

A Study on Determinants of Enterprises Migrating ERP Systems to the Cloud

Jiayu Chi

School of Business, Sun Yat-sen University, Guangzhou, China

Email: chijiayu@mail.sysu.edu.cn

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Abstract

Although there are many advantages of cloud ERP systems, the vast majority of enterprises still choose the traditional method of local deployment. This paper aims to develop an adoption model for cloud ERP systems. The influencing factors can be categorized into four groups: motivation to migrate, transaction attributes, enterprise characteristics, and external factors. An empirical study was conducted through a questionnaire survey targeting the CIOs of Chinese enterprises. The findings of this study indicate that the primary factors influencing the intention to adopt cloud migration for enterprise ERP systems include cost reduction, business process optimization, security concerns, strategic factors, business risks, the performance of the former IT department, and imitation pressure. Our results provide significant theoretical implications for research on migrating ERP systems to the cloud and can also offer practical guidance to enterprises and ERP suppliers.

Keywords

ERP System, Cloud Computing, Adoption Intention, Influencing Factor

1. Introduction

With the continuous development of society, information technology has rapidly penetrated into all aspects of personal life and business operations. As a unique branch of IT outsourcing, cloud computing has made significant advancements in recent years, garnering high attention from IT users. Cloud computing refers to a platform that provides networked access to remote services. It enables organizations to avoid the expenses of maintaining their hardware and software by relying on the cloud instead. Cloud computing offers significant elasticity, allowing organizations to dynamically scale their IT resources both up and down (Marston et al., 2011; Islam et al., 2023).

The enterprise resource planning (ERP) system is a generic term for a broad set of activities supported by multi-module application software that helps organizations manage their resources (Mohamed et al., 2017). The ERP system has been shown to provide significant improvements in efficiency, productivity, and quality, leading to cost reduction and more effective decision-making. Many enterprises believe that the ERP system can offer strategic competitive advantages. Therefore, it is not surprising that many organizations have already adopted ERP systems. ERP offerings have evolved over the years from traditional software models that utilize physical client servers to cloud-based software that provides remote, web-based access. The benefits of cloud-based ERPs include cost-effectiveness, time savings, scalability, and ease of updates (Johansson & Ruivo, 2013; Fasileem & Rajapakse, 2022). Hence, the increasing interest in cloud deployments of ERPs is not surprising. Although there are many advantages of cloud ERP systems, the vast majority of enterprises still choose the traditional method of local deployment.

Based on a review of existing literature, we conducted empirical research to identify the key factors that influence the migration of traditional ERP systems to the cloud and provide practical guidelines to enterprises and ERP suppliers.

The rest of the paper is organized as follows: Section 2 presents the literature review. Section 3 develops the research model and proposes hypotheses. Section 4 describes the survey research process and reports the results of the data analysis. Finally, the major findings and their implications for research and practice are discussed.

2. Literature Review

2.1. Cloud ERP Adoption

Recently, there has been an increase in studies focused on the adoption of cloud ERP. A study conducted by Johansson et al. (2014) investigated the contribution of cloud ERP adoption by comparing the respective opportunities and concerns through SMEs and large enterprises when they counted on cloud ERP. They found that SMEs can best exploit cloud ERPs as many of the benefits are more relevant for them. At the same time, many of the concerns associated with cloud ERPs are not seen as important for SMEs. On the other hand, large companies have severe concerns that are related to their size, complexity, and demands. Johansson & Ruivo (2013) found that the value propositions of cloud ERP can be grouped into the following 10 factors: costs, security, availability, usability, implementation, ubiquity, flexibility, compatibility, analytics, and best practices. Cost concerns, data security, and system availability are the most important factors.

Kinuthia (2014) compared the differences between organizations that adopted cloud ERP systems and organizations that did not adopt cloud ERP systems in the United States. In comparison to organizations that did not adopt cloud ERP systems, organizations that adopted cloud ERP systems had the following char-

acteristics: higher level of relative advantage, higher level of compatibility, higher level of security concern, higher top management support, higher level of organizational readiness, bigger sizes, more centralized, more formalized, and higher competitive pressure.

A study conducted by [Lechesa et al. \(2012\)](#) in South Africa found that dimensions related to environmental factors are crucial for decision-making on whether to adopt or reject the technology. [Scholtz and Atukwase \(2016\)](#) analyzed the benefits and drawbacks of the cloud ERP system by focusing on the advantages and disadvantages of the cloud ERP system as perceived by the enterprises in South Africa. The results revealed that perceived advantages of cloud ERP include: flexibility; improved collaboration; improved business efficiency; access to the latest developments in ERP systems; scalability; focus on core activities; reduction in IT costs; decreased data execution time; as well as improved IT security. Meanwhile, the disadvantages comprised security risks; strategic risks; increased downtime; loss of IT competencies; additional implementation costs; limited customization options as well as the threat of unclear Service Level Agreement (SLA).

The study of [Zamzeer et al. \(2020\)](#) found that the most influential factors affecting cloud ERP adoption in SMEs in Jordan are management support and service provider support. The uncertainty, complexity, prior IT experience, competitive pressure, and market scope have minimal effects on SMEs' adoption of cloud ERP.

[AlBar & Hoque \(2019\)](#) examined the factors that influence the adoption of cloud ERP in the Kingdom of Saudi Arabia. The study found that a competitive environment, complexity, ICT infrastructure, observability, relative advantage, regulatory environment, ICT skill, and top management support had a significant influence on the adoption of cloud ERP, while compatibility, organizational culture, and trialability had no significant impact.

2.2. Migrating Traditional ERP Systems to Cloud ERP

The behavior or intention of users to switch from current products to new products is not rare in the research of information technology. Many scholars have studied the relevant factors affecting users' conversion intention. Some studies were focused on the conversion of cloud application software used by individuals, such as the conversion between two e-commerce platforms, or the conversion to cloud office application software. [Lin & Chen \(2012\)](#) found that when individuals switch to other browsers, they mainly consider the usefulness, ease of use, and security of browsers. [Bhattacharjee & Park \(2014\)](#) conducted a longitudinal survey of Google Apps adoption among student subjects in South Korea, and proposed a model of end-user migration from client-hosted computing to cloud computing.

Most existing organizations currently have implemented on-premise ERP systems, so the studies of the adoption of cloud ERP systems may not accurately explain the dilemma faced by organizations, because switching to cloud ERP

systems means giving up incumbent ERP systems (Lee et al., 2013). Thus, switching intention should be considered to be different from adoption intention, as the factors of adopting new IS and giving up incumbent IS should be accounted for.

Zhang et al. (2019) investigated the factors affecting enterprises' switching intention to cloud ERP systems in China based on the technology acceptance model and the information systems success model. Their study found that information quality and system quality have a significant impact on perceived usefulness, and perceived ease of use has a significant impact on perceived usefulness, while perceived ease of use and perceived usefulness have a significant positive impact on enterprises' switching intention to cloud ERP systems.

Chang (2020) investigated the enablers and inhibitors concerning switching to cloud ERP systems in Taiwan region and found that system quality, financial advantage, and industry pressure positively affect the switching intention of cloud ERP systems. However, the perceived risk of cloud ERP systems and satisfaction with and breadth of use of incumbent ERP systems negatively affect the switching intention of cloud ERP systems.

In summary, previous studies have obtained many valuable conclusions, but there are also the following problems:

- Despite the increasing studies on cloud ERP, this is still a new and emerging domain. There are only a few studies conducted on the adoption of cloud ERP. In particular, there is a lack of studies on the switching intention of cloud ERP systems.
- Although existing studies have identified many factors conducive to cloud ERP adoption, some results of these studies are not consistent.

Therefore, based on existing studies, this paper examines the determinants of enterprises migrating ERP systems to the cloud in China.

3. Research Model and Hypotheses

3.1. Research Model

After analyzing the existing literature on cloud computing service adoption, it was found that variables that are of great concern to the enterprise level, such as business risks and former IT department performance, were not reflected in many classic models. Any theoretical models also have problems such as decreased explanatory power or insufficient relevance to reality due to the rapid development of technology. Although classic adoption models have their recognized scientific validity, this study hopes to break away from existing research frameworks and construct a real and effective adoption intention key influencing factor model that can directly address the pain points of enterprise IT managers. Through the simple and direct model construction in this study, the core concerns of IT managers in enterprises can be intuitively demonstrated, thereby providing constructive assistance for the future cloud service field with the results and evidence of this research.

This study used the adoption intention to migrate enterprise ERP systems to the cloud as the dependent variable in the model. The independent variables were categorized into four groups: motivation of enterprise attributes of transactions, characteristics of the enterprise, and external influencing factors. The motivations of enterprises encompassed nine independent variables: cost reduction, focus on core competencies, acquisition of knowledge and skills, business process optimization, technological factors, political factors, security concerns, loss of control, and strategic factors. The attributes of transactions included three independent variables: uncertainty, business risk, and asset specificity. The performance of the former IT department was considered as an independent variable in the enterprise characteristic factors, and the imitation pressure variable in the external influencing factors. The research model is illustrated in **Figure 1**. Additionally, the model incorporated four control variables: enterprise industry, enterprise nature, enterprise size, and IT department size to eliminate the influence of other irrelevant factors.

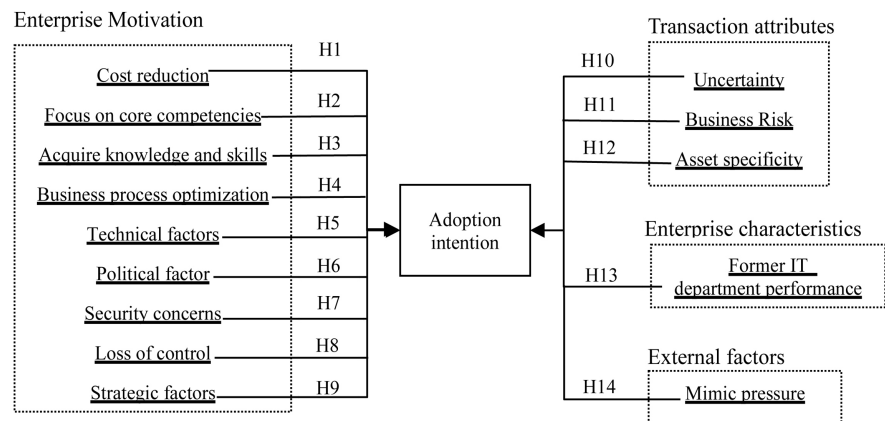


Figure 1. Research model.

3.2. Research Hypothesis

Based on the research model shown in **Figure 1**, this article proposes the following 14 hypotheses.

Cost factor has always been one of the core elements that enterprises are most concerned about. If an emerging IT technology can reduce IT expenses and increase overall revenue, it is often beneficial for enterprises to manage their IT systems and redistribute resources, thereby promoting their intention to adopt the technology.

Hypothesis 1: Reducing costs has a positive impact on the adoption intention to migrate enterprise ERP system to the cloud.

The focus on core competencies by enterprises makes many companies more willing to retain key modules in their ERP systems and outsource non-core or peripheral business areas to third-party cloud computing service providers. This allows enterprises to focus more on enhancing their core competitiveness, demonstrating that their emphasis on core business can also drive their adoption

intention cloud computing technology.

Hypothesis 2: Focusing on core competencies has a positive impact on the adoption intention to migrate enterprise ERP system to the cloud.

In the current Internet economy era, rapid advancements in science and technology, particularly in IT, require enterprises to stay innovative. Cloud service enables enterprises to access external resources through collaboration with third-party organizations, namely cloud service providers. It can help provide expert consultation and experience from outside the enterprise, and offer professional IT skills and knowledge that are not available within the enterprise. In addition, it can enable the enterprise to acquire more refined IT capabilities. Therefore, this variable can drive the enterprise's adoption intention.

Hypothesis 3: Acquiring knowledge and skills has a positive impact on the adoption intention to migrate enterprise ERP system to the cloud.

ERP system is a core IT system that connects the internal and external aspects of an enterprise. It penetrates into all aspects of the business units of the enterprise, helping to analyze and manage a series of processes from production to sales. The ERP system based on cloud can greatly simplify the tedious and complex business processes of enterprises, delete unnecessary modules, and add new IT architecture, transform and update the existing IT resources and skills of enterprises, greatly improve and enhance the utilization rate of IT resources, and thus promote the adoption intention of the enterprises towards this technology.

Hypothesis 4: Business process optimization has a positive impact on the adoption intention to migrate enterprise ERP system to the cloud.

In addition to seeking consultation and expertise from external specialists, the adoption of emerging technologies is likely to provide technological innovation advantages to the enterprise. In comparison to the traditional locally deployed ERP system, the cloud-based ERP system accesses the system via the Internet, eliminating the need for local IT infrastructure. This feature liberates the cloud ERP system from geographical and time limitations, enabling users to access the system anytime and anywhere to carry out tasks, significantly enhancing business mobility. Furthermore, cloud computing technology offers robust scalability and compatibility, alleviating concerns about data conversion between different systems. System updates and upgrades can also be fully managed by cloud service providers.

Hypothesis 5: Technical factors have a positive impact on the adoption intention to migrate enterprise ERP system to the cloud.

Political factors are an inevitable issue within a company, especially from the perspective of senior management. Many decisions are made considering political reasons. For enterprises, the actual performance of the IT departments is often difficult to measure. However, migrating the enterprise ERP system to the cloud can confirm the actual work performance of the IT department, verify the effectiveness of emerging resources or systems, enhance the credibility and reputation of the IT department, and ultimately enable the enterprise to replicate the successful experience of peer companies. Therefore, in this study, it is be-

lieved that political factors can effectively drive enterprises to migrate their ERP systems to the cloud.

Hypothesis 6: Political factors have a positive impact on the adoption intention to migrate enterprise ERP system to the cloud.

The concern about security may be one of the main reasons why enterprises hesitate to adopt emerging IT technology. Many enterprises are worried that migrating ERP systems to the cloud may lead to a series of problems, potentially causing significant losses to the enterprise. Since the ERP system is the core IT system of an enterprise, outsourcing it to a cloud service provider means that the enterprise's confidential or sensitive information is stored in the cloud platform for management and operation by a third party. Cloud service technology, which is based on the Internet for system access and operation, also requires the supplier to have the ability to resist attacks such as foreign hackers and viruses, prevent unauthorized access, and effectively manage the system on a daily basis. This places very high demands on the qualifications of cloud service providers.

Hypothesis 7: Security concerns have a negative impact on the adoption intention to migrate enterprise ERP system to the cloud.

ERP system is the core IT system of an enterprise. Migrating ERP to the cloud involves entrusting the enterprise's data and business processes to third-party cloud computing service providers for oversight. While this shift may significantly decrease the daily IT system management for enterprises, it may also lead to a loss of control and autonomy over ERP systems. This loss of control often poses a challenge for many enterprises looking to embrace cloud computing.

Hypothesis 8: Losing control has a negative impact on the adoption intention to migrate enterprise ERP system to the cloud.

Strategic factors have shown inconsistent results in previous studies, with some companies being able to drive the cloud migration of their ERP systems, while others are hindered or have no impact. However, from a strategic perspective, any decision made by an enterprise needs to align with its strategy, which is constantly evolving and influenced by the enterprise's environment and development stage. Migrating the core ERP system of an enterprise to the cloud can not only help the enterprise establish its global operational capacity, accelerate its expansion, and swiftly enter new markets, but also facilitate mergers and acquisitions. Furthermore, it can assist the enterprise in aligning IT with business objectives, developing new business models based on IT capabilities, and supporting the future commercial growth of the enterprise's IT department.

Hypothesis 9: Strategic factors have a positive impact on the adoption intention to migrate enterprise ERP system to the cloud.

The uncertainty largely comes from the commodity transaction attributes of cloud computing services. During the transaction process, due to the negotiation with third-party cloud service providers regarding service terms and policies, there is a great deal of uncertainty about the migrated environment, future IT technology needs, and the enterprise's own IT capabilities in the future. This also reduces the intention of enterprises to adopt emerging technologies at the en-

terprise level.

Hypothesis 10: Uncertainty has a negative impact on the adoption intention to migrate enterprise ERP system to the cloud.

The commercial risks in the transaction process mainly stem from cloud computing service providers. Migrating an enterprise's ERP system to the cloud is a cautious endeavor for the enterprise. It is essential to thoroughly assess the qualifications of the cloud service provider before signing the contract, verify the reasonableness and pertinent terms of the contract, and negotiate the revenue relationship provided by the supplier repeatedly. However, there may still be undisclosed hidden expenses during the transaction process, and it is often irreversible to revert the ERP system back from the cloud to traditional on-premises deployment after migration, significantly diminishing enterprises' inclination to migrate to the cloud.

Hypothesis 11: Business risks have a negative impact on the adoption intention to migrate enterprise ERP system to the cloud.

Asset specificity refers to the extent to which other users can utilize an enterprise's IT deployment without compromising system productivity. It measures whether the enterprise's ERP system is customized for the enterprise. Typically, the greater the asset specificity of an enterprise, the more it will spend on ERP system conversion. Additionally, because cloud computing services are not yet widely adopted, existing ERP cloud services are generally generic, with limited customized services tailored to specific enterprises and their customization needs. This limitation also obstructs enterprises with unique business processes or intricate ERP systems from transitioning to the cloud.

Hypothesis 12: Asset specificity has a negative impact on the adoption intention to migrate enterprise ERP system to the cloud.

The performance of the former IT department refers to its production efficiency, information quality, and auxiliary support role before the enterprise adopted new technology. When senior managers find the IT department's performance unsatisfactory, the enterprise is more likely to outsource its systems to third-party suppliers to enhance performance. Consequently, a poorly performing IT department may prompt the enterprise to transition from their old ERP system to cloud ERP.

Hypothesis 13: The performance of the former IT department has a negative impact on the adoption intention to migrate enterprise ERP system to the cloud.

Imitation pressure is the sole external variable considered in this research model. It primarily pertains to the significant enhancement in performance and revenue observed in peers and competitors following the adoption of IT outsourcing decisions, specifically cloud computing services. Given the relatively strong understanding and familiarity with peers and competitors, the IT architecture and business composition among enterprises are also relatively similar. In situations where many enterprises still harbor uncertainties about emerging

IT technologies, witnessing peers or competitors achieve business enhancements and revenue growth through the utilization of cloud computing technology can alleviate the enterprise's concerns about the technology. Consequently, the likelihood of the enterprise imitating the successful experiences of already adopted enterprises increases. Therefore, this variable plays a pivotal role in fostering the adoption intention of enterprises to migrate enterprise ERP system to the cloud.

Hypothesis 14: Imitation pressure has a positive impact on the adoption intention to migrate enterprise ERP system to the cloud.

4. Research Design

4.1. Variable Measurement

The variables were measured using a mature scale with good reliability and validity, as shown in **Table 1**. All measurement items for the variables were quantified using a 7-level Likert scale.

Table 1. Variables and their resources.

Variable	Measurement source
Cost reduction	(Beverakis et al., 2009)
Focus on core competencies	(Lacity & Willcocks, 2014)
Acquiring knowledge and skills	(Beverakis et al., 2009)
Business process optimization	(Beverakis et al., 2009)
Technical factors	(Gebauer & Shaw, 2004)
Political factors	(Lacity & Willcocks, 2014)
Security concerns	(Gonzalez et al., 2005)
Losing control	(Sobol & Apte, 1995)
Strategic factors	(Diromauldo, 1998)
Uncertainty	(Poppo & Lacity, 2002)
Business risk	(Gonzalez et al., 2005)
Asset specificity	(Ang & Cummings, 1997)
Performance of the former IT department	(Straub et al., 2009)
Mimic pressure	(Teo & Chan, 2004)

4.2. Data Collection

The research object of this study is the intention of enterprises to adopt cloud migration of ERP systems. The questionnaire was distributed to the CIOs of Chinese enterprises. There are two main methods used to distribute research questionnaires: electronic online questionnaires and paper offline questionnaires. Electronic questionnaires are primarily created through online platforms such as Wenjuanxing and are disseminated by mentors and MBA students from Sun Yat-sen University. They were mainly distributed in WeChat groups that

gather many domestic enterprise CIOs. On-site questionnaires were distributed at the CIO Annual Conference, guided by the China New Generation IT Industry Promotion Alliance. 150 CIOs attending the event mainly came from enterprises in South and North China.

The questionnaire was filled out voluntarily, and it took approximately one week for it to be collected. There are three main criteria for determining the validity of a questionnaire: first, the completeness of the filling out process. Except for the open-ended questions in the third part, any blank items in other parts will be considered invalid; secondly, filter based on the repetitive and reverse questions set in the questionnaire. If there is a contradiction between the two, the questionnaire will be considered invalid; thirdly, if one-third of the questions have the same selection, it will be considered an invalid questionnaire. As shown in **Table 2**, the overall effective rate of the questionnaire was 58%.

Table 2. Statistical table of questionnaire collection status.

	Electronic questionnaire	Paper questionnaire	Total
Total number of questionnaires distributed	100	150	250
Total number of questionnaires responses	63	121	184
Number of valid questionnaires	57	89	146
Effective rate	57%	59%	58%

The descriptive statistics mainly include the industry sector of the enterprise and the type of the enterprise, the size of the enterprise, the size of the IT department of the enterprise, the annual sales of the enterprise, the total assets of the enterprise and the position of the head of IT of the enterprise, as shown in **Table 3**. The results of descriptive statistics show that the surveyed enterprises are mainly concentrated in manufacturing and service industries, with 59 and 86 enterprises respectively, accounting for 39.73% and 58.91%. From the perspective of enterprise size, small, medium and large enterprises have a certain number in the sample and are roughly evenly distributed.

4.3. Reliability and Validity Tests

In this study, Internal Consistency Reliability and Composite Reliability were used to test the reliability of each research variable. The Cronbach's α coefficients for all variables exceeded the recommended threshold of 0.7, with a minimum value of 0.839, indicating high internal consistency reliability in measuring various structural variables. The Composite Reliability (CR) for each variable exceeded 0.8, with a minimum value of 0.904, demonstrating that the selected items for measuring latent variables within each concept were excellent in reflecting the

Table 3. Descriptive statistics.

	Categories	Samples	
		Quantity	Percent
Industry	Agriculture	2	1.37%
	Manufacturing	59	39.73%
	Services	86	58.91%
Nature of the enterprise	Wholly state-owned and state-controlled	26	17.81%
	Collective enterprise	10	6.85%
	Private Enterprise	58	39.73 %
	Wholly foreign-owned or joint venture	47	32.19 %
	Others	5	3.42%
Scale of enterprise	Under 300 people	25	17.12%
	300 - 2000 people	46	31.51 %
	More than 2000 people	75	51.37%
IT department Size	Less than 100 people	67	45.89%
	100 - 500 people	55	37.67%
	More than 500 people	24	16.44%
Annual sales	Less than \$30 million	17	11.64%
	\$30 million to \$300 million	39	26.71%
	Over \$300 million	90	61.65%
Total assets	Less than \$40 million	23	15.75%
	\$40 million to \$400 million	31	21.23%
	Over \$400 million	92	63.02%

characteristics and properties of the variables effectively, thus ensuring high reliability across all concepts, as shown in **Table 4**.

The validity was evaluated through content validity and construct validity. Content validity is a subjective measure of whether the items in the scale measure what they intend to measure, assessing whether the subjects' understanding and responses align with the questions the item designers aim to pose. Since the variable measurement in this study is based on the references of domestic and foreign scholars, it demonstrates good content validity. Construct validity primarily pertains to the scale's ability to test the relationship between variables and the alignment between the measured value and theoretical structures. It assesses whether the test results can confirm or explain the hypothesis or theory's concept and the level of explanation, primarily through convergence validity and discriminant validity.

Discriminant validity was assessed to determine if there is a significant distinction between the groups of observed variables and other groups of observed variables. In this study, the Pearson correlation coefficient was utilized to evaluate

Table 4. Reliability analysis of variables.

Variable	Cronbach's α	Composite Reliability
Cost Reduction (CR)	0.870	0.923
Focus on Core Competencies (FCC)	1.000	1.000
Acquire Knowledge and Skills (AKS)	0.904	0.943
Business Process Optimization (BPO)	0.858	0.915
Technical Factors (TF)	0.839	0.904
Political Factor (PF)	0.885	0.921
Security Concerns (SC)	0.878	0.909
Loss of Control (LC)	1.000	1.000
Strategic Factors (SR)	0.955	0.961
Uncertainty (UC)	1.000	1.000
Business Risk (BR)	0.902	0.928
Asset Specificity (AS)	0.885	0.930
Former IT Department Performance (PP)	0.901	0.924
Mimic Pressure (MM)	0.904	0.955
Adoption Intention (AI)	0.951	0.965
Total Scale	0.914	0.951

the relationship among 15 structural variables, while the average variance extracted (AVE) was employed to determine the correlation coefficient of the variables themselves. The data analysis results indicate that the average extraction variance of all AVEs exceeds 0.6, and the square root of AVE surpasses the correlation coefficient among all other concepts. Hence, it can be concluded that the variables exhibit strong discriminant validity.

In this study, Harman's single-factor test was used to detect common methodological bias. The results of data analysis in **Table 5** show that the unrotated factor after exploratory factor analysis of all items containing all study constructs explained only 42.556% of the variance in the model. The variance explained by this principal component accounted for less than 50% of the total variance. The primary explanation was that the variables did not exhibit significant common method bias.

Table 5. Harman one-way common method bias correlation test.

Ingredients	Extract squares and load
The total variance of the explanation	42.556%

From the data analysis, the tolerance of the variables is greater than 0.1, and the VIF is less than 10. This indicates that there is no serious collinearity between the variables.

5. Research Results

Based on the above analyses and tests, multivariate linear regression was conducted for 14 explanatory variables to determine the adoption intention. This study utilized SPSS and Stata software to examine whether the 14 key factors, including cost reduction, focus on core competencies, acquisition of knowledge and skills, business process optimization, technical factors, political factors, security concerns, loss of control, strategic factors, uncertainty, business risk, asset specificity, former IT department performance, and imitative pressure, have a significant direct impact on the adoption intention of enterprise ERP system cloud migration. The study also aimed to measure the degree of fit of the research model.

Table 6. Results of regression mode.

Variable	Intercept	Reduce costs	Focus on the core capability	Acquire knowledge And skills	Business processes Optimize	Technical factors	Politics factors
Coefficient	1.570*	0.296**	-0.107	0.166	0.221*	-0.158	-0.126
SD	(0.840)	(0.130)	(0.0862)	(0.112)	(0.132)	(0.114)	(0.108)
Security concerns	Lost Control	Strategic factors	Uncertainty	Business risks	Assets Specificity	Performance of the former IT department	Mimic pressure
-0.239**	0.0593	0.271*	0.0111	-0.213*	-0.00550	0.168*	0.305**
(0.100)	(0.0733)	(0.151)	(0.0674)	(0.109)	(0.0850)	(0.0919)	(0.0808)

Note: * means $p < 0.1$, ** means $p < 0.05$, *** means $p < 0.01$; $r^2 = 0.846$, adjusted $r^2 = 0.810$.

According to the results of a regression model shown in **Table 6**, 7 out of 14 explanatory variables have a direct and significant effect on the adoption intention of cloud migration in ERP systems. These variables include cost reduction, business process optimization, security concerns, strategic factors, business risk, former IT department performance, and copycat pressure. However, the seven variables of core competence, knowledge and skills acquisition, technology, politics, loss of control, uncertainty, and asset specificity showed no significant correlation. Among them, the most concerning factor at the enterprise level is imitative stress, which significantly rejects the original hypothesis with a 1% confidence interval. The two independent variables of cost reduction and security concern directly affect the adoption intention of enterprises at the 5% significance level and are also important factors that enterprises prioritize. Business process optimization, strategic factors, business risk, and former IT department performance are the four independent variables that directly influence the adoption intention of the enterprise at the 10% significance level. This indicates that enterprises consider these four factors when contemplating cloud migration of ERP systems, which ultimately impacts the final adoption decision. The overall

goodness of fit of the study model exceeds 80%, and the adjusted R-square value significantly improves compared to the regression equation of the control variables. This demonstrates that the key factors selected in the study have strong explanatory power for adoption intention.

Table 7. Hypothesis test results.

Hypothesis	Test results
H1	Supported
H2	Not Supported
H3	Not Supported
H4	Supported
H5	Not Supported
H6	Not Supported
H7	Supported
H8	Not Supported
H9	Supported
H10	Not Supported
H11	Supported
H12	Not Supported
H13	Not Supported
H14	Supported

According to the results of the regression model, reducing cost variables have a significant positive effect on the adoption intention of enterprises ($\beta = 0.296, p < 0.05$), so the hypothesis H1 is supported. Focusing on the core competence variables has no significant effect on the adoption intention ($\beta = -0.107, p > 0.1$), so the hypothesis H2 is not supported. The variables of acquiring knowledge and skills had no significant effect on the adoption intention ($\beta = 0.166, p > 0.1$), so the hypothesis H3 was not supported. The variables of business process optimization had a significant positive effect on the adoption intention ($\beta = 0.221, p < 0.05$), so the hypothesis H4 is supported. The technical factor variables have no significant effect on the adoption intention ($\beta = -0.158, p > 0.1$), so the hypothesis H5 is not supported. The political factor has no significant effect on the adoption intention ($\beta = -0.126, p > 0.1$), so the hypothesis H6 is not supported. The safety concern variable has a significantly negative effect on the adoption intention ($\beta = -0.239, p < 0.05$), so the hypothesis H7 is supported. The loss of control variables had no significant effect on the firm's adoption intention ($\beta = 0.0593, p > 0.1$), so the hypothesis H8 is not supported. The strategic factor variables have a significantly positive effect on the adoption intention ($\beta = 0.271, p < 0.1$), so the hypothesis H9 is supported. The uncertainty variables have no significant effect on the adoption intention ($\beta = 0.0111, p > 0.1$), so the hypothesis

H10 is not supported. Business risk variables have a significantly negative effect on the adoption intention ($\beta = -0.213$, $p < 0.1$), so the hypothesis H11 is supported. The asset specificity has no significant effect on the adoption intention ($\beta = -0.00550$, $p > 0.1$), so the hypothesis H12 is not supported. The pre-IT Department's performance variables had a significantly positive effect on the adoption intention ($\beta = 0.168$, $p < 0.1$), but the hypothesis was that the pre-IT department's performance had a negative effect on the adoption intention, so H13 is not supported. The simulation pressure has a significantly positive effect on the adoption intention ($\beta = 0.305$, $p < 0.01$), so the hypothesis H14 is supported. The results of hypothesis testing are summarized in **Table 7**.

6. Research Conclusion

The results of regression analysis show that the main factors influencing the adoption of cloud migration in ERP systems are cost reduction, business process optimization, security concerns, strategic factors, business risk, performance of the former IT department, and imitative pressure.

Firstly, the results show that cost reduction and business process optimization have a significant positive effect on the adoption intention of cloud migration in enterprise ERP systems. The balance of benefit and cost budget remains the primary key factor. Enterprises also aim to integrate internal business processes with external resources to enhance overall operational efficiency and speed up development. Therefore, cloud service providers should persist in exploring and studying cloud service technologies, intensify cost reduction efforts, and continuously optimize the functions of cloud services. This approach will motivate more enterprises to proactively embrace cloud services.

Secondly, the study found that security concerns and business risks significantly hinder the adoption intention to migrate enterprise ERP system to the cloud. This indicates that enterprises are more concerned about negative factors than positive ones during the migration process. Therefore, when enterprises face the decision to adopt cloud services, the key issue is the security of cloud service products and the integrity of cloud service providers. Priority should be given to choosing high-quality brand security products. As a cloud service provider, it is essential to not only strengthen security monitoring and privacy protection of enterprise data but also address user concerns about security and business risks. This can be achieved through measures such as confidentiality agreements with users or providing free security insurance. Government departments and relevant industry associations should actively formulate and implement policies to protect data security and privacy. They should also play a role in monitoring and controlling the IT industry to reduce security concerns among enterprise users and promote adoption intention.

Thirdly, the research proves that strategic factors and the performance of the former IT department will positively affect the adoption intention of cloud migration of enterprise ERP systems. Cloud computing service providers can leverage this to position the initial promotion of enterprises in information-related in-

dustries and more open and inclusive enterprises. These types of enterprises often have IT departments with complete functions, standardization, forward-looking strategies, and expansive strategic layouts. Therefore, we have more confidence and intention to outsource the enterprise's core ERP system to a third-party cloud service provider.

Finally, the simulation pressure is the most significant factor in the research conclusion, which shows that the adoption of ERP cloud systems is easily influenced by peers or competitors. As a cloud service provider, when promoting the quality of cloud computing technology, we can highlight the role of benchmark enterprises in the industry in improving enterprise performance and efficiency after using cloud technology. It is easier to drive companies to adopt success stories as a means of publicity and to target similar companies. For enterprise users, when faced with the adoption decision of cloud services, don't expect to be able to immediately copy the successful experience of their peers. The advantages and success stories touted by vendors should be balanced with a clear understanding of how well the business fits with emerging technologies, and a decision on cloud adoption should be made after careful consideration.

This study extends the theory of information technology adoption to the domain of cloud ERP and verifies whether the key factors of previous studies are still applicable in the unique context of cloud ERP adoption. The research found that cost reduction, business process optimization, security concerns, strategic factors, business risks, pre-IT department performance, and imitative pressure directly and significantly influence adoption intention, enriching the existing theory. Moreover, the study's conclusions hold significant implications for enterprises making decisions about adopting cloud ERP and for cloud ERP providers.

This study also has some limitations. Firstly, due to objective constraints, a real large-scale sampling survey could not be conducted, which may affect the generalizability of the research findings. Secondly, this study utilized a static cross-sectional research method, collecting data mainly at a specific point in time. In the future, longitudinal research could be considered to elucidate the decision-making process of enterprises in adopting cloud ERP.

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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