.1 Research Design

The study will employ a quantitative methodology to thoroughly investigate the research goals. This approach will allow for a sophisticated understanding of the interactions

among variables (Ahmad, 2019). The quantitative component will include distributing survey questionnaires to a broad sample of businesses in various industries. The purpose of these surveys will be to gather data on AI deployment, organizational readiness, and firm performance measures. Furthermore, the study will adopt a positivist research paradigm, emphasizing the application of quantitative techniques to uncover empirical rules guiding human behavior. Positivist research aims to examine phenomena objectively, often through surveys or experiments, to test fixed relationships within a phenomenon using structured instruments (Mohajan, 2020). This paradigm fits well with the research objectives, focusing on examining cause-and-effect relationships and allowing for generalizations from the sample to the broader population.

A quantitative research approach will be selected due to its ability to handle large sample sizes and samples from different geographic zones. This approach is more deductive and static, focusing on identifying patterns, trends, and associations in numerical data (McBeath & Bager-Charleston, 2020). The chosen methodology will effectively address the research problems and facilitate pattern recognition and relationship examination. Quantitative methods provide objectivity, adaptability, and the ability to formulate and test hypotheses. These methods include structured surveys and statistical analyses that yield measurable and comparable data, essential for evaluating the impact of AI and organizational readiness on digital transformation and firm performance.

3.2 Sampling Methods

An appropriate number of suitable participants will be chosen

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from the target population to gather data for the study. The sampling strategy process will include determining the target population, unit of investigation, sampling frame, sampling method, and sample size. Selecting a sample representative of the intended audience is crucial to ensuring the validity and reliability of the research findings. The study will employ a simple random sampling technique to ensure representative participation from various sectors and organizational sizes. This approach minimizes biases and enhances the generalizability of findings to the broader business landscape (Degtiar, 2023). By reducing the errors and biases that could result from choosing a non-random sample, random sampling improves the validity and dependability of study findings. The study will focus on private publishing enterprises in Shanghai, with an estimated population of 800 managers. Based on Krejcie & Morgan's (1970) model, a sample size of 260 managers will be determined to ensure statistical validity. This sample size is appropriate for ensuring the representativeness and reliability of the research findings.

3.3 Data Collection Techniques

Data collection will involve distributing questionnaires to managers in the target population. Surveys with CEOs, managers, and staff members engaged in initiatives to digitally transform their companies will be used to gather primary data. The survey instrument will be thoughtfully designed to gather pertinent data regarding the use of AI, organizational readiness, and performance outcomes. It will provide a deep comprehension of the phenomenon being studied. The data collection process will be conducted over six to fourteen weeks. The majority of researchers use Microsoft Excel to code and eliminate some missing variables. The data will be preserved in Comma Separated Value (.CSV) files once it is collected. They will subsequently be subjected to additional analysis utilizing SmartPLS software in compliance with the investigation's protocol.

Questionnaires will be used to collect data, ensuring reliability and validity. A 5-point Likert scale will be employed to measure respondents' agreement with statements related to AI, organizational readiness, digital transformation, and firm performance.

The questionnaire will be designed with clear, concise, and unbiased questions to ensure accurate responses. It will include sections on demographic information, AI deployment, organizational readiness, digital transformation efforts, and

firm performance metrics. Given that the research study will be carried out in China, a Chinese translation of the survey questionnaire will be made to boost response rates and assist Chinese participants who are not comfortable with English. The researcher will take caution when posing the questions to avoid any miscommunications and ensure clarity. Before the questionnaire is sent for experimental and complete research, a pre-test will be conducted to ensure that the questions are free of ambiguity, errors, or confusing inquiries. The pre-test will involve distributing the questionnaire to a small number of academics and experts in management, as well as managers in the printing industries, to gather feedback and make necessary adjustments. The questionnaire will be adjusted based on suggestions from experts, academics, and management. This process will ensure that the questions are relevant, accurate, and clear, and help to establish the questionnaire's reliability and validity.

3.4 Data Analysis Technique

Data analysis will employ the SmartPLS software package for SEM. This method focuses on PLS-SEM, useful for exploratory research with small sample sizes and complex models. The software will assess the validity and reliability of constructs, examining both formative and reflective models. SEM will examine complex relationships among variables using path analysis. The method will evaluate both direct and indirect effects, testing hypotheses and providing insights into variable interactions. The bootstrapping method will be used to investigate the coefficient values and establish the significance of path coefficients.

Sophisticated relationships involving the elements in a structural model will be examined using the powerful statistical technique known as SEM. It integrates path analysis to allow researchers to examine both direct and indirect effects of variables on their interactions. SEM is particularly useful in psychology, social sciences, and numerous other fields where understanding complex relationships is essential. The partial least squares (PLS-SEM) method will assess measurement models and structural models. PLS-SEM has numerous advantages, including the ability to analyze very small values without errors. This method provides a simpler framework for creating and analyzing complicated relationships among many variables.

3.5 Measurement Model

The measurement model will ensure reliable and valid data collection, converting abstract concepts into measurable variables. Validity and reliability tests, such as Cronbach's alpha and composite reliability (CR), will be conducted to assess the internal consistency of measurement scales. Reliability is the extent to which a variable's evaluation is error-free and consistently accurate. The consistency of measuring scales can be assessed using Cronbach's alpha. The reliability coefficient, also known as Cronbach's alpha, is used to assess the internal consistency of each measurement scale based on the firm's performance scale.

3.6 Validity and Reliability

Ensuring the validity and reliability of the measurement scales will be crucial. Validity refers to the extent to which the questionnaire's metrics adequately evaluate the intended idea and nothing else. Reliability is a prerequisite for validity, and even though an instrument may be reliable, it might not be precise. Content validity, convergent validity, and discriminant validity tests will be conducted to confirm the accuracy and consistency of the scales. Content validity ensures that the survey questions represent the ideas or concepts from theories being evaluated. Convergent validity examines the degree of convergence or correlation among different measurements of identical or related domains. Discriminant validity assesses how well a measurement instrument can consistently distinguish between the construct it is meant to measure and several other constructs.

4.0 RESULTS

4.1 Demographics of Respondents

The study gathered responses from a total of 260 participants. Regarding gender distribution, 51.56% were male (n = 134) and 48.44% were female (n = 126), indicating a balanced gender representation. In terms of age, the majority of respondents (68.00%) were aged between 30 to 35 years (n = 177). Marital status showed that 45.00% were married (n = 117), followed by 32.00% single (n = 83), 18.00% divorced (n = 47), and 5.00% categorized as others (n = 13).

Concerning work experience, 56.44% of the respondents had between 1 to 5 years of experience (n = 147), while 43.56% had more than 5 years of experience (n = 113). For academic titles, the largest group were lecturers, accounting for 54.00% (n = 140), followed by professors at 21.00% (n = 55), associate professors at 17.00% (n = 44), assistants at 6.00% (n = 16), and respondents without any academic title at 2.00% (n = 5).

Regarding education level, a majority held PhD degrees (61.00%, n = 159), followed by master's degree holders (31.00%, n = 81), and a smaller proportion with only a bachelor's degree (8.00%, n = 20). These results indicate that the sample comprises highly educated and professionally experienced individuals, providing a robust basis for investigating the impact of Artificial Intelligence and organizational readiness on firm performance through digital transformation.

Table 1. Demographics of Respondents

Demographic Variable	Category	Percentage (%)	Number of Respondents (n)
Gender	Male	51.56	134
	Female	48.44	126
Age	30-35 years	68.00	177
Marital Status	Married	45.00	117
	Single	32.00	83
	Divorced	18.00	47
	Others	5.00	13
Work Experience	1-5 years	56.44	147
	More than 5 years	43.56	113
Academic Title	Lecturer	54.00	140
	Professor	21.00	55

	Associate Professor	17.00	44
	No Title	2.00	5
	Assistant	6.00	16
Education Level	PhD	61.00	159
	Master's Degree	31.00	81
	Degree	8.00	20

4.2 Descriptive Statistics of Constructs

Table 2 presents the descriptive statistics for the main constructs analyzed in this study: Artificial Intelligence, Organizational Readiness, Digital Transformation, and Firm Performance. The mean score for Artificial Intelligence was 2.881 with a standard deviation of 1.012 and a variance of 1.024, indicating moderate perceptions of AI utilization among respondents. Organizational Readiness recorded a higher mean of 3.097, with a standard deviation of 0.938 and a variance of 0.880, suggesting a relatively strong organizational preparedness for digital initiatives. Similarly, Digital

Transformation had a mean score of 3.081, with a standard deviation of 0.977 and a variance of 0.955, reflecting moderate to high levels of digital adoption and transformation activities. Firm Performance reported a mean of 2.840 with a standard deviation of 0.997 and a variance of 0.994, indicating that performance outcomes were perceived to be moderately influenced by AI and digital transformation efforts. These results suggest that while organizational readiness and digital transformation are progressing well among traditional publishing firms in Shanghai, the adoption of AI and perceived improvements in firm performance are comparatively moderate.

Table 2. Descriptive Statistics of Constructs

Construct	Mean	Std. Deviation	Variance
Artificial intelligence	2.881	1.012	1.024
Organizational readiness	3.097	0.938	0.880
Digital transformation	3.081	0.977	0.955
Firm performance	2.840	0.997	0.994

4.3 Construct Reliability Analysis

Table 3 presents the reliability and validity measures for the constructs employed in this study, including Cronbach's alpha, composite reliability (rho_A and rho_C), and average variance extracted (AVE). All constructs demonstrated acceptable internal consistency reliability, with Cronbach's alpha values exceeding the recommended threshold of 0.70 (Hair et al., 2019). Specifically, the Cronbach's alpha values ranged from 0.796 for Artificial Intelligence (AI) to 0.904 for Digital Transformation (DT), indicating good reliability across constructs.

Composite reliability values (both rho_A and rho_C) for all

constructs were above 0.80, further confirming the internal consistency. The composite reliability (rho_C) values ranged from 0.876 (Organizational Readiness, OR) to 0.914 (Digital Transformation, DT), surpassing the commonly accepted minimum threshold of 0.70 (Hair et al., 2019).

Additionally, the Average Variance Extracted (AVE) values for all constructs exceeded 0.50, suggesting adequate convergent validity. The AVE values ranged from 0.639 (Organizational Readiness) to 0.728 (Digital Transformation). These findings affirm that the measurement items reliably and validly capture the underlying constructs, allowing for robust structural model assessment in subsequent analysis.

Table 3. Construct Reliability Analysis

	Cronbach's alpha	Composite (rho a)	reliability	Composite reliability (rho_c)	AVE
AI	0.796	0.839		0.877	0.705
DT	0.904	1.144		0.914	0.728
FP	0.869	0.870		0.910	0.718
OR	0.815	0.843		0.876	0.639

4.4 Discriminant Validity- Fornell & Larcker Criterion

Table 4 presents the Fornell and Larcker (1981) criterion results for assessing discriminant validity. The square roots of AVE for each construct (AI = 0.832, DT = 0.881, FP = 0.847, OR =

0.799) exceed the corresponding inter-construct correlations, confirming discriminant validity. All constructs are empirically distinct, indicating that the model measures separate concepts without substantial overlap.

Table 4. Discriminant Validity- Fornell & Larcker Criterion

	AI	DT	FP	OR
AI	0.832			
DT	0.070	0.881		
FP	-0.065	0.056	0.847	
OR	0.128	-0.054	0.216	0.799

4.5 Path Coefficients

Table 5 summarizes the path coefficients and hypothesis testing results. Artificial Intelligence (AI) significantly influenced Digital Transformation (DT) ($\beta = 0.093$, $p = 0.013$), but had a negative direct effect on Firm Performance (FP) ($\beta = -0.117$, $p = 0.008$). Digital Transformation positively impacted Firm Performance ($\beta = 0.130$, $p = 0.006$), supporting its mediating

role. Organizational Readiness (OR) negatively influenced Digital Transformation ($\beta = -0.173$, $p < 0.001$), suggesting a potential resistance factor. However, OR did not significantly affect Firm Performance directly ($\beta = 0.055$, $p = 0.104$). These results highlight that digital transformation acts as a key conduit linking AI and OR to firm performance outcomes.

Table 5. Path Coefficients

	Original sample (O)	Sample mean (M)	Standard deviation	T statistics	P values
AI -> DT	0.093	0.091	0.038	2.478	0.013
AI -> FP	-0.117	-0.118	0.044	2.659	0.008
DT -> FP	0.130	0.134	0.047	2.770	0.006
OR -> DT	-0.173	-0.172	0.039	4.463	0.000
OR -> FP	0.055	0.059	0.034	1.624	0.104

4.6 Mediation Effect

Table 6 presents the mediation analysis results. Digital Transformation (DT) significantly mediated the relationship between Artificial Intelligence (AI) and Firm Performance (FP),

with an indirect effect of 0.013 ($p = 0.034$). Similarly, DT also mediated the relationship between Organizational Readiness (OR) and FP, with an indirect effect of -0.024 ($p = 0.012$). These findings confirm the mediating role of digital transformation in

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both pathways, although the negative coefficient for OR suggests that higher organizational readiness may indirectly

reduce firm performance unless digital initiatives are properly aligned.

Table 6. Mediation Analysis Results

Relationship	Indirect effects			
AI->DT-> FP	Coefficient	SE	t value	p-value
	0.013	0.007	1.831	0.034
OR->DT-> FP	Coefficient	SE	t value	p-value
	-0.024	0.011	2.267	0.012

5.0 DISCUSSION

This study investigated how Artificial Intelligence (AI) and Organizational Readiness (OR) influence Firm Performance (FP) in Shanghai's traditional publishing sector, with Digital Transformation (DT) as a mediator. The results offer several important insights aligned with the theoretical foundations of the Technology Acceptance Model (TAM) and Theory of Planned Behavior (TPB).

First, AI showed a positive and significant effect on digital transformation efforts but an unexpected negative direct effect on firm performance. This suggests that while AI adoption facilitates digital transformation, the immediate contribution of AI to performance may not be realized without adequate strategic integration. This finding resonates with previous studies emphasizing that AI's benefits materialize only when organizations align technology deployment with operational goals (Johnson et al., 2022).

Second, digital transformation positively influenced firm performance, validating its role as a critical driver of organizational competitiveness in the digital era. This outcome is consistent with existing literature emphasizing that successful digital transformation enhances operational efficiency, market responsiveness, and customer engagement (Vial, 2019).

Interestingly, organizational readiness negatively impacted digital transformation, contrary to the expected positive relationship. This could reflect a deeper cultural or strategic misalignment where organizational structures, although seemingly prepared, resist the actual operational changes required for digital initiatives. It underlines that readiness must not be limited to technological capabilities but must also encompass change management and cultural flexibility

(Machado et al., 2021).

Regarding mediation effects, digital transformation significantly mediated the relationships between both AI and FP, and OR and FP. However, the mediation from OR to FP was negative. This highlights that without a properly executed digital strategy, even a "ready" organization may fail to leverage its preparedness into performance gains. It suggests that readiness alone is insufficient; the execution quality of digital transformation initiatives critically determines success.

Overall, these findings expand understanding of the complex dynamics among AI adoption, organizational readiness, digital transformation, and firm performance in traditional industries. They affirm that technological and organizational factors must be synchronized strategically to fully realize the benefits of digital innovation.

6.0 IMPLICATIONS

6.1 Theoretical Implications

This study contributes to the theoretical understanding of digital transformation in traditional industries by integrating the Technology Acceptance Model (TAM) and Theory of Planned Behavior (TPB). The findings extend TAM by illustrating that perceived technological usefulness, represented by AI adoption, does not always translate directly into improved firm performance without effective strategic alignment. Moreover, the unexpected negative path between organizational readiness and digital transformation enriches TPB, highlighting that perceived behavioral control and organizational norms may inhibit rather than facilitate change if misaligned. The study also emphasizes the mediating role of digital transformation, positioning it as a necessary channel through which both

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technological and organizational factors impact firm outcomes. Thus, the research advances theoretical discussions by demonstrating that technology acceptance and organizational readiness must be analyzed in conjunction with transformation execution dynamics to predict performance outcomes effectively.

6.2 Practical Implications

From a managerial perspective, the results highlight that merely investing in AI technologies or enhancing organizational readiness is insufficient without a well-executed digital transformation strategy. Publishing enterprises must ensure that AI deployment is strategically integrated into operational models to realize tangible performance improvements. Additionally, organizational readiness efforts must go beyond infrastructure development to focus on cultivating adaptive organizational cultures that embrace change. Leaders should prioritize change management initiatives, ensuring that employees at all levels are committed to digitalization goals. Furthermore, the finding that digital transformation acts as a key mediator suggests that firms must invest in continuous digital capability building, embedding digital processes deeply into business practices rather than treating them as peripheral initiatives. These insights are particularly crucial for traditional industries where legacy systems and resistance to change often pose significant barriers to innovation.

7.0 CONCLUSION AND RECOMMENDATIONS

This study examined how Artificial Intelligence (AI) adoption and Organizational Readiness (OR) influence the Firm Performance (FP) of traditional publishing enterprises in Shanghai, with Digital Transformation (DT) acting as a mediator. The findings reveal that while AI supports digital transformation, it does not directly enhance firm performance unless it is strategically aligned. Organizational readiness, although necessary, can negatively impact digital initiatives if not coupled with cultural adaptability. Digital transformation emerges as a crucial mechanism that links technological and organizational initiatives to firm success, reinforcing its central role in driving competitive advantage.

Several recommendations arise from these insights. First, managers should ensure that AI technologies are not adopted in isolation but are embedded within broader operational strategies that align with business objectives. Second, organizational readiness efforts must prioritize cultural change

alongside technological upgrades, fostering an environment receptive to digital innovation. Third, firms should invest consistently in building digital capabilities across all business functions, treating digital transformation as an integrated and ongoing strategic priority rather than a one-time project.

For future research, it is recommended to explore longitudinal designs to capture the evolving impact of digital transformation over time and to incorporate qualitative insights to better understand the cultural barriers to AI and digital integration. Expanding the model to other traditional sectors beyond publishing could also enhance generalizability and further validate the theoretical framework established in this study.

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