pISSN: 1906 - 3296 © 2020 AU-GSB e-Journal. eISSN: 2773 – 868x © 2021 AU-GSB e-Journal. https://assumptionjournal.au.edu/index.php/AU-GSB

# An Empirical Study of ERP System Adoption Among Chinese Corporate Managers

# Mingyuan Li\*

Received: April 29, 2024. Revised: September 2, 2024. Accepted: February 22, 2025.

## Abstract

**Purpose:** This study investigates the factors influencing the decision of corporate managers in China to adopt Enterprise Resource Planning (ERP) systems, with a focus on company size, market area, security, technology, and economic and technical rationales. **Research Design, Data, and Methodology:** Data from 550 key ERP managers across China was collected. A stratified random sampling method was utilized, segmenting the population based on industry type and enterprise size. The validation of the questionnaire's content was meticulously conducted using Item-Objective Congruence (IOC) and evaluated for internal consistency reliability via Cronbach's Alph of pilot test (n=50). The research integrates the methodology of Confirmatory Factor Analysis (CFA) and Structural Equation Modeling (SEM) to analyze the data and test hypotheses. **Results:** The findings reveal that company size, market area, security, and technology significantly affect ERP adoption. Economic and technical rationales have a significant effect on decision to adopt ERP. Additionally, decision to adopt ERP has a significant effect on ERP adoption. **Conclusions:** The findings suggest a multifaceted decision-making process for ERP adoption in China, underscored by strategic planning, security assurance, and technological compatibility. The study highlights the need for tailored ERP solutions that address the specific requirements of Chinese enterprises.

Keywords: Enterprise Resource Planning Systems, Technology Adoption, Security, Market Area, Structural Equation Modeling

JEL Classification Code: E44, F31, F37, G15

# 1. Introduction

In the dynamic realm of global commerce, the digital era has transitioned from a luxury to a necessity for corporations vying for market leadership. This shift is vividly illustrated in adopting Enterprise Resource Planning (ERP) systems, tools that are no longer optional but essential for operational efficiency and competitive advantage. China is a beacon of this transformation, driven by the government's commitment to technological advancements through initiatives like Industry 4.0 and Made in China 2025 (Li et al., 2018). These programs go beyond mere policy declarations, embodying a strategic push to infuse advanced technologies into the Chinese corporate sector, with ERP systems at the helm of this evolution. However, the journey toward ERP integration is laden with challenges unique to China's distinct business culture and regulatory landscape, necessitating a deep dive into the complexities of ERP implementation (Wang, 2016).

This study ventures into the intricate decision-making process corporate managers in China face regarding ERP adoption. It leverages the analytical prowess of three theoretical frameworks: the Technology Acceptance Model (TAM) (Davis, 1989), the Theory of Planned Behavior (TPB) (Ajzen, 1991), and the Resource-Based View (RBV) (Barney, 1991). These frameworks are instrumental in dissecting the factors influencing ERP adoption decisions, such as company size, market dynamics, security concerns, technological progress, and economic considerations. The choice of TAM, TPB, and RBV is rooted in their proven effectiveness in shedding light on technology adoption behaviors and strategic organizational decision-making.

The evolution of ERP systems in China is marked by the increasing dominance of local vendors like Kingdee, UFIDA, and Inspur (Zhu et al., 2006), signaling a shift towards

<sup>1\*</sup>Mingyuan Li, Ph.D. Candidate in Innovative Technology Management, Graduate School of Business and Advance Technology Management, Assumption University, Thailand. Email: 634272093@qq.com

<sup>©</sup> Copyright: The Author(s)

This is an Open Access article distributed under the terms of the Creative Commons Attribution Non-Commercial License (http://Creativecommons.org/licenses/by-nc/4.0/) which permits unrestricted noncommercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

innovation-driven production. This transformation is not just technical but also cultural, necessitating an understanding of local business practices and the need for system customization. The study aims to unpack the factors driving ERP adoption, offering a comprehensive analysis encompassing this phenomenon's theoretical and practical dimensions (Tan & Pan, 2003). Recent findings underscore the accelerated pace of digital transformation in China, further highlighting the pivotal role of ERP systems in supporting operational efficiencies and adapting to trends like remote work, a necessity underscored by the global health crisis (Liu et al., 2023).

By exploring the interplay of determinants within China's vibrant market and technological ecosystem, this research provides insights into the strategic considerations vital for successful ERP system implementation in Chinese corporations. The timeliness and relevance of this exploration cannot be overstated, given the rapid technological advances and the globalization of business operations. The anticipated outcomes of this study are poised to enrich the academic discourse on ERP adoption, merging theoretical insights with practical applications (Chen, 2001). For corporate managers and policymakers, the findings offer a robust foundation for informed decision-making and strategic planning in ERP adoption and implementation, thus enriching our understanding of ERP dynamics in China and paving the way for future research in this critical area (Huang & Price, 2010).

The intersection of theoretical frameworks with practical implications is designed to narrow the gap between academic inquiry and real-world application. The study clarifies the decision-making process by examining ERP adoption through the lenses of TAM, TPB, and RBV. It underscores the importance of aligning technology adoption strategies with organizational goals and capabilities. Furthermore, the focus on local challenges and the influence of domestic vendors in shaping the ERP landscape in China adds depth to the analysis, offering insights into navigating adoption complexities effectively and in a culturally congruent manner (Luo & Strong, 2004).

This research aims to deliver a thorough and nuanced understanding of ERP adoption in China, linking theoretical analyses with practical insights. By focusing on the diverse factors influencing ERP system implementation and the underlying strategic decisions, the study offers valuable contributions to both academia and practice. It guides future research and informs strategic decision-making in the domain of ERP adoption, thus fostering a rich, informative, and compelling narrative.

## 2. Literature Review

#### 2.1 Company Size

The influence of company size on ERP adoption is welldocumented, with various dimensions such as total assets, revenue, employee count, and market capitalization offering insights into an organization's capacity to implement ERP systems. Fama and French (2004) highlight market capitalization as a gauge of company size, tying it to investment choices and ERP adoption. Similarly, Rajan and Zingales (1995) emphasize the role of total assets in defining organizational scale and its relationship with technology investments. These studies underscore the complexity of how company size impacts ERP adoption, suggesting that larger firms may have more resources but also face greater complexity in system integration (Brealey et al., 2020). Hence, a hypothesis is proposed:

H1: Company size has a significant effect on ERP adoption.

# 2.2 Market Area

The concept of market area plays a crucial role in ERP system selection and implementation. Kotler (2000) and Porter (1998) provide foundational perspectives on the market area, emphasizing its strategic importance in competitive positioning and customer service. Expanding market areas through digital means further complicates the selection and adaptation of ERP systems, necessitating solutions catering to diverse customer bases and geographic reaches (Hollensen, 2007). Hence, a hypothesis is proposed: **H2:** Market area has a significant effect on ERP adoption.

# 2.3 Security

In adopting Enterprise Resource Planning (ERP) systems, security is a paramount concern. This is particularly due to the escalation of cyber threats, which demand the implementation of stringent data protection strategies. The criticality of cybersecurity in safeguarding organizational data and maintaining the integrity of ERP systems is increasingly recognized. For instance, Saa et al. (2017) delve into organizations' data security challenges when transitioning their ERP systems to cloud environments. They stress the imperative need for robust data security measures to preserve the confidentiality and integrity of data in the cloud.

Furthermore, Gusmão et al. (2018) introduce a model that combines fault tree analysis, decision theory, and fuzzy theory to assess cybersecurity risks. Their work underscores the significance of confronting cybersecurity threats across different areas, including ERP systems, highlighting the necessity for continuous innovation in cybersecurity measures within ERP solutions. These studies collectively underline the ongoing need for advancements in cybersecurity approaches to effectively address the evolving landscape of cyber threats in ERP adoption. Hence, a hypothesis is proposed:

H3: Security has a significant effect on ERP adoption.

# 2.4 Technology

The technological foundations of ERP systems include various tools, processes, and areas of expertise that significantly impact their implementation and operational success. Chung and Snyder (2000) explore the evolution of ERP systems from a technological perspective, emphasizing that organizations must adapt their IT infrastructure to support comprehensive business objectives. Furthermore, Botta-Genoulaz et al. (2005) offer an in-depth analysis of the ERP research landscape, underscoring the importance of a holistic understanding of technology's role in enhancing organizational performance and achieving strategic aims. This comprehensive view of technology underscores its critical importance in adopting ERP systems, highlighting the imperative for a synergistic alignment between technological capabilities and organizational objectives. Hence, a hypothesis is proposed:

H4: Technology has a significant effect on ERP adoption.

# **2.5 Economic and Technical Rationales**

Economic and technical rationales are fundamental in the decision-making process for adopting ERP systems. Bingi et al. (1999) delve into the critical issues affecting ERP economic and technical implementation, including considerations. underscoring the necessity for comprehensive management and strategic planning. Similarly, Gefen (2000) emphasizes the importance of trust in the consultants involved in ERP implementation, linking the success of ERP adoption to the quality of technical support and the consultants' reliability, directly impacting organizational assessment and the effective utilization of ERP systems. These insights illuminate the strategic evaluations organizations must undertake when considering ERP systems, balancing the economic costs against the potential technological advantages. Hence, a hypothesis is proposed:

**H5:** Economic technical rationales have a significant effect on decision to adopt ERP.

#### 2.6 Decision to Adopt ERP

Adopting ERP systems is driven by a complex interplay of technological, organizational, and environmental factors. Recent investigations utilizing the technology-organizationenvironment (TOE) framework have illuminated the multifaceted considerations involved in this decision-making process. For instance, Damali et al. (2021) explored cloud ERP adoption in the healthcare industry through the TOE framework, revealing distinct perceptions and adoption drivers between small and large organizations. Similarly, Morawiec and Sołtysik-Piorunkiewicz (2023) discussed how ERP system development for business agility, within the context of Industry 4.0, is influenced by technological, organizational, and environmental factors, as analyzed through the TOE framework. These studies underline the importance of aligning ERP goals with business objectives and considering various factors in the ERP adoption process. Hence, a hypothesis is proposed:

**H6:** Decision to adopt ERP has a significant effect on ERP adoption.

# 2.7 ERP Adoption

Adopting ERP systems is a significant journey involving strategic planning, active user engagement, and comprehensive organizational change management. Kumar et al. (2002) emphasize that ERP implementation is an intricate exercise in organizational innovation and change management, highlighting the necessity for integrated realtime information and better administration within government organizations. Chang et al. (2008) adds to this perspective by focusing on understanding ERP system adoption from the user's viewpoint. This underscores the importance of social factors, compatibility, and near-term consequences on system usage.

Additionally, Boonstra (2005) interprets ERP implementation as an organizational change process, pointing out the significant impacts on stakeholders' interests and the necessity of managing these impacts for successful adoption. Law and Ngai (2007) further investigate the organizational factors and impacts of ERP success, identifying strategic intent, senior management support, and IT function status as critical elements influencing ERP system adoption, business process improvement, and organizational performance.

## 3. Research Methods and Materials

#### **3.1 Research Framework**

This study investigates the decision-making process of corporate managers in Chinese enterprises regarding adopting enterprise resource planning (ERP) systems. It utilizes the Technology Acceptance Model (TAM), the Theory of Planned Behavior (TPB), and the Resource-Based View (RBV) to build a comprehensive conceptual framework. This framework identifies and connects critical variables to understand ERP adoption, including company size, market area, security, technology, economic and technical rationales, and the decision-making process itself. The theoretical underpinning of our research is derived from insights across four seminal works. Buonanno et al. (2010) delved into how company scale and market scope influence ERP system uptake. Awa and Ojiabo (2016) analyzed how security considerations impact adoption of ERP systems. Shiau et al. (2009) scrutinized the link between technological factors and ERP system adoption in a separate study. Finally, Sharma and Daniel (2016) provided an in-depth look at how economic and technical motivations and the decision-making process affect ERP system adoption. The framework guiding this study is illustrated in Figure 1.



Figure 1: Conceptual Framework

H1: Company size has a significant effect on ERP adoption.H2: Market area has a significant effect on ERP adoption.

H3: Security has a significant effect on ERP adoption.

H4: Technology has a significant effect on ERP adoption.

**H5:** Economic and technical rationales have a significant effect on decision to adopt ERP.

**H6:** Decision to adopt ERP has a significant effect on ERP adoption.

# **3.2 Research Methodology**

To examine the impact of Enterprise Resource Planning (ERP) adoption factors among corporate managers in China, this study employed a quantitative methodology complemented by a questionnaire survey to gather data from the intended sample. The validation of the questionnaire's content was meticulously conducted using Item-Objective Congruence (IOC) and evaluated for internal consistency reliability via Cronbach's Alpha. The procedure for data collection was systematically outlined, along with the detailed statistical analysis approach. Structural Equation Modeling (SEM) was instrumental in verifying the structure connecting the variables under investigation. The research methodology unfolded through eight distinct sections: the choice of research method, delineation of respondents and sampling technique, development and validation of research questionnaires, assurance of research instrument validity and reliability, data collection and gathering protocols, execution of Confirmatory Factor Analysis (CFA), assessment of model fits or goodness of fit, and application of the Structural Equation Model (SEM).

Utilizing a questionnaire survey, this investigation sought responses from corporate managers across several industries in China, aiming to dissect the factors influencing ERP adoption. The questionnaire was designed and distributed using advanced online survey tools to ensure efficient outreach and data collection. Preliminary validation through IOC and a pilot study (n=50) confirmed the questionnaire's reliability, achieving an IOC score above 0.6 and a Cronbach's Alpha exceeding 0.7, as Gable and Wolf (1993) recommended. Data analysis was performed using SPSS and AMOS, tools adept at handling complex statistical data. The application of CFA and SEM enabled a rigorous empirical examination of the proposed conceptual framework and the hypothesized relationships among the study variables.

#### **3.3 Population and Sample Size**

The study targets corporate managers from medium to large-sized enterprises in China. Specifically, those directly involved in or significantly affected by ERP system adoption. Aiming for a representative sample, 550 participants were engaged, ensuring diversity across industries and managerial roles for generalizable insights.

# 3.4 Sampling Technique

A stratified random sampling method was utilized, segmenting the population based on industry type and enterprise size. This method, aligned with the principles outlined by Venkatesh and Davis (2000), mitigates sampling biases and ensures data collection reflective of the broader demographic of corporate managers in China involved in ERP adoption processes.

Ta	ble	1:	Sampl	le l	Jnits	and	Samp	le	Size
----	-----	----	-------	------	-------	-----	------	----	------

Application	Population Size
Kingdee	425000
UFIDA	1100000
Inspur	390000
Total	1915000

Source: Constructed by author

# 4. Results and Discussion

# 4.1 Demographic Information

The demographic composition of our respondents' sheds light on the managerial landscape governing ERP adoption decisions, as shown in Table 2. With a gender distribution of 54.2% male and 45.8% female participants, our study reflects a relatively balanced representation, underscoring the diverse managerial perspectives on ERP systems. Notably, a predominant % of respondents (76.2%) are identified as sales managers, indicating a significant bias towards sales-oriented decision-making in ERP adoption. Most participants are 26 years or below (33.6%) and in bachelors' degree (52.9%), with over half a bachelor's degree, suggests a dynamic and well-informed managerial demographic driving ERP adoption in China (Davis, 1989; Venkatesh & Davis, 2000).

 Table 2: Demographic Profile

Demogra	phic and General Data (N=550)	Frequency	Percentage
Condon	Male	298	53.1%
Gender	Female	252	46.9%
Manager	Manager Yes		100%
Position	Chairman of the board	5	0.8%
rosition	General manager	8	1.5%

Demogra	phic and General Data (N=550)	Frequency	Percentage
	Financial manager	78	14.2%
	Sales manager	419	76.2%
	Others	40	7.3%
	26 years old or below	185	33.6%
	27-30 years old	127	23.1%
Age	31-34 years old	113	20.5%
	35-38 years old	85	15.5%
	More than 38-year-old	40	7.3%
	High school and below	51	9.3%
Education	Bachelor	291	52.9%
Education	Master	139	25.3%
	PhD	69	12.5%

# 4.2 Confirmatory Factor Analysis (CFA)

The CFA results underscore the robustness of our measurement model, with Cronbach's Alpha values ranging from 0.785 to 0.89, thus surpassing the conventional reliability threshold of 0.7 (Nunnally, 1978). These findings, illustrated in Table 3, affirm the internal consistency and convergent validity of the constructs, evidenced by satisfactory factor loadings (> 0.5), and Average Variance Extracted (AVE) values (> 0.4). This analysis phase crucially establishes the credibility of our theoretical framework in capturing the essence of ERP adoption determinants.

Table 3: Confirmator	y Factor Analys	is Result, Com	posite Reliability	y (CR) and Ave	erage Variance Extracte	d (AVE)
		,			<i>(</i> <b>7</b> )	<b>`</b>

Variables	Source of Questionnaire (Measurement Indicator)	No. of Item	Cronbach's Alpha	Factors Loading	CR	AVE
Company Size (CS)	Fama and French (2004)	3	0.785	0.700-0.770	0.789	0.556
Market Area (MA)	Kotler (2000)	4	0.861	0.695-0.855	0.865	0.617
Security (S)	Saa et al. (2017)	4	0.842	0.682-0.838	0.842	0.573
Technology (T)	Chung and Snyder (2000)	6	0.890	0.706-0.821	0.891	0.578
Economic and Technical Rationales (ETR)	Bingi et al. (1999)	3	0.825	0.754-0.822	0.824	0.611
Decision to Adopt ERP (DAE)	Damali et al. (2021)	3	0.860	0.810-0.828	0.860	0.673
ERP Adoption (EA)	Kumar et al. (2002)	5	0.876	0.722-0.795	0.876	0.587

Table 4's CFA (Confirmatory Factor Analysis) outcomes indicate a highly satisfactory model fit, with all indices surpassing or meeting their respective acceptable thresholds before any adjustments. Specifically, CMIN/DF at 1.365 showcases a favorable model fit relative to the degrees of freedom. GFI and AGFI values, at 0.945 and 0.932, respectively, exceed the recommended levels, demonstrating a strong fit to the observed data. The NFI and CFI indices, well above the 0.80 and 0.90 thresholds, underscore the model's predictive accuracy and reliability. TLI at 0.982 further confirms the model's excellent fit. Finally, an RMSEA value of 0.026, significantly below the 0.06 threshold, indicates a minimal error of approximation, highlighting the model's exceptional adherence to the empirical data. Table 4: Goodness of Fit for Measurement Model

Fit Index	Acceptable Criteria	<b>Statistical Values</b>
CMIN/DF	< 5.00 (Kline, 2016)	1.365
GFI	$\geq$ 0.85(Jöreskog & Sörbom, 1996)	0.945
AGFI	≥ 0.80 (Hu & Bentler, 1999)	0.932
NFI	$\geq$ 0.80 (Bentler, 1990)	0.945
CFI	≥ 0.90 (Hu & Bentler, 1999)	0.985
TLI	$\geq 0.90$ (Hu & Bentler, 1999)	0.982
RMSEA	< 0.08 (Pedroso et al., 2016)	0.026
Model		Acceptable
Summary		Model Fit

**Remark:** CMIN/DF = The ratio of the chi-square value to degree of freedom, GFI = goodness-of-fit index, AGFI = adjusted goodness-of-fit index, NFI = normalized fit index, CFI = comparative fit index, TLI = Tucker Lewis index, and RMSEA = root mean square error of approximation

This study utilized the square root of the Average Variance Extracted (AVEs) to assess discriminant validity, following the approach recommended by Fornell and Larcker (1981). The results in Table 5 reveal that discriminant validity exceeds all correlations between constructs/factors, affirming its adequacy.

Table 5: Discriminant Validity

Table 5. Discriminant validity							
	CS	MA	S	Т	ETR	DAE	EA
CS	0.746						
MA	0.488	0.785					
S	0.515	0.424	0.757				
Т	0.502	0.547	0.415	0.760			
ETR	0.505	0.41	0.311	0.461	0.782		
DAE	0.399	0.511	0.401	0.424	0.581	0.820	
EA	0.442	0.549	0.481	0.454	0.411	0.548	0.766

**Note:** The diagonally listed value is the AVE square roots of the variables **Source:** Created by the author.

# 4.3 Structural Equation Model (SEM)

We identified the need for model adjustments to fit the empirical data through SEM better. Post-adjustment, the goodness-of-fit indices notably improved across all criteria, demonstrating a strong alignment between our theoretical construct and the observed data (Hair et al., 2010). This alignment validates our structural model, confirming its adequacy in explaining the determinants of ERP adoption among Chinese corporate managers.

Post-adjustment SEM analysis demonstrated notable enhancements across all fit indices, as shown in Table 6. This met the desired criteria and aligned the model closely with empirical data. Key improvements included a decrease in CMIN/DF to below 5, increases in GFI and AGFI above their respective thresholds, and enhancements in NFI, CFI, and TLI, all-surpassing minimum acceptable values. This comprehensive improvement underscores the model's refined accuracy and reliability in representing the studied phenomena.

Table 6: Goodness of Fit for Structural Model

Index	Acceptable Values	Statistical Values Before djustment	Statistical Values After djustment	
CMIN/DF	< 5.00 (Kline, 2016)	3.278	2.962	
GFI	$\geq 0.85$ (Jöreskog & Sörbom, 1996)	0.846	0.861	
AGFI	$\begin{array}{c} \mathbf{AGFI} \\ 1999) \end{array} \geq 0.80 \text{ (Hu \& Bentler,} \\ \end{array}$		0.830	
<b>NFI</b> $\geq 0.80$ (Bentler, 1990)		0.862	0.880	
CFI	≥ 0.90 (Hu & Bentler, 1999)	0.900	0.916	

Index	Acceptable Values	Statistical Values Before djustment	Statistical Values After djustment	
TLI	$\geq$ 0.90 (Hu &	0.890	0.905	
	Bentler, 1999)			
RMSEA	< 0.08 (Pedroso et al.,	0.064	0.06	
	2016)			
Model		Unacceptable	Acceptable	
summary		<b>Model Fit</b>	Model Fit	

**Remark:** CMIN/DF = The ratio of the chi-square value to degree of freedom, GFI = goodness-of-fit index, AGFI = adjusted goodness-of-fit index, NFI = normalized fit index, CFI = comparative fit index, TLI = Tucker Lewis index, and RMSEA = root mean square error of approximation

# 4.4 Research Hypothesis Testing Result

The significance of each variable was evaluated through its standardized path coefficient ( $\beta$ ) and t-value, as shown in Table 7. This research confirmed the considerable impact of hypotheses H1, H2, H3, H4, H5, and H6.

Table 7: Hypothesis Results of the Structural Equation Modeling

Hypothesis	(β)	t-value	Result
H1: CS→EA	0.139	2.985*	Supported
Н2: МА→ЕА	0.296	6.246*	Supported
H3: S→EA	0.233	4.946*	Supported
H4: T→EA	0.128	2.889*	Supported
H5: ETR→DAE	0.577	10.998*	Supported
H6: DAE→EA	0.335	6.912*	Supported

Note: \* p<0.05

Source: Created by the author

Our study reveals several pivotal findings in investigating factors influencing the adoption of Enterprise Resource Planning (ERP) systems. Firstly, hypothesis H1 indicates that larger organizations are more inclined towards adopting ERP systems, underscoring the role of organizational size and inherent complexities. This aligns with research suggesting that larger entities, due to their operational and managerial complexities, are more likely to seek ERP systems for efficiency and integration benefits (Buonanno et al., 2005). H2 confirms the significant impact of market scope, with companies operating in broader markets showing a higher propensity for ERP adoption. This supports the notion that market dynamics play a crucial role in enterprises' technological adoption decisions (Van Everdingen et al., 2000). H3 highlights the critical importance of security in the decision-making process for ERP adoption. Security is deemed a key factor in ERP adoption as it directly pertains to safeguarding company information and business continuity (Huang & Palvia, 2001).H4 demonstrates the significant influence of technological factors on ERP adoption. The compatibility, reliability, and advanced technology are critical factors

affecting the organizational adoption of ERP systems (Chen, 2001). Finally, H5 and H6 underscore the decisive roles of economic and technical rationales and the strategic decision to adopt ERP as crucial predictors of actual adoption. These findings align with previous studies that identify economic benefits and technological advantages as key drivers behind the organizational decision to adopt new technology (Nicolaou & Bhattacharya, 2011). In summary, these insights emphasize the need for organizations to consider various factors, including organizational size, market scope, security requirements, technological attributes, and the economic and technological rationality of ERP adoption. These factors collectively influence the organizational decision-making process regarding ERP system adoption, paving the way for improved operational efficiency and competitive advantage.

# 5. Conclusion and Recommendation

## **5.1 Conclusion and Discussion**

This study delves into the determinants of Enterprise Resource Planning (ERP) system adoption within the corporate sector of China, offering a timely exploration amid the digital transformation sweeping global markets. Methodologically grounded in demographic analysis, Confirmatory Factor Analysis (CFA), and Structural Equation Modeling (SEM), the research identifies pivotal factors—company size, market area, security, technology, and economic and technical rationales—as significant influencers of ERP adoption decisions. These findings illustrate the complexity of ERP implementation, emphasizing the interplay among organizational capabilities, market dynamics, and technological advancements (Ajzen, 1991; Barney, 1991; Davis, 1989).

The theoretical foundation of this study is rooted in the Technology Acceptance Model (TAM), the Theory of Planned Behavior (TPB), and the Resource-Based View (RBV), which are applied to the context of ERP adoption. This approach enriches the discourse on technology adoption in corporate settings, focusing on the critical roles of security and technological attributes, underscoring the contemporary significance of cybersecurity and system efficiencies (Venkatesh & Davis, 2000).

The study identifies a demographic trend toward a younger, technologically adept managerial cohort within Chinese enterprises, signaling a transformative shift towards openness to technological innovations that promise operational efficiency and competitive advantage.

#### 5.2 Recommendation

Given the insights derived from this study, several recommendations can be offered to both practitioners and policymakers. Firstly, it is essential for organizations, especially those in the burgeoning market of China, to consider the scale of their operations and the extent of their market area when deciding to adopt ERP systems. Larger companies with broader market operations should prioritize ERP adoption to fully leverage its integration and efficiency benefits. Additionally, the critical role of security in the ERP adoption process suggests that organizations must invest in robust cybersecurity measures to safeguard their data and ensure the integrity of their ERP systems.

Organizations should also evaluate the technological compatibility of ERP systems with their existing infrastructure to ensure a seamless integration process. It is recommended that companies thoroughly assess their technological readiness and the potential economic and technical benefits before deciding on ERP adoption. Furthermore, vendors of ERP systems should strive to offer solutions that are customizable to the specific needs of the Chinese market, considering its unique business practices and regulatory environment.

#### **5.3 Limitation and Further Study**

While this study provides valuable insights into the factors influencing ERP system adoption among Chinese corporate managers, it has limitations. One area for improvement is the study's focus on corporate managers, which may not fully capture the perspectives of other stakeholders involved in the ERP adoption process, such as IT staff and end-users. Additionally, the study primarily relies on quantitative data, which may overlook the nuanced understanding that qualitative data could offer regarding the motivations and concerns related to ERP adoption.

Future research could address these limitations by incorporating a more diverse set of respondents, including IT professionals and end-users, to gain a comprehensive understanding of the ERP adoption landscape. Qualitative research methods, such as interviews and case studies, could be employed to delve deeper into the organizational dynamics and decision-making processes underlying ERP adoption. Moreover, longitudinal studies could provide insights into the long-term impacts of ERP adoption on organizational performance and competitiveness.

Exploring the role of cultural factors in ERP adoption within the Chinese context would also be a valuable addition to the literature. Given the rapid technological advancements and the evolving regulatory landscape, continuous research is needed to keep pace with the changes and to understand their implications for ERP adoption among Chinese enterprises.

# References

- Ajzen, I. (1991). The theory of planned behavior. Organizational Behavior and Human Decision Processes, 50(2), 179-211. https://doi.org/10.1016/0749-5978(91)90020-t
- Awa, H. O., & Ojiabo, O. U. (2016). A model of adoption determinants of ERP within T-O-E framework. *Information Technology & People, 29*(4), 901-930. https://doi.org/10.1108/itp-03-2015-0068
- Barney, J. B. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17(1), 99-120. https://doi.org/10.1177/014920639101700108
- Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin*, *107*(2), 238-246. https://doi.org/10.1037/0033-2909.107.2.238
- Bingi, P., Sharma, M. K., & Godla, J. K. (1999). Critical Issues Affecting an ERP Implementation. *Information Systems Management*, 16(3), 7-14.
  - https://doi.org/10.1201/1078/43197.16.3.19990601/31310.2
- Boonstra, A. (2005). Interpreting an ERP implementation from a stakeholder perspective. *International Journal of Project Management*, 24(1), 38-52. https://doi.org/10.1016/j.ijproman.2005.06.003
- Botta-Genoulaz, V., Millet, P.-A., & Grabot, B. (2005). A survey on the recent research literature on ERP systems. *Computers in Industry*, 56(6), 510-522.
- https://doi.org/10.1016/j.compind.2005.02.004
- Brealey, R. A., Myers, S. C., & Allen, F. (2020). Principles of corporate finance. McGraw-Hill Education.
- Buonanno, G., Faverio, P., Pigni, F., Ravarini, A., Sciuto, D., & Tagliavini, M. (2005). Factors affecting ERP system adoption: A comparative analysis between SMEs and large companies. *Journal of Enterprise Information Management*, 18(4), 384-426.
- Buonanno, G., Faverio, P., Pigni, F., Ravarini, A., Sciuto, D., & Tagliavini, M. (2010). ERP systems adoption in large Italian enterprises: A survey. *Journal of Information Systems*, 24(3), 123-136. https://doi.org/10.1108/17410390510609572
- Chang, M., Cheung, W., Cheng, C., & Yeung, J. (2008). Understanding ERP system adoption from the user's perspective. *International Journal of Production Economics*, 113(2), 928-942. https://doi.org/10.1016/j.ijpe.2007.08.011
- Chen, I. J. (2001). Planning for ERP systems: Analysis and future trend. Business Process Management Journal, 7(5), 374-386. https://doi.org/10.1108/14637150110409424
- Chung, S. H., & Snyder, C. (2000). ERP adoption: a technological evolution approach. *International Journal of Agile Management Systems*, 2(1), 24-32. https://doi.org/10.1108/14654650010312570
- Damali, U., Kocakulah, M., & Ozkul, A. (2021). Investigation of Cloud ERP Adoption in the Healthcare Industry Through Technology-Organization-Environment (TOE) Framework: Qualitative Study. Int. J. Heal. Inf. Syst. *Informatics*, 16(1), 1-14. https://doi.org/10.4018/ijhisi.289463
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319-340. https://doi.org/10.2307/249008

Fama, E. F., & French, K. R. (2004). The Capital Asset Pricing Model: Theory and Evidence. *Journal of Economic Perspectives*, 18(3), 25-46.

https://doi.org/10.1257/0895330042162430 Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation

- models with unobservable variables and measurement error. Journal of Marketing Research, 18(1), 39-50. https://doi.org/10.1177/002224378101800104
- Gable, R., & Wolf, M. (1993). Instrument Development in the Affective Domain: Measuring Attitudes and Values in Corporate and School Settings (2nd ed.). Kluwer Academic Publishers. https://doi.org/10.1007/978-94-011-1400-4 1
- Gefen, D. (2000). Lessons Learnt from the Successful Adoption of an ERP: The Central Role of Trust. *IFIP - The International Federation for Information Processing*, 17-30.
- Gusmão, A. P. H. D., Silva, M. M., Poleto, T., Silva, L. C., & Costa, A. (2018). Cybersecurity risk analysis model using fault tree analysis and fuzzy decision theory. *Int. J. Inf. Manag.*, 43, 248-260. https://doi.org/10.1016/j.ijinfomgt.2018.08.008
- Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2010). *Multivariate data analysis* (7th ed.). Prentice Hall.
- Hollensen, S. (2007). *Global Marketing: A Decision-Oriented Approach* (4th ed.). Prentice Hall.
- Hu, L.-T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, 6(1), 1-55. https://doi.org/10.1080/10705519909540118
- Huang, S. M., & Palvia, P. (2001). ERP implementation issues in advanced and developing countries. *Business Process Management Journal*, 7(3), 276-284. https://doi.org/10.1108/14637150110392773
- Huang, Z., & Price, R. L. (2010). Influencing factors of strategic value in technology alliances: An empirical study. *International Journal of Information Management*, 30(2), 109-119.
- Jöreskog, K. G., & Sörbom, D. (1996). *LISREL8: User's reference guide*. Mooresville: Scientific Software.
- Kline, R. B. (2016). Principles and practice of structural equation modeling. The Guilford Press.
- Kotler, P. (2000). *Marketing Management* (Millennium Edition). Prentice Hall.
- Kumar, V., Maheshwari, B., & Kumar, U. (2002). ERP systems implementation: best practices in Canadian government organizations. *Government Information Quarterly*, 19(2), 147-172. https://doi.org/10.1016/s0740-624x(02)00092-8
- Law, C. C. H., & Ngai, E. W. T. (2007). ERP systems adoption: An exploratory study of the organizational factors and impacts of ERP success. *Information & Management*, 44(4), 418-432. https://doi.org/10.1016/j.im.2007.03.004
- Li, X., Xu, E., & Li, L. (2018). Industry 4.0: state of the art and future trends. *International Journal of Production Research*, 56(8), 2941-2962.

https://doi.org/10.1080/00207543.2018.1444806

Liu, M., Li, C., Wang, S., & Li, Q. (2023). Digital transformation, risk-taking, and innovation: Evidence from data on listed enterprises in China. *Journal of Innovation & Knowledge*, 8(1), 100332.

- Luo, W., & Strong, D. M. (2004). A framework for evaluating ERP implementation choices. *IEEE Transactions on Engineering Management*, 51(3), 322-333. https://doi.org/10.1109/TEM.2004.830862
- Morawiec, P., & Sołtysik-Piorunkiewicz, A. (2023). ERP System Development for Business Agility Industry 4.0—A Literature Review Based on the TOE Framework. Sustainability, 15(5), 4646. https://doi.org/10.3390/su15054646
- Nicolaou, A. I., & Bhattacharya, S. (2011). Sustainability of ERP systems in small-sized business environments. *Journal of Systems and Software*, 84(10), 1654-1667.
- Nunnally, J. C. (1978). *Psychometric theory* (2nd ed.). McGraw-Hill.
- Pedroso, R., Zanetello, L., Guimaraes, L., Pettenon, M., Goncalves, V., Scherer, J., Kessler, F., & Pechansky, F. (2016). Confirmatory factor analysis (CFA) of the crack use relapse scale (CURS). Archives of Clinical Psychiatry, 43(3), 37-40. https://doi.org/10.1590/0101-6083000000081
- Porter, M. E. (1998). Competitive Advantage: Creating and Sustaining Superior Performance. Free Press.
- Rajan, R. G., & Zingales, L. (1995). What Do We Know about Capital Structure? Some Evidence from International Data. *The Journal of Finance*, 50(5), 1421-1460. https://doi.org/10.1111/j.1540-6261.1995.tb05184.x
- Saa, P., Cueva Costales, A., Moscoso-Zea, O., & Luján-Mora, S. (2017). Moving ERP Systems to the Cloud - Data Security Issues. Journal of Information Systems Engineering and Management, 2, 21. https://doi.org/10.20897/jisem.201721
- Sharma, S., & Daniel, E. M. (2016). Isomorphic factors in the adoption of ERP by Indian medium-sized firms. *Journal of Enterprise Information Management*, 29(6), 798-821. doi:10.1108/JEIM-07-2014-0076.
- Shiau, W., Hsu, P., & Wang, J. (2009). Development of measures to assess the ERP adoption of small and medium enterprises. *Journal of Enterprise Information Management*, 22(1/2), 99-118. doi:10.1108/17410390910922859.
- Tan, W., & Pan, S. L. (2003). Managing e-transformation in the public sector: An e-government study of the Inland Revenue Authority of Singapore (IRAS). *European Journal of Information Systems*, 12(4), 269-281. https://doi.org/10.1057/palgrave.ejis.3000475
- Van Everdingen, Y., Van Hillegersberg, J., & Waarts, E. (2000). ERP adoption by European midsize companies. Communications of the ACM, 43(4), 27-31. https://doi.org/10.1145/332051.332064
- Venkatesh, V., & Davis, F. D. (2000). A theoretical extension of the Technology Acceptance Model: Four longitudinal field studies. *Management Science*, 46(2), 186-204. https://doi.org/10.1287/mnsc.46.2.186.11926
- Wang, L. (2016). The Internet of Things in the context of China's manufacturing sector. *Chinese Journal of Engineering*, 2, 1-15.
- Zhu, K., Kraemer, K. L., & Xu, S. (2006). The process of innovation assimilation by firms in different countries: A technology diffusion perspective on China's software industry. *Information Systems Research*, 17(4), 388-405.