Enterprise Management and Performance Evaluation of E-business in SMEs: Based on Human Resource Management Perspective

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Abstract

The rapid development of e-commerce brings new opportunities for small and medium-sized enterprises, especially in developing countries as China. Under the background of e-commerce, enterprise's performance has been rapid ascension, at the same time, the enterprise performance evaluation is particularly important. In this paper, we make empirical analysis about the impact of human resource management innovation on enterprise performance, the result shows that high performance human resource management can promote enterprise innovation, improve enterprise's innovation ability. High performance human resource management includes training, employee involvement, job analysis, performance and employee development, variance contribution rate of each HRM factor is 71.7%, 63.0%, 66.3%, 88.9% and 69.2%, so that the result of empirical analysis is reliable. On this basis, we put forward relevant policy suggestions.

Keywords*: Human Resource Management; Performance Evaluation; E-business; SMEs*

1. Introduction

Along with the rapid development of e-commerce, small and medium-sized e-commerce enterprises in electronic commerce based on the A new force suddenly rises. But at this stage, the overall development of e-commerce enterprises is relatively low; the majority is still in the primary stage of information dissemination and communication. Through the evaluation of the network marketing performance of electricity suppliers, we can improve the visibility of the business enterprise, and promote the development of the business enterprise [1]. A beautiful pages, commodity information rich and strong business website, it is easy to read the website the customer left profound good impression, they probably will recommend to their friends and family, the positive word of mouth communication can effectively improve the enterprise reputation, attract more potential customers for the enterprise [2]. Then, through the evaluation of the network marketing performance of the business enterprise, the management can be found in the enterprise web site in the page layout, information, information update frequency, operating convenience and other aspects can be re optimized, so as to further improve its corporate website.

In the economic and cultural globalization, the development of enterprises is facing the infinite possibility, but also faces the enormous challenge. It is only limited to domestic competition, in the global economic and cultural development of the environment is also inevitable internationalization, more and more enterprises are from the international giants. Facing the strong competition pressure, enterprise in the environment of surging undercurrent how to survive and development becomes the key issues of concern. Therefore, high performance human resource management activities must become a hot academic research, but also become the key to the business community. High performance human resource management system is an important tool to realize the high performance of the organization.

High performance human resource management practice for the promotion of employee innovation, and for the performance of the organization's performance, especially the role of the organization cannot be ignored. High performance human resource management system has been favored by many countries and scholars, as well as leaders and managers in the world. It makes the system more and more perfect. This system has a positive effect on the performance of enterprises, and has been verified to be verified.

2. Literature Review

Since 1960s, the enterprise marketing performance evaluation has become the focus of many scholars at home and abroad. And the rapid development of the Internet has added a new research content to the enterprise performance evaluation theory. The core problem of network marketing performance evaluation is the index system and evaluation method, which can effectively reflect the main factors of enterprise network marketing performance, and the evaluation method should be able to reduce the subjective factors as much as possible.

Gree (1999) pointed out network marketing includes attract customers, customer participation, retain customers, customer feedback and customer related digital marketing framework of research, to help B2C companies to select the appropriate network marketing tool [3].Gilley (2004) proposed a performance evaluation system from two aspects of sales revenue and web site analysis program, and proposed the different measures of the four types of enterprises [4].Maureen (2014) believes that online marketing is based on the network tools and online resources to carry out marketing activities, the traditional marketing theory and the unique interactive capabilities of the Internet marketing methods[5], both in the online marketing activities for the virtual market, but also to carry out the online services in the traditional tangible marketing activities, but also in the network to carry out the traditional means of marketing activities in the network virtual marketing. Lever (1997) believes that online marketing is through the use of digital technology to achieve the purpose of marketing activities, is a broad concept, involving how to use the Internet and traditional media integration to get customers, and to provide services[6].

The differences between Internet marketing and traditional marketing are mainly reflected in four aspects, that is, the breakthrough of the limitations of time and space. Network marketing and traditional marketing, it is not limited by time and space, can be in the world at any time to carry out marketing activities. In traditional marketing, the enterprise initiative to deliver information to customers, the lack of targeted, customers passively accept the information. This performance is a one-way process, and the interaction between the enterprise and the customer is limited [7]. In the network marketing, customers take the initiative to use the network search business and its products, services and other related information, the formation of enterprises and customers directly targeted to interact, so that the network marketing is not only kind of trading channels, but also a communication channel. Compared with the traditional marketing, the enterprise in the network marketing can use the network and the website with the relatively low cost to collect the customer's products and services quickly. In traditional marketing, the company provides information to all customers is the same. However, enterprises in the network marketing can be relatively low cost for customers to establish a database, so as to achieve different communication with different customers, to provide them with the relevant information and services to meet their needs, but also to facilitate customers to buy.

For the world of high performance human resource management system, the world's scholars and entrepreneurs or managers do not give a consistent statement. Spencer (1993) believes that this system is a plus and the system, with the ability to add, and has the effect of improving the performance of the enterprise[8]. Metin (2010) emphasis the role of the system, he believes that the system implies that the organization is to give preferential treatment to their employees, members of the positive response, improve organizational loyalty, which makes both sides can be improved, the ultimate realization of the organization's

development[9]. Brian (2001) believe that the so-called high performance human resource management system is an integrated system, not a single management practice[10], but a lot of complementary management activities, including diversity and complete recruitment and selection, competitive remuneration and effective performance management system, *etc*., these systems improve employee's ability, attitude.

Based on the above summary, this paper believes that high performance human resource management practice is a series of reasonable organic combination of human resource management practices, which can affect the performance of employees, work enthusiasm and ultimately affect the enterprise performance.

3. Theoretical Assumptions

High performance of human resource management in effect whether such as the definition itself done to promote and promote enterprise performance is high performance a central issue in the study of human resource management, is also important and difficult problem. Based on the definition of human resource management and high performance concrete practice, we can see different cultures; different enterprises under different scenarios such as high performance of human resource management system are the existence of differences. It has the characteristics of the core competitiveness, namely the irreplaceability and imitative not easily, even can be said to be its core competitive power of enterprise management system. Enterprise staff support and source, is the enterprise realize sustainable competitive progress of employees can lead to improvements in business performance. So for companies from the aspects of employees, perfect the many aspects, such as selection, training, incentive, realize the improvement of quality of employees, thus promote the improvement of enterprise performance.

Klass and Gainey(1999) research human resource management system and enterprise performance as independent variable and dependent variable, the research in the late 1980 s to 90 s American smaller productivity per unit time is iron and steel production enterprises, human resources management status of research on the relationship between the two[11]. He adopt the method of cluster analysis, with the characteristic of the human resource management measures for the standard, the enterprise human resources management system is divided into control system of human resource management and commitment of two types of human resources management system, the research results show that the effects on business performance, and high performance of human resource management model is consistent commitment model of human resource management system is obviously better than that of the control model of human resource management system; Jenster (1999) points out that the high performance work system to enterprise human resources management system to provide the higher social complexity and causal ambiguity[12], thus establishing a kind of management on the barriers, form the core competitiveness on the business management, thus ensuring the uniqueness on the enterprise management; Stone (2015) also studies the relationship between them, he changed to use the listed formula as research object, the relationship between the two is verified, the conclusion shows that the system and has positive effect on corporate financial performance, and is significant[13]. Zafar(2013) microscopic investigation method is used to research the part of the American iron and steel enterprises[14], found that the paradigm of high performance work system, such as a competitive compensation and accurate specification of job analysis, safe employment environment, etc., is conducive to improving the efficiency of production; Nagendra (2014) use the same enterprise in 590 sample survey results, proved by the composition of human resources activities such as recruitment, training and corporate performance between positive effect[15]. Hussain (2007) make 62 auto assembly plants as the research object, found in theory of flexible production enterprise human resource management practices on performance significantly better than the influence of the large-scale manufacturing enterprises[16]. The so-called flexible production enterprises refers to people who adopted a

system of team work, high commitment human resource activities and low inventory management of the enterprise.

However, with the development of economy and management, the role of high performance human resource management system is becoming more and more obvious, and the economic level of China seems to have been able to support this management system to play its high performance:

H1: High performance human resource management has a significant positive impact on enterprise performance;

For the relationship between human resource management practice and innovation, the scholars have carried on different research in different periods. Employees can be organized by the organization of some of the behavior of the suggestion, that is, the organization of the organization and the climate is the induction between employees, the sensor to help employees receive the organization's inherent hidden requirements, and then the staff for these requirements should be made in the corresponding behavior. Therefore, when an enterprise has an atmosphere of encouraging innovation, it is natural to convey a signal to employees to encourage them to innovate, and employees receive such signals, more likely to show the tendency of innovation, thus driving the whole organization of innovation. Organizational environment has a very important impact on the innovation atmosphere of employees and organizations. Combined with the theoretical model of organizational innovation, it can be seen that the practice of human resources is an important factor in the organization innovation climate, human resource practices in the leadership style, employee communication plays an intermediary role, and it is also possible to generate potential innovative results. Some scholars believe that the high performance HRM system has a positive effect on organizational innovation, for example, Daniel and so on in 2008 using the data of 173 companies in Spain, the analysis and research to get the conclusions of the two. Based on the above research, we put forward the hypothesis:

H2: High performance human resource management has a significant positive effect on Innovation

Research shows that innovation is closely linked with the organization's performance, which is a key factor affecting organizational performance). The result of employee innovation is the change of the organization technology, the progress of the marketing strategy, the product innovation, management process, means and methods of innovation, *etc.* And these changes are no doubt for the company's high performance conditions, resources and possible. The product innovation can make the enterprise to increase the opportunity of growth and expansion, innovation behavior and activities will bring the organization to bring the vitality of competition. Although most scholars believe that innovation should improve the performance of the enterprise, but the actual research is rarely given the empirical support. On the relationship between innovation and performance, Klass and Gainey believe that it is not a complete conclusion. Of course, there are some studies that show that there is a positive correlation between innovation and performance and so on. Many of these studies have given a negative correlation or non significant positive correlation. After repeated studies, the product innovation and performance are negatively related, and the relationship is significant. Though innovation and further studies the relationship between the corporate performance, but whether it is what kind of innovation, because of its production and the implementation is bound to have influence on employee and organization performance. Innovation has a lot of influence factors, such as organization, environment, personal characteristics; scientific and technological progress will have a great impact on innovation, and then affect the organization's performance. Based on the above research, we put forward the hypothesis:

H3: Human resource management innovation has a significant positive impact on enterprise performance;

4. Empirical Analysis

In this paper, the scale of the questionnaire survey, which is based on the maturity scale, the reliability and validity of these scales have been well verified in previous studies. In the questionnaire, all of the items were evaluated by Richter's 5 grade score method. The minimum score was 1 points and the maximum score was 5 points. The maximum score was 1 point. The higher the score was, the more fit the statement of the entry.

4.1. Data Source

The object of this paper is the staff of the enterprise and the final total of 224 questionnaires were collected, and 205 valid questionnaires were collected, and the characteristics of the 205 valid questionnaires were analyzed as shown in Table 1. In the recovery of valid samples have gender difference is not obvious, almost reached the ratio of 1:1, the female 101, accounted for 49.3% of the total number of samples; male 104, accounted for 50.7% of the total number of samples; by sample survey to the young, basically are under 30 years old middle-aged personnel; this is the current enterprise staff a common age state, in terms of academic qualifications and undergraduate 162 people, accounting for 79% of the total number of samples, can see the record level of the sample is relatively high. The sample of the degree of education in fact has generally reflected the quality level of the intermediate strength of our enterprises. For the study of this paper, the proportion of the sample can be a good understanding of the questionnaire, to ensure the quality of the questionnaire.

Table 1. Descriptive Statistics Analysis of Samples

Factors	Category	Number	Percentage
Gender	male	104	50.7 %
	female	101	49.3 %
Age	Under the 20	10	5.0%
	20-30	174	85.1%
	31-40	16	7.4 %
	older than 40	5	2.5%
Education	Specialty	23	11.2 %
	Undergraduate	162	79.1%
	graduate	20	9.7%
Working years	Less than 2 year	114	55.6%
	2-5 year	80	39 %
	6-10 year	5	2.4%
	More than 10 years	6	3.0%

4.2. Reliability Test

The measurement of the variables in this paper is mainly the reliability and validity of the questionnaire in order to ensure the correctness and reliability of the data collected by the questionnaire. The reliability of the scale is reflected by the reliability of the scale, and the validity is the extent to which the scale can be measured correctly. This paper analyzes the high performance human resource management and enterprise performance.

Before data analysis of the questionnaire, we must ensure the reliability, to ensure that the measurement results of the true degree of use. Cronbach (1951) proposed the use of internal consistency coefficient (alpha coefficient) as the measure of the reliability of the index; this indicator can accurately reflect the measurement of the consistency and the scale of the internal structure, this indicator to measure the reliability of the scale. The reliability of the scale is generally considered to be more than 0.70.

High performance human resource management of the overall reliability coefficient is 0.936, and it is repeated testing, do not need to cut the entries, that is, the deletion of entries and cannot make the scale of the reliability is better. The reliability coefficient was 0.866, the reliability coefficient was 4, the reliability coefficient was 0.798, the reliability coefficient was 0.832, the reliability coefficient was 2, and the reliability coefficient was 0.876. The reliability coefficient was 4, the reliability coefficient was 0.852, and the profit was measured by using an item. Above analysis shows that the reliability coefficient of the scale has reached the recommended level of 0.70 or above, good reliability, and the use of the scale of the survey results have a certain degree of reliability. Specific internal consistency coefficients are shown in table 2.

Table 2. Human Resource Management Scale Cronbach's α Coefficient

variables	Cronbach's α coefficient	Overall Cronbach's α
training	0.866	
Employee involvement	0.798	
Job analysis	0.832	
performance	0.876	0.936
Employee development	0.852	
Profit sharing	------	

The overall reliability coefficient of the enterprise performance scale is 0.925, the operating performance is 5, the reliability coefficient is 0.907, the market performance is 5, the reliability coefficient is 0.70, and the reliability is high, which shows that the measurement results are stable and reliable, as shown in Table 3.

Table 3. Enterprise Performance Scale Cronbach's α Coefficient

variables	Cronbach's α coefficient	Overall Cronbach's α
Operating	0.907	
Market	0.889	0.925

4.3. Confirmatory Factor Analysis

The validity of the scale is achieved by the factor analysis, which can be carried out by exploratory factor analysis. The general exploratory factor analysis is based on the cumulative variance contribution rate and the factor load to determine the size of the. It is generally believed that the contribution rate of the first principal component is better than 40%, while the factor load is generally considered to have better than 0.5. The judgment basis of the confirmatory factor analysis is the fitting degree of the model and the degree of the explanation of the factors. In this paper, we use the method to test the validity, the KMO test and the Bartlett sphere test to test the validity, and only through the two test, the variable is the factor analysis. Generally speaking, KMO is more than 0.9, very suitable; 0.8-0.9, it is suitable, 0.7-0.8, very reluctantly; 0.5 the following not suitable. Bartlett spherical test is generally rejected the original assumption that the representative of the variable is not independent, suitable for factor analysis. In this paper, the principal component analysis is used to make exploratory factor analysis. The factor (Kaiser) is more than 1. In order to guarantee the reliability and the reliability of the structure, the varimax variance is used to rotate the factors.

High performance human resource management training, employee participation dimension, job analysis, performance assessment, employee development dimension of the KMO values were 0.806, 0.800, 0.500, 0.795, 0.5, respectively, the Bartlett test, the results showed that the high performance human resource management can be done by factor

analysis. For high performance human resource management of high performance human resource management training, employee involvement, job analysis, performance evaluation, employee development dimension, the contribution rate of each factor is 71.722%, 63.092%, 66.382%, 88.931%, 69.284%, respectively. The factor loading matrix of each dimension is shown in table 4. The factor load matrix of the factor analysis shows that each factor is significantly higher than 0.7, and the variance contribution rate of each factor is higher than 40%, which indicates that the high performance human resource management has good structure validity.

Table 4. The Result of Exploratory Factor Analysis

factors	Factor loading	KMO	variance contribution	Bartlett χ2	P
Training 1	0.816	0.806	71.722%	402.079	0.000
Training 2	0.830				
Training 3	0.907				
Training 4	0.832				
participation 1	0.803	0.774	63.092%	271.740	0.000
participation 2	0.860				
participation 3	0.884				
participation 4	0.652				
Job analysis 1	0.795	0.800	66.382%	296.050	0.000
Job analysis 2	0.816				
Job analysis 3	0.848				
Job analysis 4	0.799				
performance 1	0.943	0.500	88.931%	188.744	0.000
performance 2	0.962				
Development 1	0.862	0.795	69.284%	356.177	0.000
Development 2	0.848				
Development 3	0.746				
Development 4	0.848				

In order to further verify the validity of the scale, this paper constructs the structural equation to verify the validity of the scale. Since the profit sharing is only one problem, it is not suitable for the confirmatory factor analysis, so it is not put into the model, which is the five factor model of the high performance human resource management model. The five factor model of high performance human resource management, such as table 5.

Table 5. The Goodness of Fit Index of Human Resource Management

Structural equation model	χ2	df	χ2/ df	RMSEA	CFI	NFI	TLI	PNFI	PGFI
Five factors model	208.29	125	1.666	0.057	0.960	0.907	0.951	0.741	0.660

From table 5 that model fit index of high performance human resources management five dimensions of χ2/ df significantly less than 3, RMSEA less than 0.08. Other indexes were greater than the given the goodness of fit of a standard, the overall fit better, can the trust model. The KMO value of the performance of enterprise performance and the market performance is 0.877 and 0.860 respectively, which is more than the critical value 0.5. The results show that the Bartlett can be rejected the original hypothesis (sig.=0.000).The performance of enterprise performance and the performance of the market is more than 65% of the variance contribution of the factors, the factors of the factor load matrix is shown in table 6. The factor load matrix of the factor analysis shows that each factor is significantly higher than 0.7, and the variance contribution rate of each factor is higher than 60%, which

indicates that the high performance human resource management has good structure validity. After exploratory factor analysis, 2 factors are simplified.

Table 6. Exploratory Factor Analysis of Enterprise Performance

factors	Factor loading	KMO	variance contribution	Bartlett χ2	P
Operating perf. 1	0.796				
Operating perf. 2	0.851	0.877	72.926 %	651.964	0.000
Operating perf. 3	0.881				
Operating perf. 4	0.898				
Market perf. 1	0.815				
Market perf. 2	0.855	0.860	69.560 %	555.893	0.000
Market perf. 3	0.864				
Market perf. 4	0.817				

Confirmatory factor analysis on enterprise performance, table 7 shows the model fitting degree index, $\chi2/df$ less than 3, CFI, NFI, TLI were greater than 0.9, PNFI, PGFI is greater than 0.5, RMSEA also within the acceptable range, overall model fit better. The confirmatory factor analysis, as shown in Figure two, the 5 factors of each item to achieve more than 0.7, the validity of the scale is good, which is consistent with the results of exploratory factor analysis, indicating that the scale can be used.

Table 7. The Goodness of Fit Index of Enterprise Performance

Structural equation model	χ2	df	χ2/ df	RMSEA	CFI	NFI	TLI	PNFI	PGFI
Two factors model	61.41	24	2.559	0.087	0.970	0.952	0.955	0.735	0.500

5. Conclusion

In this paper, we use structural equation model to test the relations between enterprise performance, human resource management and innovation, the result shows that high performance human resource management has a significant positive impact on innovation, that is, high performance human resource management can promote enterprise innovation, improve enterprise's innovation ability, innovation has a significant positive impact on enterprise performance, that is, enterprise innovation can improve enterprise performance, high performance human resource management has a significant positive impact on enterprise performance. High performance human resource management system of various practices for enterprise performance is different, including training, job analysis, employee participation in the three kinds of practice for the enterprise performance is significant, and employee development, profit sharing and performance evaluation of three kinds of practice for enterprise performance is not obvious. On this basis, we put forward relevant policy recommendations.

5.1. Improve Enterprise Human Resources Management System

High performance human resource management has a positive effect on business performance, then for enterprises, improve their human resource management system can become an effective means to improve enterprise performance. For enterprises, the introduction of foreign advanced management means, scientific management system and combined with the Chinese special enterprise situation to use is feasible. In recent years, for example, ERP system, E - HR technology in the application of human resource management has greatly increased the effect of the practice of enterprise human resources management system.

5.2. In View of the Different Enterprises, Focus on Management of Human Resource Management Practice

This paper study training, job analysis, employee involvement three practice has significant positive effect on business performance and for enterprises to improve human resource management system provides a certain priorities. First of all, enterprises should establish a diversified training system, strengthen the employees' skills, thinking, behavior of the various training, enterprise should be more clearly the responsibility of the employees, to avoid employee responsibility is not clear, job analysis, perfect the enterprise job analysis system. Especially in the state-owned enterprises to establish and perfect the system of human resources in job analysis system, clear responsibilities, task motivation. Third, improve staff participation, create a free and open environment for our employees, actively listening to employees for the opinions of the management, production, operation and so on various aspects, encourage employees to make reasonable improvement in their work.

5.3. Through Perfecting the Enterprise Human Resources Management System, Improve the Innovation ability

In this paper, it is concluded that innovation is a high performance of human resource management and enterprise performance intermediary variables, so as under the globalization of the 21st century China enterprise, if want to improve their innovation ability, create and grasp their own core competitiveness, and then strengthen the human resource management system improvement become has the practical significance. Perfect training, job analysis, employee involvement, performance appraisal and so on the concrete practice of the human resource management, for the management of the organization to create a good innovation environment, improve staff initiative of innovation, as well as the implementation of the innovation behavior for employees to provide spiritual and material support, the thinking of innovation, into actual productivity.

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