



# ERP IMPLEMENTATION: A CORPORATE GOVERNANCE PERSPECTIVE

ZHANG JIDONG  
CeTIM at LIACS  
Universiteit Leiden  
Netherlands

[zhangjidong@gsm.pku.edu.cn](mailto:zhangjidong@gsm.pku.edu.cn)

WANG LIYAN  
Accounting Department  
Guanghua School of Management  
Peking University  
China

[lywang@gsm.pku.edu.cn](mailto:lywang@gsm.pku.edu.cn)

## Abstract

The authors investigate corporate governance characteristics of companies that implement the Enterprise Resource Planning system (ERP). ERP implementation enhances information flow for internal managers and outside stakeholders, helps resolve principal-agency problems, and improves corporate governance. The authors hypothesize that companies that have poor corporate governance will be more strongly motivated to implement ERP. A study of data for public companies in China reveals strong motivation for ERP implementation in state-owned companies, companies that have fewer independent directors, companies that have higher ownership concentration in state-owned companies, and companies that have lower ownership concentration in non-state-owned companies. The authors conclude that enterprises that have poor corporate governance are more willing to implement ERP.

Keywords: Corporate governance, ERP, state-owned companies, China

## 1. Introduction

### 1.1. ERP and corporate governance

The ERP system, first introduced by The Garter Group, Inc., is integrated management software developed to the American Production, Inventory and Control Society, Inc. (APICS) MRPII standards. As an advanced management theory model, the ERP system's objective is to improve corporate performance by balancing and optimizing enterprise resources, which includes managing people, finances, assets, information, and time. ERP integrates optimal modern business processes of marketing, logistic, production, just-in-time, materials, total quality, finance, and human resource management. ERP comprises information, money, and logistic flow. Thus ERP is an information processing system that includes all information in the enterprise. Its product is *information*.

ERP helps not only to establish a complete, accurate, and timely information flow system but also to produce much standard information for inside and outside stakeholders, making the management and stakeholder levels more transparent. At the same time, ERP implementation provides accurate and timely guarantee of information that enterprises disclose. Although ERP implementation resolves information asymmetry problems, not all companies are equally willing or motivated to implement ERP. We believe that companies that choose to implement ERP will show patterns of corporate governance that are different from companies that do not implement ERP.

## 1.2. Institutional background and shareholding structure in China

In the early 1980s, the Chinese government embarked on long-term enterprise reform. The government converted wholly state-owned firms into corporations with share capital, which were owned by the central and local State-owned Asset Supervision and Administration Commission (SASAC) linked to the government. The government separated ownership and control rights by gradually granting much managerial freedom to managers of state-owned enterprises (SOEs).

Shares of Chinese-listed companies are generally categorized as either nontransferable shares or transferable shares. Nontransferable shares are of two types: state shares and legal person shares. State shares have been created to designate holdings in the SOEs to SASAC on behalf of the state, or solely government-owned enterprises. Legal person shares are owned by domestic institutions that are themselves partially owned by the central or local SASAC. Because these institutions are typically business agencies or enterprises of local governments that helped start up public companies, it is inappropriate to assume that legal persons would behave very differently from government shareholders. Both state shares and legal person shares cannot be traded on the two stock exchanges, and are transferable to domestic institutions only on government approval [Sun and Tong et al., 2002]. Shares other than state and legal person shares are transferable shares. For most listed companies, the top 10 shareholders are normally the state and legal persons. However, individual A-share owners are typically small shareholders; institutional investors are rare, and they are unlikely to monitor their managers. About one-eighth of the listed firms that can meet the more stringent requirements have issued B-shares [Qian Sun, Wilson H. S. Tong and Jing Tong, 2002]. Only a few companies issue stocks in stock exchanges outside mainland China, and significant state ownership is also prevalent among them.

## 1.3. Principal-agent conflicts in China's institutional setting

A disparity in interests and information asymmetry between shareholders and management in a corporation gives rise to agent problems [Jensen and Meckling, 1976]. In China's institutional setting, government shareholders set their objectives as preserving and adding value for state-owned assets, while managers may tend to maximize their private interests by private perquisite consumption. Furthermore, companies that have government ownership may suffer from greater information asymmetry than those that are privately owned [Sun et al., 2002].

Compared with Western companies, China's enterprises suffer from more severe agent problems because of their unique institutional characteristics. First, managerial shareholding percentage is extremely low in China, with the lowest rate of 0.00000279% to the highest rate of 15.9% in 2003. Second, given that A-share owners in the capital market are typically small shareholders and no significant independent blockholders exist, the Chinese capital market is not likely to oversee managers'

actions. Moreover, although the government holds about two-thirds of shares, it is impossible or prohibitively costly for it to effectively monitor management directly [Lin et al., 1998].

To align managers' interests with their own, owners use compensation packages and monitor performance [Donnelly and Lynch, 2002]. Under this system, the government sets accounting-based profit targets for managers, and grants SOEs great discretion in applying profits in excess of the targets. Accounting information serves as important contract variables for specifying the profit-sharing rules between the SOEs and the government [Bing Xiang, 1998]. In 2000 and 2001, the supervision board and the independent director were introduced. These systems are expected to bring management under further supervision and prevent them from opportunistic behaviors.

Relative to small shareholders who may be free-riders, large shareholders are more motivated to monitor management because the holding constitutes a significant portion of large shareholders' wealth. Furthermore, they have voting rights and other means for monitoring management. In China's market, anecdotal evidence shows that a higher degree of ownership in the governance is conducive to the overseeing of management.

SOEs managers make corporate announcements and file quarterly and annual financial reports that reflect their performance. By disclosing information and sending signals to shareholders, they can reduce their agent costs [Wang and Zhang, 2007].

## 2. Hypothesis Development

ERP is an information integrated system [Brazel, 2005] that can produce information flow between different subdivisions and functional departments. This information can help stakeholders completely understand the operation. Because ERP provides much information about the enterprise, it also reduces information asymmetry.

We believe that ERP implementation and corporate governance show a significant relation. To analyze the relation, we chose three variables that represent corporate governance: the percentage of independent board directors, the concentration of stock share, and the type of corporate ownership.

Independent directors can monitor managers' operations. They can also arbitrate disagreements between internal managers. They help resolve the serious information asymmetry between managers and stockholders [Fama, 1980; Fama and Jensen, 1983]. With their special knowledge about business, technology, and markets, independent directors also help managers resolve business problems [Brickly and James, 1987]. They can arbitrate and balance the short contract. As the representatives of stockholders, they execute control rights. They resolve problems when the long contract is incomplete. They can simplify information asymmetry and reduce the costs of monitoring. Thus independent directors become monitors for all stakeholders. We believe that if fewer independent directors are on the board, the corporate governance will be poor; if more independent directors are the board, the corporate governance will be better. Thus, the percentage of independent directors on the board is one of the most important corporate governance variables. If the board has a lower percentage of independent directors and poorer corporate governance, the managers are likely to want to implement ERP. If the board has a higher percentage of independent directors, the corporate governance is much better, and they will not be strongly motivated to implement ERP. Thus, we hypothesize:

*H1:* A lower percentage of independent directors will be found on the boards of companies that implement ERP compared with companies that do not implement ERP.

When the company has higher ownership concentration, shareholders will behave in one of two ways. Shareholders who own control rights could actively take part in monitoring. They could delegate the chairman of board or CEO, and this action would reduce the information asymmetry between managers and shareholders. On the other hand, shareholders who have no control rights are less motivated to monitor managers and cannot challenge the block shareholders. They place no constraints on the blockholders who own control rights, and this leads to tunneling behaviors. Therefore, the higher the ownership concentration, the poorer the corporate governance, and the greater the likelihood the companies will want to implement ERP. Thus, ownership concentration is one of most important corporate governance variables: lower ownership concentration indicates better corporate governance and less motivation for implementing ERP. We hypothesize:

*H2:* In companies that implement ERP, ownership concentration will be much higher compared with ownership concentration in companies that do not implement ERP.

Economic research commonly asserts that SOEs typically have poor corporate governance [Huang Zhangkai, 2006], for three reasons. First, SOEs must consider political factors and are delegated to political objectives and tasks [Boycko, Shleifer, and Vishny, 1996]. Second, managers of SOEs are not professionals with market experience, so they are less able to manage a business well [Barberis et al., 1996]. Third, owners of SOEs are not identifiable or known, so that SOEs corporate governance is complicated [Shleifer, 1998]. Because the owners are not identifiable, they are not permitted to circulate, which leads to serious principal agency problems and poor corporate governance. Thus, corporate ownership is one of the most important corporate governance variables. If the company is state-owned, corporate governance is much poorer, and it is likely to favor implementing ERP. If the company is non-state-owned, corporate governance is much better, and it is not strongly motivated to implement ERP. Thus, we hypothesize:

*H3:* State-owned companies will be strongly motivated to implement ERP; non-state-owned companies will be less strongly motivated to implement ERP.

## 3. Samples and Methodology

### 3.1. Methodology

In this study we select three variables to represent the quality of corporate governance: the percentage of independent directors on the board, ownership concentration (the percentage of shares for the first three shareholders), and ownership (whether the control shareholder is the central or local SASAC linked to the government). The dependent variable is ERP, which means that if the company implements ERP, the value of the variable is zero, otherwise it is 1. In this research we select some control variables: corporate earnings quality, represented by return on asset (ROA); corporate size, represented by logarithm of total asset; and

implementation time, represented by time of ERP implementation. All variables are shown in Table 1.

Table 1. Variables.

<i>Variables</i>	<i>Names</i>	<i>Attribution</i>
<i>Independent variables</i>		
Indep	Percentage of independent directors	
Concentration	Concentration of Ownership	The percentage of the first three shareholders
Owner	Ownership	0 state-owned; 1 nonstate-owned
<i>Control variables</i>		
Size	Corporate Size	Ln(Total Asset)
Year	Year	The year when the corporate implements ERP
ROA	Return on Asset	Present the corporate earnings
<i>Dependent</i>		
ERP	ERP	0-ERP implementation, 1-nonERP implementation

We construct the logistic model as below:

$$Logistic(ERP) = \beta_0 + \beta_1 Concentration + \beta_2 Indep + \beta_3 Owner + \beta_7 Indep * Owner + \beta_8 Concentration * Owner + \sum_{i=4}^6 \beta_i Control + \varepsilon$$

$$\sum_{i=4}^6 \beta_i Control$$

Control Variables,

$$\beta_3 Owner$$

Dummy variables: Ownership,

$$\beta_1 Concentration$$

Concentration of shareholder, percentage of the first three shareholders

$$\beta_2 Indep$$

the percentage of independent directors

$$\varepsilon$$

residuals

In the model,  $\beta_2$  is expected to be positive because a higher percentage of independent directors on the board will indicate much better corporate governance. In such case, the company has little motivation to implement ERP.  $\beta_1$  is expected to be negative because with higher ownership concentration, we expect poorer corporate governance. In such case, the company has strong motivation to implement ERP.  $\beta_3$  is expected to be positive because of poor corporate governance of SOEs and strong motivation to implement ERP.  $\beta_7$  is expected to be positive because if a lower percentage of independent directors are on the board of non-state-owned companies, corporate governance will be much better. Such companies are likely to be family businesses that have little information asymmetry and, thus, less motivation to implement ERP. Otherwise, the board of SOEs will have a higher percentage of independent directors, and independent directors are likely to favor ERP implementation to resolve information asymmetry.  $\beta_8$  is expected to be negative because non-state-owned companies will have higher ownership concentration and much better corporate governance. These companies are most likely to be family controlled and are likely to have weak motivation for implementing ERP. Otherwise, if SOEs have higher

ownership concentration, they will have much poorer corporate governance. The control shareholder is not distinguished as being a personal or legal person. Serious principal agency problems lead to strong motivation to implement ERP.

### 3.2. Samples

The samples were collected from annual reports of all listed companies in 1994-2006 in China. The report shows that 310 companies implemented ERP. After processing incomplete finance and corporate governance data, we found 181 final ERP implementation samples for 1994-2006; final non-ERP implementation of 5,119 in 1994-2006; and a total sample of 5,300. All finance and corporate governance data come from the CCER database, one of biggest public company data providers. The distribution of samples is shown below in Table 2:

Table 2. Samples Distribution.

<i>CSRC Code</i>	<i>Industry</i>	<i>1999</i>	<i>2000</i>	<i>2001</i>	<i>2002</i>	<i>2003</i>	<i>2004</i>	<i>2005</i>	<i>2006</i>	<i>合计</i>
<b>A</b>	Agriculture, Forest, Farming, Fishery	0	0	0	1	0	4	0	0	5
<b>C</b>	Machine-made	0	0	1	0	0	0	0	0	1
<b>D</b>	Electronics, gas, Water and other supplies	8	15	24	28	25	22	13	8	143
<b>E</b>	Construction business	0	0	0	0	1	1	0	0	2
<b>F</b>	Communications, Logistics and Warehouse	0	0	0	0	0	0	1	0	1
<b>G</b>	Information Technology	0	4	2	1	1	1	2	1	12
<b>H</b>	Trading of wholesale and retails	0	0	1	2	1	4	1	0	9
<b>I</b>	Finance and Insurance	0	0	1	0	0	0	0	0	1
<b>J</b>	Real Estate	0	0	1	0	3	1	1	0	6
<b>K</b>	Social Services	0	0	1	0	3	1	1	0	6
<i>Total</i>		<i>8</i>	<i>19</i>	<i>30</i>	<i>32</i>	<i>31</i>	<i>33</i>	<i>18</i>	<i>10</i>	<i>181</i>

As Table 2 shows, the manufacturing business category is the largest proportion of the sample at 79%, followed by the information system industry. In the sample, ERP providers are removed. The results show that as time passes, more industries implement ERP, which indicates that companies find that implementing ERP makes sense for enhancing business operations. The 2003 samples show that ERP implementations increased in 2003 although the Internet economic bubble burst in 2001, which indicates that ERP is not only an information system but also a management enhancement.

## 4. Empirical Results and Analysis

### 4.1. Descriptive analysis

Table 3 shows that the ERP implementation samples have a relatively high degree of ownership concentration, which supports hypothesis 1: the higher the degree of ownership concentration, the more serious will be the principal-agency problem. In such case, the company will be strongly motivated to implement ERP. The mean of ownership variable in the ERP implementation samples is nearly zero, which means that SOEs are likely to implement ERP. Otherwise, the mean of ownership is nearly one, which means that non-state-owned companies have weak motivation for implementing ERP. In table 3 the ERP implementation samples show a higher percentage of independent directors on the board, which does not prove our hypothesis. In fact, as we state in part 2, the number of independent directors relates to ownership of companies in China. Therefore, we must analyze variable cross-effect between the percentages of independent directors and ownership category. Table 3 is shown below.

Table 3. Descriptive Analysis.

<i>Variables</i>	<i>Samples</i>	<i>Num</i>	<i>Mean</i>	<i>Standard err</i>
<i>Indep</i>	<i>ERP</i>	181	0.2168	0.1567
	<i>Non-ERP</i>	5119	0.2077	0.1613
<i>Concentration</i>	<i>ERP</i>	181	0.5325	0.1546
	<i>Non-ERP</i>	5119	0.5272	0.1476
<i>Owner</i>	<i>ERP</i>	181	0.3480	0.7493
	<i>Non-ERP</i>	5119	0.4403	1.0843
<i>ROA</i>	<i>ERP</i>	181	0.0362	0.0679
	<i>Non-ERP</i>	5119	0.0131	0.1157
<i>Size</i>	<i>ERP</i>	181	21.3349	0.8869
	<i>Non-ERP</i>	5119	21.0787	0.9275
<i>Year</i>	<i>ERP</i>	181	2002.55	1.8391
	<i>Non-ERP</i>	5119	2002.51	2.3203

### 4.2. Results and Analysis

The statistics analysis of the logistic model is shown in table 4. The variable *indep*, which represent the percentage of independent directors on the board, is statistically significant at 0.1 levels (Chisq=2.99; p=0.0838). We assume that the coefficient is positive. If we ignore the cross-effective variable between the percentages of independent directors and ownership category, the variable *indep* is insignificant. This proves that a higher percentage of independent directors on the board mean better corporate governance and weak motivation to implement ERP. But the empirical result is weak for the cross-effect between the percentages of independent directors and ownership category. The variable *Concentration*, which represents the degree of ownership concentration, is not statistically significant. The estimation of coefficient is negative as assumption. But the cross-effective variable between the ownership concentration and ownership category is significant at 0.1 (chisq=3.56; p=0.0593). The estimation of coefficient is negative as assumption. This means that the higher the concentration of SOEs, the poorer the corporate governance will be, and the more strongly the company will be motivated to implement ERP. The *variable owner*, representing whether the control shareholder is central or local SASAC linked to the government, is statistically significant at 0.1 (Chisq=3.02; p=0.0824). The estimation of coefficient is positive as assumption. This means that SOEs are strongly motivated to implement ERP, and non-state-owned companies are weakly motivated to implement ERP.

In conclusion, our hypotheses regarding the link between corporate governance and ERP implementation are supported. Findings show that companies having a low proportion of independent directors on the board are more willing to implement ERP. SOEs with a high degree of ownership concentration are more willing to implement ERP. Non-state-owned companies with low ownership concentration are more willing to implement ERP. SOEs, compared with non-state-owned companies, are more willing to implement ERP. Companies that have serious principal-agent problems and poor corporate governance are more willing to implement ERP. On the other hand, companies that have few principal-agent problems are not willing to implement ERP.

Table 4. Logistic Regression Results.

<i>Variables</i>	<i>Estimation</i>	<i>Standard err</i>	<i>Chi-sqr</i>	<i>P value</i>
<i>Intercept</i>	223.8	129.4354	2.99	<b>0.0838*</b>
<i>Indep</i>	1.7471	0.9535	3.36	<b>0.0669*</b>
<i>Concentration</i>	-0.8429	0.6797	1.54	<b>0.2150</b>
<i>Owner</i>	1.4455	0.8324	3.02	<b>0.0824*</b>
<i>Indep*Owner</i>	-1.4905	1.2433	1.45	<b>0.2292</b>
<i>Concentration*Owner</i>	-2.8921	1.5332	3.56	<b>0.0593*</b>

## 5. Conclusion and Future Research

In this article, we look at companies that implement the ERP system and investigate the characteristics of their corporate governance. ERP systems enhance information flow for enterprises that implement them. Information asymmetries lead to principal-agent problems, which are at the core of corporate governance. Therefore, because ERP systems enhance information flow, they resolve principal-agent problems and improve corporate governance. We show that willingness to implement ERP is related to corporate governance by collecting samples of listed companies in Shanghai and Shenzhen stock markets and studying their ERP implementation. We find that relatively few independent directors of companies are willing to implement the ERP system, that directors with a relatively high degree of ownership concentration in SOEs are more willing to implement the ERP system, that directors with a low degree of ownership concentration in non-state-owned companies are more willing to implement the ERP system, and that directors of state-owned holding companies, compared with those in non-state-owned companies, are more willing to implement ERP. Thus, we show that companies with poor corporate governance capability are more willing to implement ERP; companies with better corporate governance capability are less motivated to implement ERP. We conclude that ERP system implementation and corporate governance have a positive relationship.

In this article, we study only the relation between ERP system implementation and corporate governance. Although our empirical methodology supports our hypotheses, the results do not explain whether a cause-effect relation exists between ERP system implementation and corporate governance. The study is limited to economics theory. Future research could focus on the cause-effect relation between ERP system implementation and corporate governance.

## References

Attaway M C. 1999. Billing Risks. *Internal Auditor* 8, pp. 43-47.

- Barney J B. 1986. Organizational Culture: Can It Be a Source of Sustained Competitive Advantage? *Academy of Management Review* 11(3), pp. 656-665.
- Benson W., Hunton J., and HassabElnaby H R. 2007. Enterprise Resource Planning Systems and Non-Financial Performance Incentives: The Joint Impact on Corporate Performance. *International Journal of Accounting Information Systems* 8, pp. 165-190.
- Bingi S., and Godla M J. 1999. Critical Issues Affecting an ERP Implementation. *Information Systems Management*, 16( 3), Summer, pp. 7-8.
- Brazel J. F., and Dang L. 2005. The effect of ERP system implementations on the usefulness of accounting information. [www.ssrn.com](http://www.ssrn.com).
- Carlino J, Nelson S, and Smith N. 2000. AMR Research Predicts Enterprise Applications Market Will Reach \$78 Billion by 2004. Boston MA: AMR Research.
- Chen G, Firth, M, et al. 2002. The Use of Accounting Information for the Valuation of Dual-Class Shares Listed on China's Stock Markets. *Accounting and Business Research* 32(3), pp. 123-131.
- Chen S, Li C, et al. 2005. An Empirical Study of the Relationship of Enterprise Conditions and ERP Implementation Effect. *Science and Technology Management Research* 7, pp. 69-72.
- Cooke D P, and Peterson W J. 1998. *SAP Implementation: Strategies and Results*. New York, NY: The Conference Board Inc.
- Davenport T H. 1998. Putting the Enterprise into the Enterprise System. *Harvard Business Review* 76(4), pp. 121-131.
- David J, Teece G P, and Shuen A. 1997. Dynamic Capabilities and Strategic Management. *Strategic Management Journal* 18, p. 509.
- Donnelly R, and Lynch C. 2002. The Ownership Structure of UK Firms and the Informativeness of Accounting Earnings. *Accounting and Business Research* 32(4), pp. 245-257.
- Du Y, and Liu L. 2002. The Structure of Ownership and Corporate Governance Efficiency-Based on China Listed Corporate Empirical Analysis. *Management World* 11.
- Fama E F. 1980. Agency Problems and the Theory of the Firm. *Journal of Political Economy* 88, pp. 288-307.
- Glover S M, Prawitt D F, et al. 1999. Implementing ERP. *Internal Auditor* 2, pp. 40-47.
- Govindarajan V, and Fisher J. 1990. Strategy, Control Systems, and Resource Sharing: Effects on Business-Unit Performance. *Academic Management* 33(6), pp. 259- 85.
- Hayes D C, Hunton J E, et al. 2001. Market Reaction to ERPS Implementation Announcements. *Journal of Information Systems* 15(1), pp. 3-18.
- Huang Z, Xu X, and Yue Y. 2006. The China Listed Corporate Board Structure Analysis. *Management World* 11.
- Hunton J E, Lippincott B, and Reck J L. 2003. ERP: Comparing Firm Performance of Adopters and Nonadopters. *Int J Account Inf Syst.*
- Hunton J E, McEwen R A, and Wier B. 2003 Analysts' Reactions to ERP Announcements, *J Inf Syst.*
- Hunton J E, Wright A, et al. 2003. The Reaction of Financial Analysts to Enterprise Resource Planning (ERP) Implementation Plans. *Journal of Information Systems*, Spring, pp. 31-40.
- Jensen M C, and Meckling W H. 1976. Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure. *Journal of Financial Economics* 3(4), pp. 305-360.
- Kumar K, and Van Hillegersberg J. 2000. ERP: Experiences and Evolution. *Communications of the ACM* 43(4), pp. 22-26.
- Lin, J., Cai F, et al. 1998. Competition, Policy Burdens, and State-Owned Enterprise Reform. *AEA Papers and Proceedings* 88, pp. 422-427.
- Liu Y, and Tong X. 2006. Successful Factors Affecting the Integrating Effect of ERP Systems. *China Management Informationization* 9(8), pp. 3-5.

- Liu Z, and Wei P. 2006. ERP Implementation Case of China's Hauling Company. *Finance and Accounting* 7, pp. 46-48.
- Matolcsy Z P, Booth P, et al. 2005. Economic Benefits of Enterprise Resource Planning Systems: Some Empirical Evidence. *Accounting and Finance* 45, pp. 439-456.
- Nicolaou A I. 2000. A Contingency Model of Perceived Effectiveness in Accounting Information Systems: Organizational Coordination and Control Effects. *International Journal of Accounting Information Systems* 1(9), pp. 91-105.
- Nicolaou A I. 2004. Firm Performance Effects in Relation to the Implementation and Use of Enterprise Resource Planning Systems. *Journal of Information Systems* 18(2), pp. 79-105.
- Nicolaou A I. 2004. Quality of Postimplementation Review for Enterprise Resource Planning Systems. *International Journal of Accounting Information Systems* 5, pp. 25-49.
- Nicolaou A I, Stratopoulos T, et al. 2003. Financial Analysis of Potential Benefits from ERP Systems Adoption. *Journal of Business and Information Technology* 2, pp. 40-50.
- Sun Q, Tong W H S, et al. 2002. How Does Government Ownership Affect Firm Performance? Evidence from China's Privatization Experience. *Journal of Business Finance and Accounting* 29(1 & 2), pp. 1-27.
- Wah L. 2000. Give ERP a Chance. *Management Review* 5, pp. 22-24.
- Wang Y, Li J, and Ding M. 2005. The Road of China Informatization Analysis Based on Successful Factors of ERP Implementation. *Management World* 8.
- Wang L, Xu H, and Zhao X. 2005. *Accounting Control and Information System*. Northeast Finance and Economics University Press.
- Wang L, and Zhang J. 2006. Firm's Performance with ERP Implementation: Based on Data of China Listed Companies. *Managerial World*, forthcoming.
- Wang L, and Zhang J. 2007. A Principal-Agency Perspective on ERP Implementation Decisions. American Accounting Association Annual Meeting, Chicago, IL.
- Wang L, and Zhang, J. 2007. The Connection Between ERP Implementation and Corporate Performance. *Management World* 3.
- Wernerfelt B. 1984. A Resource-Based View of the Firm. *Strategic Management Journal* 5(2), pp. 171-180.
- Wernerfelt B, and Montgomery C. 1988. Tobin's Q and the Importance of Focus in Firm Performance. *American Economic Review* 78(1), pp. 246-250.
- Wier B, Hunton J, et al. 2005. Enterprise resource planning & non-financial performance incentives: The joint impact on corporate performance. [www.ssrn.com](http://www.ssrn.com).
- Xia Z, and Jian P. 2004. The Current State of ERP Implementation in China. *Enterprise Economy* 282(2), pp. 53-54.
- Xiang B. 1998. Institutional Factors Influencing China's Accounting Reforms and Standards. *Accounting Horizons* 12(2), pp. 105-119.
- Zaheer A, and Venkatraman N. 1994. Determinant of Electronic Integration in the Insurance Industry: An Empirical Test. *Management Science* 40(5), pp. 549- 66.
- Zhi X, and Jiaoqiang;T P. 2005. Earning Management, Transfer of Control Rights and Alteration of Independent Directors. *Management World* 11.
- Zhong Q, Min Q, et al. 2004. The Empirical Study of Critical Success Factors of ERP Implementation in China. *China Soft Science* 2, pp. 73-80.
- Zhu X, and Cheng X. 2005. Current state and analysis of ERP development in China. *China Management Informationization* 6, pp. 22-25.