

Employee Perceptions of Knowledge Management and Department Performance after the Privatization of Taiwanese Telecom Corporations: An Empirical Study on HR Scorecard

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Abstract

This study researches the human resource management and knowledge management activities of one of Taiwan's telecom companies and the Balanced Scorecard system. It explores how to utilize human resource and knowledge management activities to transform business resources into tremendous performance and revenue. This study employs a designed questionnaire to collect information from 250 employees in a telecom company's Mobile Communications Group and International Group. 185 valid questionnaires resulted in an effective response rate of 74%.

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The data analysis results are: 1. The HRM-related BSC Indicators lead to positive effects on department performance; 2. Knowledge management activities lead to positive effects on department performance; 3. The HRM-related BSC indicators and knowledge management activities are correlated. In the fast-changing telecommunications industry, telecom operators should enhance human resource management and performance measurements to link the strategic activities in the Balanced Scorecard system. As for knowledge management activities, knowledge creation and acquisition should be employed to enhance competitive advantage.

Key Words: Human Resource Management, the Balanced Scorecard, Knowledge Management, Department Performance.

I. Introduction

Globalization, knowledge management, WWW, and e-commerce form a fast-changing and keen-competitive environment for businesses. Strategies are at the core and provide guidance for business operations. Proper strategies can help businesses face challenges and defeat competitors successfully. During the knowledge economy era, the most crucial competitive factor is knowledge, rather than capital, land, or labor. Knowledge Management becomes the most critical issue and the basis of sustainable competitive advantages (Ernst & Young, 1997). Now businesses understand that tangible assets can no longer be the basis of differentiation due to the “best practice” effects; thus, intangible assets will be the focus of business management, and knowledge management thrives.

Since the three major laws of telecommunications (the Telecommunication Act, the Directorate General of Telecommunications Organizational Statutes, the Chunghwa Telecom Co., Ltd. Statutes) passed in The Legislative Yuan in 1996 and the deregulation of mobile communication service, the telecommunication industry in Taiwan entered a booming stage. From 1998 to 2001/2002, seven operators competed for higher market share and more subscribers. The incumbent operator changed its strategies, organizational structure, and business structure to sustain its market share and leading position. In 2003, it chose the Balanced Scorecard as a strategic system to boost its performance.

This research studies the Taiwan incumbent telecom operator’s human resource assessment system and knowledge management activities, exploring how this operator utilizes its human resource management and knowledge management to face the challenges of regulation and technology.. This research analyzes the incumbent telecom operator’s HR system in its Balanced Scorecard system and knowledge management activities, intending to discuss the relationship between human resource management, knowledge management, and department

performance. Accordingly, the research objectives are:

- A. Analyze the Taiwan incumbent telecom operator's human resource assessment KPIs in its Balanced Scorecard system to explore its performance measurement and human resource management focuses.
- B. Assess the knowledge management effects of the incumbent telecom operator.
- C. Explore how the incumbent telecom operator uses human resource management and knowledge management to boost performance.

II. Research Background and Theory

A. Human Resource Management

Formerly, economists considered land, capital, labor and entrepreneurship as the four productive factors; "humans" provided two of them. In the late 1990s, human resource management became more and more crucial; "humans" were viewed as an important asset in organizations; businesses understood that the core competence came from excellent human resource with learning and innovative abilities; this endowed human resource management with a strategic role.

Gomez-Mejia (1998) considers that human resource management strategies must match other factors in the operational environment; when businesses prepare human resource strategies, they must consider business environment, business competence, business specialties, and business strategies. If these four factors are effectively combined, then organizational performance can be improved.

Ulrich (1997) proposed his opinion about human resource management: to the constant issue of facing future competition, an organization which is more capable of responding customers' demands is needed. The capabilities of response include innovation, faster decision-making, becoming the value-leader in the industry, effectively linking suppliers and distributors, and building a value chain for the customers.

Businesses must provide satisfactory services, and the practice and quality of

human resource management form intangible assets, which are hard to be imitated (Pfeffer, 1994); thus, human resource management enables the businesses to build competitive advantages (Rogers & Wright, 1998; Wen, 1998)

B. Knowledge Management

Since Nonaka (1991) proposed the concepts of tacit and explicit knowledge and the theory of “Spiral of Knowledge” in the *Harvard Business Review*, knowledge management has become the best instrument for businesses to sustain competitive advantages.

Quintas (1997) considers “knowledge management” as the management of all knowledge continuously to satisfy the demands and derive new opportunities. This means knowledge management has to create more value by utilizing present knowledge.

Knowledge management activities include the activities that can help organization members acquire knowledge, create values of knowledge, spread business knowledge, and accumulate organizational knowledge. Chen (1998) categorizes knowledge management issues as: (A) selection management of knowledge; (B) acquisition management of knowledge; (C) learning management of knowledge; (D) creation management of knowledge; (E) dissemination of management of knowledge; (F) building management of knowledge; (G) storage management of knowledge; (H) management system of knowledge; (I) management culture of knowledge.

Based on Chen’s (1998) categorization and other literature, Tan, Liu, and Tsai (1999) propose the following knowledge management development process: the selection, acquisition, and learning of knowledge can form “imported knowledge,” while the knowledge created within an organization is called “inside-built knowledge.” When knowledge is learnt or created, fragments are spread to other members or departments; this process is the “spread of knowledge.” Some of the knowledge can form systematic information by the

“building of information,” and finally the knowledge is transformed as organizational memory; this process is called “storage of knowledge.” All the activities are based on proper “knowledge management culture and knowledge management system.”

To sustain competitive advantages, businesses can't only rely on tangible assets; they have to develop core competencies which are difficult to imitate by their competitors. With knowledge management and the activities, businesses can transform individual staff's experience and knowledge into organizational assets. A cycle of creating, storing, transiting, and applying knowledge can boost organizational performance.

C. Performance and Measurement

Most scholars consider that performance should contain efficiency and effectiveness and that it measures of organizational achievements (Kassem & Moursi, 1971; Robbins, 1990). Generally, the factors effecting business performance can be categorized as: environment, business strategy, and organizational specialty (Capon et al., 1990).

Since 1980, researchers of management science have started paying attention to performance measurement standards, and businesses have also started choosing proper KPIs(Key Performance Indicators) as measurement standards. Recently, many organizations and businesses also understand the importance of continuous and consistent performance measurement and adopt many performance measurement systems (Prajogo & Sohal, 2004).

Because business operations aim to achieve multi objectives, the scope and dimensions of performance are very complicated and extensive and contain many objectives (Galbraith & Schendel, 1983), including profit-maximization, market share, and employee satisfactions. As a result, utilizing single variables to assess the performance of an entire organization is insufficient.

Performance measurement with multi-standards try to assess the performance

with a series of KPIs, intending to establish diverse compound-KPIs; Venkatraman & Ramanujam (1986) propose three dimensions which form the business performance: “Financial Performance,” “Business Performance,” and “Organization Performance.” Ford & Schellenberg (1982) consider four ways to measure operation performance: “Objective,” “System Resource,” “Process,” and “Constituent.” In Dyer and Reeves’ (1995) research, KPIs commonly are human resource output (such as absence rate, turnover rate or individual performance), organization output (such as productivity, quality and service), and financial or accounting output (ROA and ROI).

As for the integrated organization performance assessment, Kaplan and Norton (1996) propose the Balanced Scorecard, using four dimensions: “Financial,” “Customer,” “Internal Business Process,” and “Learning and Growth” to link strategy and actions as an organizational performance measurement system and instrument.

After a businesses sets up KPIs (Key Performance Indicators) according to the strategic objectives, proper performance assessment tools are needed; the businesses should choose suitable methods carefully to measure their performance, matching their corporate culture and employees’ quality.

D. The Balanced Scorecard

The Balanced Scorecard originated with Robert S. Kaplan and David P. Norton’s research program, which aimed to set up a performance measurement model that differs from traditional ones; they only focus on financial and accounting measures; the new system seeks to put transformational organizational vision and strategy into actions.

The Balanced Scorecard is not only an operational measurement system. If a business values the nurture of innovation and core competency, the Balanced Scorecard can be a strategic management system for planning and managing long-term strategies. Most businesses rely on financial measurements to measure

their performance, but this approach will bias the strategic focus and mislead decision-making. Therefore Kaplan and Norton categorize organizational strategies and objectives with four dimensions: Financial, Customer, Internal Business Process, and Learning and Growth. They develop the KPIs, transforming business strategies into actions.

III. Research Framework and Methodology

This study establishes hypotheses and a framework according to the literatures mentioned above.

A. Hypotheses

Researches about human resource practices or activities prove the relationship between human resource management and organizational performance (Dyer and Reeves, 1995; Huselid et al., 1997; Wen, 1998). However, these human resource systems must be integrated effectively to help establish sustainable competitive advantages (Wen, 1998). The Balanced Scorecard is an integrated performance measurement system; the learning and growth of employees is a leading indicator and will smooth the internal business process, satisfy customers' demands, and achieve the ultimate financial returns. As a result, the Balanced Scorecard is also a strategic tool of human resource management. This paper integrates the KPIs from other researches (Dyer & Reeves, 1995; Tsai, 1996; Huselid et al., 1997 ; Wen, 1998; Chen, 2000; Wang, 2002; Liao, 2004) and proposes a dimension "HRM-related BSC KPIs" to explore the issue when businesses utilize the Balanced Scorecard. It asks: On which human resources management KPIs should businesses focus on? The hypotheses are as follows:

H1: The extent of valuing HRM-related BSC KPIs will lead to positive effects on department performance.

Increasing performance is the primary objective for business operators, and the function of knowledge management is to manage all the knowledge assets within and without an organization, to allow knowledge to circulate within an organization, and to satisfy the demands of knowledge in every level to boost performance and output. Therefore this study integrates the research of Birchfield (2001), Corso and Paolucci (2001), and Tailsayon (2002). It concludes that the implementation of knowledge management is significantly related to performance; thus, this study explores how knowledge management within a department affects performance:

H2: The knowledge management activities will lead to positive effects on department performance.

From the research of Clarke and Staunton (1989), Soliman and Spooner (2000), Carter and Scarbrough (2001), we know that the implementation of knowledge management cannot rely on information technologies only; what is more, HRM-related strategies are also critical. Thus, this study proposes the third hypothesis:

H3: The extent of valuing HRM-related BSC KPIs will lead to positive effects on knowledge management activities.

This study utilizes the four dimensions in the Balanced Scorecard and combines the KPIs of human resources management, knowledge management, and department performance measurement to develop a conceptual framework, as in figure 1.

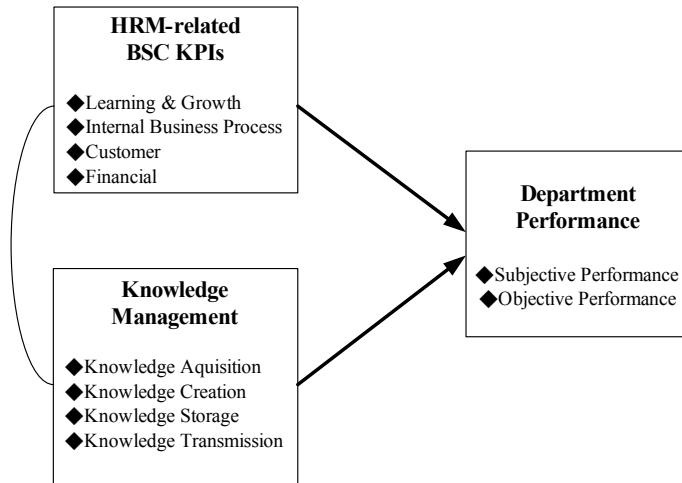


Figure 1 Research Framework

Source: Author's draft.

With this framework, since the company implemented the Balanced Scorecard system, this study intends to explore the focuses in the case company's human resources management system and the relationship between its HRM and department performance. Moreover, we will explore the differences of knowledge management activities and department performances among the groups in the case company; the goal is to understand its ability to transform knowledge to performance and the relationship between the Balanced Scorecard and knowledge management.

B. Definition and Measurement of the Variables

This study discusses the dimensions between HRM-related BSC KPIs, knowledge management activities, and department performance measurement.

(A) HRM-related BSC KPIs:

HRM-related BSC KPIs are the key performance indicators in the Balanced Scorecard system, and they are focuses of business HRM implementations. This study constructs this part of the questionnaire from the research of Dyer and

Reeves(1995), Tsai (1996), Huselid, Jackson, and Schuler (1997), Wen (1998), Chen (2000), Wang (2002), and Liao (2004).

(B) Knowledge Management Activities:

In this part of the questionnaire, the dimensions of knowledge management are modified from the “Nine Issues of Knowledge Management” proposed by Chen (1998) and Tan (1999).

Chou (2000) develops a questionnaire to evaluate Learning Organizations, and this study utilizes and modifies the “Knowledge Management” section in the questionnaire; the dimensions are “Knowledge Acquisition,” “Knowledge Creation,” “Knowledge Storage,” and “Knowledge Transmission.”

(C) Department Performance

As for the part of department performance measurement, we utilize and modify the dimensions and items in the research of Venkatraman and Ramanujam (1986), Kassem and Moursi (1971), Ford and Schellenberg (1982).

C. Sampling Process

This study chooses one of Taiwan’s telecom companies as the target of the survey. Since the telecommunications deregulation in 1996, the competition in telecom market has been keener and keener. Facing the challenge, the former state-owned telecom company gradually changed its operation pattern and implemented the Balanced Scorecard as their strategic tool in 2003.

This study surveyed 250 telecom employees in the International Business Group and Mobile Business Group of the telecom company.

D. Data Analysis Approach

This study examines the hypotheses with the following data analysis approach: Cronbach’s α , Canonical Relation Analysis and Structural Equation Modeling.

IV. Data Analysis Results

This study delivered 250 questionnaires and retrieved 185 valid samples.

A. Reliability Analysis

We performed a reliability analysis of the dimensions in the questionnaire and tested their Cronbach's α value to know the degree of the consistency. According to Guelford (1965) and Wortzel (1979), if α is between 0.7 and 0.98, the reliability is very high. In the questionnaire of this study, the Cronbach's α is between 0.839 and 0.942 (Table 1).

Table 1 Cronbach's α value of the dimensions

Part	Dimensions	Items	Cronbach's α
HRM-related BSC KPIs	Learning & Growth	8	0.918
	Customer	4	0.839
	Internal Business Process	6	0.872
	Finance	2	0.898
Knowledge Management	Knowledge Acquisition	9	0.942
	Knowledge Creation	10	0.937
	Knowledge Storage	3	0.879
	Knowledge Transmission	4	0.906
Department Performance	Subjective Performance	7	0.937
	Objective Performance	6	0.927

Source: Author's calculation.

B. Canonical Correlation Analysis

In this part, Canonical Correlation Analysis is utilized to test the relationship among "HRM-related BSC KPIs," "Knowledge Management," and "Department Performance."

(A) The relationship among HRM-related BSC KPIs and Department

Performance

We performed Canonical Correlation Analysis with HRM-related BSC KPIs as the independents and Department Performance as the dependents, and there is only one Canonical Correlation function with a significant p-value. The eigenvalue is 0.444 means that this function is acceptable.

Table 2 The Canonical Correlation functions between HRM-related BSC KPIs and Department Performance

Canonical Correlation Functions	Eigenvalue	Canonical Correlation Coefficient	P-value
1	0.444	0.666	0.0000(**)
2	0.016	0.129	0.382
**P<0.001			

Source: Author’s calculation.

Table 3 The Canonical Loadings of HRM-related BSC KPIs and Department Performance

Variables	Canonical Loadings	Variance Extracted	Redundancy
Independent Variables: HRM-related BSC KPIs		77%	34%
Learning & Growth	-0.8491		
Internal Business Process	-0.8599		
Customer	-0.9386		
Finance	-0.8761		
Dependent Variables: Department Performance		92%	40%
Subjective Performance	-0.9992		
Objective Performance	-0.9185		

Source: Author’s calculation.

In Figure 2 we see that HRM-related BSC KPIs and Department Performance are positively related; thus, H1 is accepted. The “Internal Business Process” explains most of the variances in the construct “HRM-related BSC

KPIs”; as for the construct “Department Performance,” “Subjective Performance” explains most of the variances.

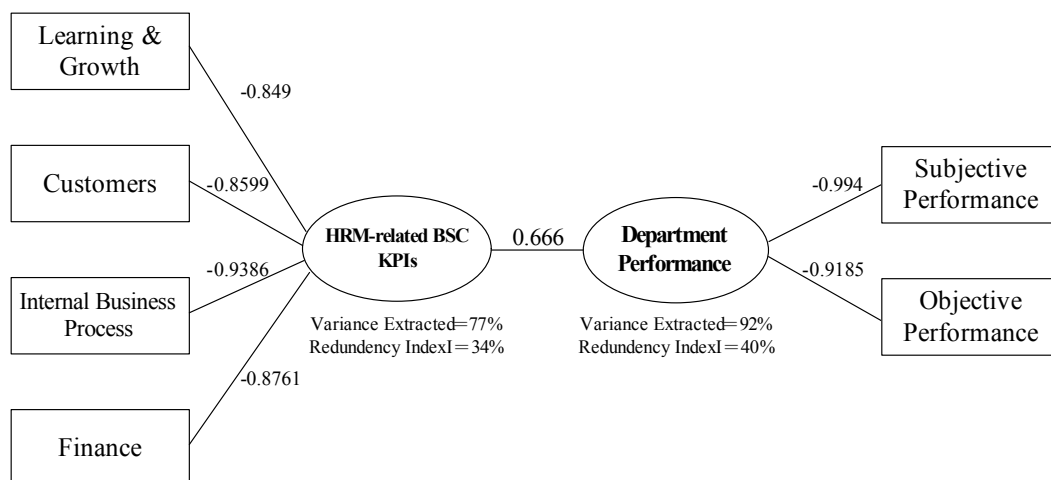


Figure 2 Canonical Correlation between HRM-related BSC KPIs and Department Performance
Source: Author’s draft.

(B) The relationship between Knowledge Management and Department Performance

We performed Canonical Correlation Analysis with Knowledge Management as the independent and Department Performance as the dependent variables, and there is only one Canonical Correlation function with a significant p-value.

Table 4 The Canonical Correlation functions between Knowledge Management and Department Performance

Canonical Correlation Functions	Eigenvalue	Canonical Correlation Coefficient	P-value
1	0.539	0.734	0.0000(**)
2	0.039	0.198	0.063
**P<0.001			

Source: Author’s calculation.

Table 5 The Canonical Loadings of Knowledge Management and Department Performance

Variables	Canonical Loadings	Variance Extracted	Redundancy
Independent Variables: Knowledge Management		82%	34%
Knowledge Acquisition	-0.915		
Knowledge Creation	-0.910		
Knowledge Storage	-0.858		
Knowledge Transmission	-0.950		
Dependent Variables: Department Performance		91%	49%
Subjective Performance	-0.992		
Objective Performance	-0.905		

Source: Author’s calculation.

In Figure 3 we can see that Knowledge Management and Department Performance are positively related; therefore, H2 is accepted. The “Knowledge Transmission” explains most of the variances in the construct “Knowledge Management.” As for the construct “Department Performance,” “Subjective Performance” explains most of the variances.

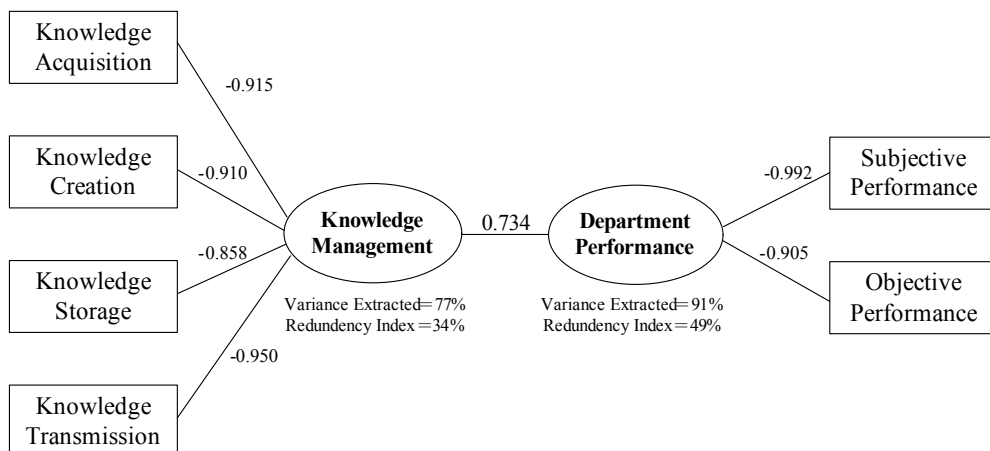


Figure 3 Canonical Correlation between Knowledge Management and Department Performance

Source: Author’s draft.

(C)The relationship between HRM-related BSC KPIs and Knowledge Management

Finally we performed Canonical Correlation Analysis with HRM-related BSC KPIs as the independent and Knowledge Management as the dependent variables; there is only one Canonical Correlation function with a significant p-value.

Table 6 The Canonical Correlation functions between HRM-related BSC KPIs and Knowledge Management

Canonical Correlation Functions	Eigenvalue	Canonical Correlation Coefficient	P-value
1	0.584	0.764	0.000(**)
2	0.022	0.150	0.692
3	0.012	0.110	0.669
4	0.000	0.027	0.710
**P<0.001			

Source: Author's calculation.

Table 7 The Canonical Loadings of HRM-related BSC KPIs and Knowledge Management

Variables	Canonical Loadings	Variance Extracted	Redundancy
Independent Variables: HRM-related BSC KPIs		76.8%	44.9%
Learning & Growth	0.8559		
Internal Business Process	0.8633		
Customer	0.9696		
Finance	0.8097		
Dependent Variables: Knowledge Management		84.0%	49.1%
Knowledge Acquisition	0.9389		
Knowledge Creation	0.9491		
Knowledge Storage	0.8924		
Knowledge Transmission	0.8839		

Source: Author's calculation.

In Figure 4 we can know that HRM-related BSC KPIs and Knowledge Management are positively related; therefore, H3 is accepted. “Internal Business Process” has the greatest effect on HRM-related BSC KPIs, followed by “Customers,” “Learning and Growth,” and “Finance.” The “Knowledge Creation” explains most of the variances in the construct “Knowledge Management,” followed by “Knowledge Acquisition,” “Knowledge Storage,” and “Knowledge Transmission.”

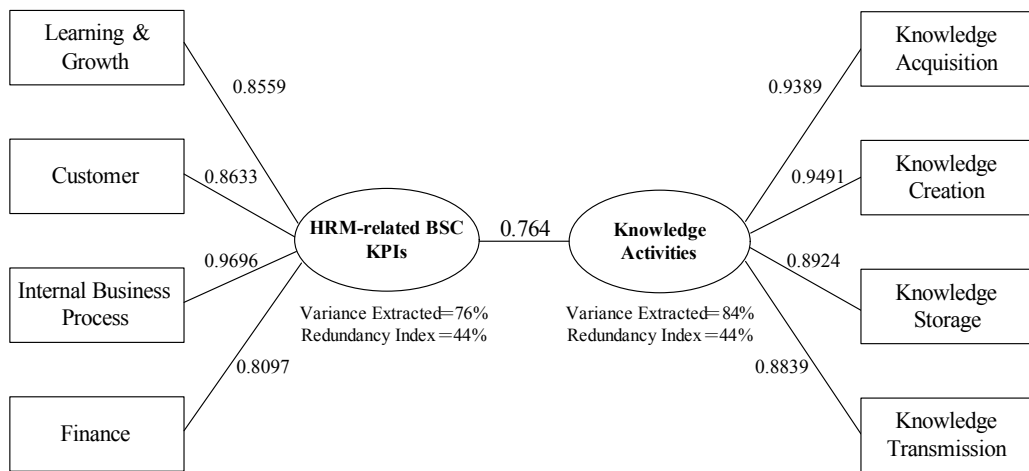


Figure 4 Canonical Correlation between HRM-related BSC KPIs and Knowledge Management
Source: Author’s draft.

In this part we utilized SEM (Structural Equation Modeling) to analyze the relationship between the dimensions; the SEM path figure is as Figure 5. In the model, HRM-related BSC KPIs and Knowledge Management are exogenous latent variables, while Department Performance is an endogenous latent variable, “Learning and Growth,” “Internal Business Process,” “Customer,” “Finance,” “Knowledge Creation,” “Knowledge Acquisition,” “Knowledge Storage,” and “Knowledge Transmission” are exogenous manifest variables; “Subjective Performance” and “Objective Performance” are endogenous manifest variables.

After the analysis, the results are shown in Tables 8, 9 and Figure 5.

Table 8 Coefficient Estimation

Path	Standardized path coefficient	Unstandardized path coefficient	Standard Deviation	T-value
(Knowledge Activities)→(Department Performance)	0.547	0.614	0.111	5.547
(HRM-related BSC KPIs)→(Department Performance)	0.237	0.275	0.114	2.417
(HRM-related BSC KPIs)→ 【Learning & Growth】	0.867	1.000		
(HRM-related BSC KPIs)→ 【Customer】	0.872	1.006	0.064	15.845
(HRM-related BSC KPIs)→ 【Internal Business Process】	0.895	1.033	0.062	16.616
(HRM-related BSC KPIs)→ 【Finance】	0.772	0.890	0.069	12.831
(Knowledge Activities)→ 【Knowledge Acquisition】	0.895	1.000		
(Knowledge Activities)→ 【Knowledge Creation】	0.935	1.044	0.051	20.492
(Knowledge Activities)→ 【Knowledge Storage】	0.868	0.969	0.056	17.183
(Knowledge Activities)→ 【Knowledge Transmission】	0.863	0.964	0.057	17.007
(Department Performance)→ 【Subjective Performance】	0.973	1.000		
(Department Performance)→ 【Objective Performance】	0.899	0.895	0.043	20.935

Source: Author's calculation.

Table 9 Model Fitness Indices

SEM Fit Indices	Value
$2(\text{Chi-Square})$	45.505
$\chi^2(\text{Chi-Square})/ \text{DF}$	1.422
P-Value	0.057
Goodness of Fit Index (GFI)	0.952
Adjusted for Degree of Freedom (AGFI)	0.918
Root Mean Square of Standardized Residual (RMR)	0.027

Source: Author's calculation.

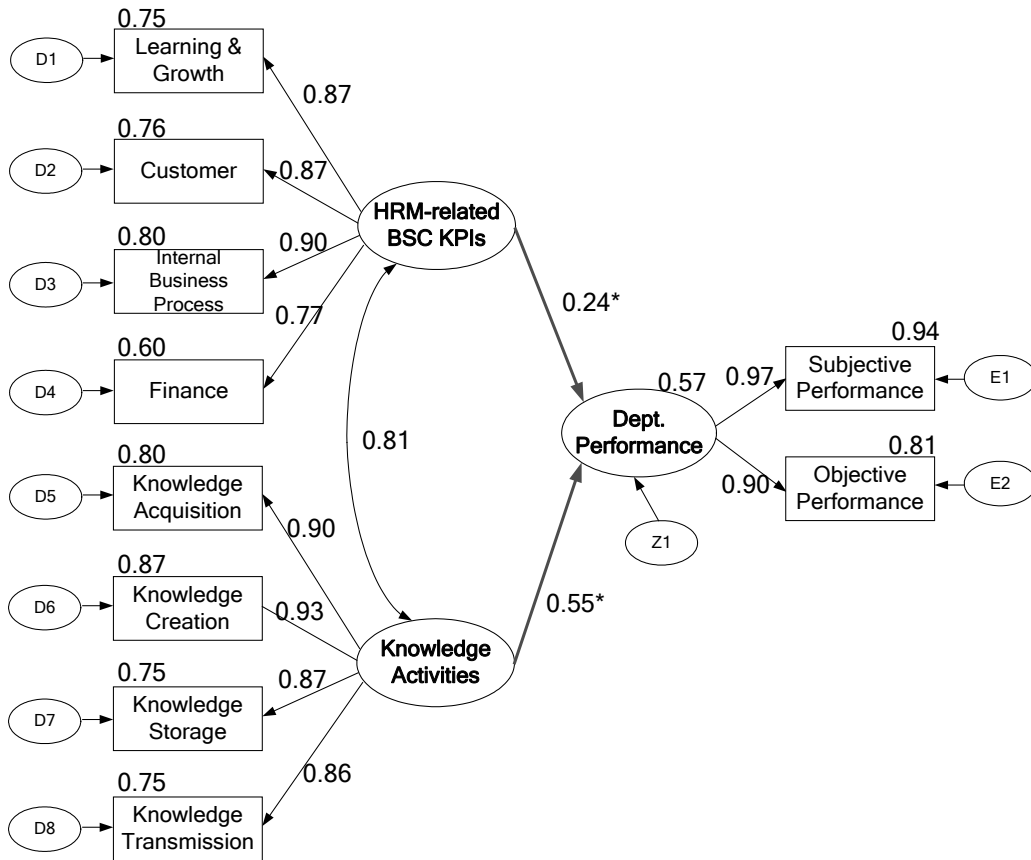


Figure 5 SEM Path Analyses

* Significant path

Source: Author's draft.

From Figure 5 we can find that the relations between dimensions are all positive, and the coefficient between HRM-related BSC KPIs and Department Performance is significant; this means that they are positively related and H1 is then accepted. As for Knowledge Management Activities and Department Performance, the coefficient is significant and H2 is accepted. The relationship between HRM-related BSC KPIs and Knowledge Management Activities is quite high (0.808). H3 is accepted.

V. Discussions and Conclusion

In this section, we consolidate the findings and propose the conclusions, suggestions, and future research.

A. Results of Analysis

(A) The relationship between HRM-related BSC KPIs and Department Performance

In canonical analysis and SEM analysis, HRM-related BSC KPIs and Department Performance are positively related. “Internal Business Process” has the greatest influence, both in canonical analysis and SEM analysis. If the performance is reviewed and ratings focus on HRM-related BSC KPIs, Department Performance will be improved. Among the HRM-related BSC KPIs, this telecom company values Customer Satisfaction, Quality of Service/Products, Work Attitude, Response to Customer’s Complaints, and Performance Management. In Department Performance, this telecom company values Rate of Attendance, Efficiency of Mission-completion, Gaps between Objectives and Results.

Thus, we know that if organizations can focus on Customer Satisfaction and employees’ work attitude and efficiency, the performance will be raised.

(B) The relationship between Knowledge Management and Department Performance

In canonical analysis, we know that Knowledge Transmission has the largest weight in Knowledge Activities, followed by Knowledge Acquisition, Knowledge Creation, and Knowledge Storage. In SEM analysis, the path coefficient between Knowledge Activities and Department Performance is 0.55, which shows that they are positively related.

(C) The relationship between HRM-related BSC KPIs and Knowledge

Activities

From the results of the analysis in HRM-related BSC KPIs and Knowledge Activities, both canonical analysis and SEM analysis, these indicate a highly positive relationship (0.764 and 0.81 respectively). It means if a department values HRM-related BSC KPIs, the Knowledge Activities will become effective. Chunghwa Telecom, the biggest telecommunications company in Taiwan, faces the saturation of market scale economy after privatization and is now aggressively turning to developing countries in Asia-Pacific region to seek strategic alliances of trans-investments in the international market; it seeks to solicit strategic alliance partners who can co-invest to develop telecommunications markets in Asia-Pacific countries. Findings of this research can act as a reference for Taiwan telecommunications companies when seeking best strategic human resource management build. This is a solid contribution of this research to telecommunications industry.

B. Management Meaning & Contribution

This study proposes the following suggestions based on the analyses for telecom operators.

(A) Enhance the execution of HRM-related BSC KPIs to raise department performance

The analysis results of this research shows that HRM-related BSC KPIs is positively related, provided that the more a department emphasizes HRM-related BSC KPIs, the better its performance will be. Among the HRM-related BSC KPIs, the case company values “Customer Satisfaction,” “Product/Service Quality,” “Employee Work Attitude,” “Response to Customer’s Complaints,” and “Performance Management”. The case company was a formerly state-owned organization; during the privatization, the employees got rid of their bureaucratic minds, and after the waves of retirements those employees who remained accepted customer-oriented policy; and the reward system based on individual

performance also raised department performances.

(B) Enhance Knowledge Management Activities to raise department performance

The research results show that among the four knowledge managements, “Knowledge Creation” and “Knowledge Acquisition” have greater influence on department performance. In this rapid-changing environment of telecom industry, operators keep developing new technologies and marketing strategies. The case company was a monopolist before the deregulation. It is a pioneer and the leading company in Taiwan’s telecom industry until now. But the competition is keener with advanced technology; if telecom operators can establish knowledge management platform with information technology and carry out knowledge management, it will raise the performance and transform the operation experience into new a business model.

(C) Suggestions to the Human Resources Management

After the privatization in August 2005, the employees of the case company are no longer public servants; therefore, the recruitment, promotion, assessment, retirement, and other compensation and benefits have changed. With the introduction of the Balanced Scorecard, the recruitment, training, development, and C&B should be more flexible and more performance-oriented. After two waves of retirement, the case company starts to recruit new hires; but new employees are fewer than those who retired before. Thus, the company should enhance the process of human resources management to try to minimize the influence of the turnover period.

C. Research Limitations and Future Study

(A) Research limitations

This research only analyzes a specific operator in telecom industry, rather than multiple telecom operators or companies across industries; therefore, the results may not fit all organizations.

Because the case company’s BSC KPIs are confidential, this research turns to

former researches and consolidates the BSC KPIs to explore and explain this issues, which might not match the actual situation.

In addition, because the performance data of the case company is also confidential, this research utilizes employees' perception and self-evaluation for the departments. This kind of analysis might be subjective and cause bias in the results.

(B) Suggestions for future studies

This research studies a single operator in the telecom industry; therefore, future studies can extend the research scope to other industries or organizations to find out the relationship among the HRM-related BSC KPIs, Knowledge Management Activities, and Department Performance.

Researchers can try to cooperate with case companies and get internal data to avoid the analysis bias. Moreover, not only human resources management, but also management style, organizational culture, strategic planning, and execution will affect performance. Future studies can combine these factors to explore this issue.

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Appendix: Questionnaire 附錄：正式問卷

第一部分：基本資料

以下問題主要在了解您及貴部門的基本資料，請您依下列項目在適當的方格內打勾。

1. 您所服務的分公司與部門為：

行動通信分公司	數據通信分公司	國際分公司
<input type="checkbox"/> 經營規劃處	<input type="checkbox"/> 經營規劃處	<input type="checkbox"/> 經營規劃處
<input type="checkbox"/> 秘書室	<input type="checkbox"/> 秘書室	<input type="checkbox"/> 秘書處
<input type="checkbox"/> 勞工安全衛生處	<input type="checkbox"/> 勞工安全衛生室	<input type="checkbox"/> 勞工安全衛生處
<input type="checkbox"/> 政風室	<input type="checkbox"/> 政風室	<input type="checkbox"/> 客戶服務處
<input type="checkbox"/> 客戶服務處	<input type="checkbox"/> 政府網路處	<input type="checkbox"/> 網路處
<input type="checkbox"/> 行銷處	<input type="checkbox"/> 行銷處	<input type="checkbox"/> 行銷處
<input type="checkbox"/> 供應處	<input type="checkbox"/> 供應處	<input type="checkbox"/> 供應處
<input type="checkbox"/> 帳務處理處	<input type="checkbox"/> 政府網路處	<input type="checkbox"/> 行政管理處
<input type="checkbox"/> 總務處	<input type="checkbox"/> 總務室	<input type="checkbox"/> 總務室
<input type="checkbox"/> 會計室	<input type="checkbox"/> 會計室	<input type="checkbox"/> 會計室
<input type="checkbox"/> 人事室	<input type="checkbox"/> 人事室	<input type="checkbox"/> 國際關係處
<input type="checkbox"/> 加值處	<input type="checkbox"/> 加值系統處	<input type="checkbox"/> 海纜衛星處
<input type="checkbox"/> 工務處	<input type="checkbox"/> 網際網路處	
<input type="checkbox"/> 網路處	<input type="checkbox"/> 資訊處	
<input type="checkbox"/> 企業客戶處	<input type="checkbox"/> 公眾數據處	
	<input type="checkbox"/> 企業客戶處	
	<input type="checkbox"/> 號簿事業處	
	<input type="checkbox"/> 中區營運處	
	<input type="checkbox"/> 南區營運處	

2. 貴部門員工總數約為：不滿10人 10~19人 20~29人
30~39人 40~49人 50人含以上

3. 您的職稱：_____

4. 您在公司的服務年資（包含原電信總局時期）：_____年

5. 教育程度：高中（職）以下 大專 大學 研究所（含）以上

6. 您的性別：男 女

7. 您的年齡：不滿30歲 30~34歲 35~39歲
40~44歲 45~49歲 50歲以上

第二部分：平衡計分卡人力資源效標項目

請問您個人認為貴部門對下列人力資源績效指標項目的**重視程度為何**？請在適當的方格內打勾。

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(1) 學習與成長衡量項目的重視程度：

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|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 1. 完善的員工教育訓練計畫..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. 員工的工作態度..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. 員工參與公司管理事務的機會..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. 藉建立與運用工作團隊來達成目標..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. 員工學習意願與創新能力..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. 員工的技術與能力（包括管理才能、專業知識、及解決問題的能力）..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. 員工的人際關係..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. 員工生涯規劃（包括輪調、升遷等）..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

(2) 顧客衡量項目的重視程度：

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| 9. 顧客滿意度..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 10. 產品或服務的品質..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 11. 員工滿意度與滿意度的提升..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 12. 員工離曠職率與離曠職率的降低..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

(3) 內部流程衡量項目的重視程度：

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| 13. 員工生產力..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 14. 處理顧客申訴的效率..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 15. 人事作業流程的順暢程度..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 16. 諮詢溝通管道暢通程度..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 17. 工安與職業災害防範標準..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 18. 人力資源管理電腦化程度..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

(4) 財務營收項目的重視程度：

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| 19. 績效管理（績效獎金、年終獎金、目標達成獎金、創新獎金、團隊獎金、分紅配股）..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
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~~請翻下頁繼續填答~~

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|---------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 20. 薪酬管理（基本薪、主管加給、工作津貼、財務與非財務福利）..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|---------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|

第三部分：知識管理活動項目

以下問題作用在衡量貴部門（單位）的知識管理活動；所謂知識管理，乃是一種有效激勵成員，發掘內部、外部的創新智慧與有價值的經驗，並有效記錄與擴散、分享給需要的成員，以提昇企業績效、創造競爭優勢的過程。貴部門在下列問題之情況為何？請在適當的方格內打勾。

非常不同意 不同意 普通 同意 非常同意

(1) 知識取得：

- 1. 在部門內，成員可以有效地擷取與運用資訊.....
- 2. 在部門內，成員能利用資訊科技來獲取資訊.....
- 3. 部門有一套建置良好的系統，可幫助成員取得所需資訊
- 4. 部門會分派任務，讓成員學習新的技巧和知識.....
- 5. 部門會吸取來自顧客、供應商或社區的資訊.....
- 6. 部門成員能定期收到工作的相關資料（如品質、生產力、業績等）.....
- 7. 部門會以競爭者或其他產業的領導者為學習標竿.....
- 8. 部門主管會鼓勵成員在會議或個別談話中提出改善的建議...
- 9. 部門非常積極地尋求最新的相關知識.....

(2) 知識創造：

非常不同意 ←————→ 非常同意

- 10. 部門盡力發展成員所需之核心技能.....
- 11. 部門提供充分的資源支持各種學習活動.....
- 12. 部門主管會協助成員檢視一犯再犯的問題.....
- 13. 成員所屬的工作團隊能持續學習.....
- 14. 部門會訓練成員「更有效率地學習」.....
- 15. 部門主管會扮演教練、教師的角色協助成員學習.....
- 16. 部門承諾並給予成員持續的教育訓練機會.....
- 17. 部門會利用電腦資訊系統幫助成員學習.....
- 18. 部門會與供應商、社區、專業協會或學術機構共同學習
- 19. 部門主管經常與成員討論如何持續學習、改善等議題.....

～～請翻下頁繼續填答～～

(3) 知識儲存：

非常不同意 ←————→ 非常同意

- 20. 部門有完善的系統，可儲存重要知識.....
- 21. 部門中專案小組的成員會對專案進行所遇到的問題與解決方式加以詳細紀錄.....
- 22. 部門中的專案小組對於會議資訊能有效、快速的記錄...

(4) 知識移轉：

	← 非常 不同意					非常 同意 →
23. 成員(或團隊)會主動將新資訊傳遞或告知給其他同仁...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24. 部門利用先進科技傳遞內部資訊.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25. 部門會提供相關組織(顧客或供應商)學習的機會.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26. 部門積極鼓勵成員將所學的知識應用於工作中.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

第四部份：部門績效項目

以下問題作用在在衡量貴部門(單位)的績效：與(分)公司其他部門相較，貴部門在下列問題之情況為何？請在適當的方格內打勾。

	非常 低	有 點 低	普 通	有 點 高	非常 高
1. 工作成果與預期目標的符合程度.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. 辨認所遭遇問題的性質，並且簡化作業或服務流程的效率	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. 完成工作目標或任務的效率.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. 有效應變突發狀況的能力.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. 員工工作士氣.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. 溝通、合作的能力.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. 與分公司外單位(如供應商、客戶)之談判交涉能力.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. 過去二年之績效考核結果.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. 所產生之「效益/投入經費」之比例.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. 員工出勤率.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. 員工離職率.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. 為分公司增加的利益.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. 貴部門之整體績效.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

◎本問卷到此已全部結束，誠摯的感謝您的熱情參與，麻煩您再次確認是否所有的問項均已填答。謹獻上十二萬分的謝意，謝謝您！

員工對知識管理知覺對部門績效之影響： 臺灣電信民營化後實施人力資源平衡 記分卡實證研究

王明坤*、黃國平**、陳宏惟***

摘 要

本研究主要針對臺灣電信民營化後利用平衡記分卡探討人力資源管理與知識管理活動；並探討如何利用人力資源與知識管理活動有效應用在組織的績效與對組織發展有利之情境。本研究以現行台灣地區電信公司包含民營化後之中華電信長途行動公司、國際電信公司員工為探討對象,利用問卷方式收集資料總共發出 250 份問卷,回收有效問卷 185 份,有效問卷回收率 74%。

研究顯示：（1）組織之人力資源平衡記分卡之應用將會正面影響組織部門績效；（2）組織知識管理活動將正面影響部門績效；（3）組織之人力資源平衡記分卡與組織知識管理活動呈現具有顯著相關聯。尤其在組織變革的環境下,組織的人資部門對於產業員工如何衡量員工對組織績效,之有效做法應是使用人力資源平衡記分卡系統連結知識管理活動,這將使組織賦予更具有競爭力。

關鍵詞：人力資源管理、平衡計分卡、知識管理、部門績效

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