

EFFECTS OF HIGH-TECH CORPORATE CHARACTERISTICS ON SOCIAL CAPITAL AND ROLE OF HUMAN RESOURCE MANAGEMENT

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Human resource is the major source of competitive advantages for an enterprise. Discussions aiming at the role of human resource in educational communities are progressing in past years. From the mobility of human resource in an organization, retaining human assets or reducing the mobility to the lowest are considered as the professional commitment of human resource and the direction for efforts. A new viewpoint about the role of human resource reveals that the role of human resource is to change social capital into the driving force of competitive advantages of an organization. It might affect the presentation of different roles of human resource in various corporate characteristics. For this reason, the effects of high-tech corporate characteristics on social capital and role of human resource management are discussed in this study.

Aiming at Kunshan High-tech Industrial Development Zone, the management and the employees in the manufacturers are distributed 1000 copies of questionnaires, and 683 valid copies are retrieved, with the retrieval rate 68%. The research results show 1. significantly positive effects of social capital on the role of human resource, 2. remarkably positive effects of corporate characteristics on social capital, and 3. notably positive effects of corporate characteristics on the role of human resource. It is expected to verify richer and more diverse effects for the reference of successive research and practice communities.

Keywords: high-tech industry, corporate characteristics, social capital, role of human resource management

1. RESEARCH BACKGROUND AND MOTIVATION

In the era of knowledge economy, human resource is regarded as the major source of competitive advantages of an enterprise. Educational communities have constantly discussed the role of human resource and indicated the difference between current role of human resource and the past one. In regard to the evolution of the role of human resource, it was mainly the subjective points of view, the judgment, and the perception of human resource managers that were mostly reflected in the research on the changes of the role of human resource, while human resource practitioners presented limited effects. Al-bahussin and El-garaihy (2013) further indicated that the role of human resource could not give up the past myth, and the human resource strategic image created for the future was far beyond the achievability so that the role of human resource might return to the past fuzziness in facing old roles, but simultaneously face the uncertainty of future roles.

From the mobility of human resource in an organization, retaining human assets or reducing the mobility down to the lowest could be the professional commitment of human resource and the direction for efforts. Traditional human resource stressed on the relationship among individuals in a company to overcome obstacles and have cross-functional teams effectively interact (Máté 2015). Nonetheless, such contributions were not adequate for an organization coping with external challenges. A new point of view about the role of human resource shows that the role of human resource would change social capital into the driving force of competitive advantages of an organization. Merely when the relationship is mosaicked in an organization and presents relatively stable state, social capital would become the basis of an organization maintaining the competitive advantages. It is considered in this study that network of relation and social capital would be the key factors in the transformation of the role of human resource and would raise a new discussion fever. To cope with such a situation, the professional management of the role of human resource would become apparent in social capital. Besides, the effects of social capital, which is the most emphasized issue in social sciences and practice communities, in an organization would gradually increase (Dubrin 2012). Accordingly, it is considered in this study that different corporate characteristics might affect the presentation of distinct role of human resource. Besides, the mosaic relationship of an organization is also a key factor in human resource related practice. In this case, this study intends to investigate the effects of high-tech corporate characteristics on social capital and the role of human resource management. Based on corporate characteristics and the essence of human resource, social capital is included in this study to verify richer and more diverse effects for the reference of successive research and practice communities.

2. LITERATURE REVIEW AND HYPOTHESIS

2.1. Corporate characteristics

Antony and Bhattacharyya (2010) covered corporate size, history, and product styles, which could present the unique style of an enterprise, in corporate characteristics. Frenkel et al. (2012) proposed to observe the “industrial area” and “content” of a company being more accurate to evaluate corporate characteristics. Hershcovis (2010) alternated corporate conditions, product characteristics, and industrial structure to interpret corporate characteristics. According to the argument of Einarsen et al. (2011), the higher ratio of controlling shareholders taking the posts of directors and supervisors showed the higher incentive to the members making decisions on self-interests. The inspection and control function was therefore considered worse. Selznick first proposed to describe corporate characteristics with distinctive competence, referring to the particularly good part after comparing an enterprise with the competitors. Andrews stressed on the distinctive competence of an enterprise as being able to do more than the competitors. Distinctive competence therefore could be the integration of various special activities, allowing an organization, under the same environment, tending to better performance. Several common methods have been used for determining the status of an enterprise, including 1. BCG (Business Portfolio Analysis), 2. G.E. Stoplight Strategy, 3. Hofer’s Product/M Evaluation Portfolio Matrix, and 4. Glueck’s SAP Table. This study therefore refers to Khosravi et al. (2013), who selected the dimensions for corporate characteristics from general corporate characteristics for analyzing the variables of leadership, organizational culture, and organizational structure.

- (1) Corporate culture. Corporate culture (or organizational culture) is the value, norms, and behavior standards for an enterprise as well as the interaction and work between individuals and teams in an enterprise to achieve the common expectation of the corporate objectives. SHARP (2011) regarded corporate culture as the common and lasting form of basic value, belief, and assumption of an organization. Zheng et al. (2010) considered corporate culture as the combination of attitudes, value, and belief commonly possessed by corporate members, guiding the behaviors of the organizational members.
- (2) Leadership. Leadership refers to an individual applying influence on others, encouraging, stimulating, and guiding the actions to assist the team or organization in achieving the target (Khosravi et al. 2013). Khosravi et al. (2013) indicated that leadership was the behavior to affect an individual or a group of people under specific situations so as to approach to specific objectives. Safety et al. (2011) regarded leadership as the behavior guiding team

activities, presenting propagation and persuasion functions, and achieving the organizational objectives through the interaction among team members.

- (3) Organizational structure. Organizational structure is a form confirmed in the sections or among sections in an organization (Einarsen et al. 2011). Such a form would confirm the communications and work norms among members. Accordingly, the power source and responsibilities of managers are confirmed to facilitate the organization as a whole. In an organization, the structural form could affect or determine the organizational properties and effectiveness.

2.2. Social capital

When defining social capital, Gilbert et al. (2011) also regarded social capital as assets which an individual could possess and existing in the social relationship structure of interpersonal interaction. He pointed out the specific benefits in the relationships that actors with distinct intentions could exchange resources; the continuously existing social relationship therefore was formed in the continuous interaction (HRBS 2014). McClean and Collins (2011) indicated that the core guidance of social capital would be the goodwill of others (including trust, empathy, and forgiveness offered by peers and friends), which was regarded as a valuable element. Rodriguez-Munoz et al. (2010) argued that social capital was various tangible and intangible assets which were mobilized by actors for pursuing profits. Under such definitions, social capital generally covers the elements which could cohere with groups, such as norms, common belief, cooperative behaviors, goodwill, and mutual understanding (Liu 2014). When social capital is regarded as a solid object, it could be described as a network system, a structure, or a closely related system. This study refers to the definition of Raymond et al. (2012), who regarded social capital as an organization enhancing organizational effectiveness, facilitating cooperation, increasing identification, and promoting performance. Specifically speaking, social capital was an architecture containing all tangible/intangible resources in the network relationship, and trust, norms, common belief, cooperation, and coordination were the compositions (Janičko, Mičúch and Chytil 2012).

This study refers to the classification of social capital proposed by Raymond et al. (2012) in the research on organizations, where the contents are completely covered and have been applied to several studies. Summing up the past research on social capital, a complete definition with the dimensions of Structural Dimension (structural), Relational Dimension (relational), and Cognitive Dimension are described as below.

- (1) **Structural Dimension.** It refers to structural social capital, which stands for mosaic relationship and overall networks of relations as well as the connection styles among groups, e.g. the entire networks between organizations or communities. Structural social capital, concerning about social systems and entire networks, is a favorable reference structure to observe the operation of the entire connection. Structural social capital could be divided into three dimensions. 1. Network connection refers to the connection among units in the social system. It could provide resource acquisition, reduce time for constructing information, and collect more necessary information. 2. Network construction indicates the connection density, fluency, and hierarchy among social capital networks. 3. Exclusive organization is the network constructed based on specific purposes, but could be transferred to other functions. When networks can be transferred to other functions, such network styles present stronger social capital.
- (2) **Relational Dimension.** It refers to the relationship developed through a period time of interaction, focusing on mentally and subjectively perceived relationship. A lot of assets constructed or extended from social capital are the long-term partnership established through Relational Dimension. It could be divided into four dimensions of trust & reliability, criteria & prohibition, identity & identification, and obligation & expectation. Snell and Bohlander (2012) pointed out trust as a primary factor in measuring social capital that it was used for measuring social capital in the research.
- (3) **Cognitive Dimension:** Cognitive social capital could present the consistency in social networks externally. Internally, resources which can facilitate the identification of organizational members are included. Cognitive social capital contains common languages & codes, common experiences, and common vision.

2.3. Role of human resource

In the research on human resource management, Al-bahussin and El-garaih (2013) proposed that a role was the key to understand the behaviors of organizational members. Einarsen et al. (2011) considered that a role would be affected by the attitudes and the environments; therefore, the role theory suggested that individual performance should be explained as “the function of individual and organization”. Noe et al. (2010) pointed out the similar points of view that an enterprise could acquire competitive advantages when the human resource managers and line managers could integrate human resources for the organizational demands. Ron (2014) and Huang (2014) also indicated that an ideal organization had the

human resource managers and line managers work together to solve corporate problems related to personnel. Walumbwa et al. (2011) stated that the point of the role of human resource was not transferring the daily operation to a strategic role when adding value to the enterprise, but focusing more on the role of human resource being complex or paradoxical. Four possible paths to add value to an enterprise were proposed, namely executing strategy, building infrastructure, ensuring employee contribution, and management transformation & change. Yang (2012) also mentioned that the role of human resource had to present rich knowledge and skills; nonetheless, the empirical data about human resource managers applying the skills to play different roles under different organizational situations were insufficient. Yang (2012) pointed out the past investigations on the role of human resource stressing more on analyzing the role of human resource from two dimensions to divide it into four types, which were played by distinct roles, i.e. the set of types with distinct functions.

This study refers to Kane and Borgatti (2011), who considered that the role of human resource should change with different organizational operation strategies and was divided into four roles.

- (1) Transaction. Transaction is the intermediate between employers and employees, including the signing and termination of employment contract, operation of salary and welfare, presence and promotion records of employees, and other personnel administrative operation, which are the basic administrative functions in an enterprise.
- (2) Translation. Translation refers to listening to and responding to issues concerned by employees, interpreting policies, and revising regulations. It is the bridge of communication and information delivery between employees and management, and even between employees and external clients.
- (3) Transition. It could implement human resource management activities and the execution of policies as well as support the improvement of operational strategic objectives and provide an organization with changing power, such as assisting in the proceeding of major corporate policies and activities and offering human resource integrative services for alliance.
- (4) Transformation. Changing transformation leadership in human resource would change various human resource actions with new organizational transformation and corporate culture when the organization is re-structured. Practical methods in culture, employee relationship, and organizational teams are included.

2.4. Research hypothesis

Al-bahussin and El-garaihy (2013) considered the necessity of re-orienting and expanding the role of human resource and indicated that human resource could be the driving energy for an organization establishing relationship. In other words, human resource could play the role to establish social capital in an organization and change social capital into competitive advantages of the organization. After re-orienting human resource, various relationships inside an organization should be facilitated and maintained by leading the employees to the networks of relations with better productivity. In this case, human resource experts are the intermediates of networks of relations, producing interaction opportunities for more employees. Das (2012) argued that the role of human resource could become the one to provide inside information, deliver outside industrial environment information to the employees, and create opportunities for expectation and mutual effects. Kazlauskaite et al. (2012) pointed out the factors in mobility as the key factor in an enterprise stepping back from investing in human resource. Nevertheless, the order of human resource could be promoted in the organization through the establishment of social capital to enhance organizational cohesion and organizational commitment.

Regarding the issue of human resource playing the key role in social capital, Walumbwa et al. (2011) indicated that human resource extremely relied on culture and context under the global economy. Social capital was a specific accumulation of deep context, which indirectly proved that social capital could enhance the role of human resource. Yang (2012) mentioned that human resource could be the key in an organization externally expanding social capital to coordinate common value beneficial to both parties between organizations, establish internal trust mechanism, and participate in different value creation processes to enhance organizational cooperation. The accumulated social capital therefore is considered being able to promote the role of human resource. The following hypothesis is therefore proposed in this study.

H1: Social capital reveals significantly positive effects on the role of human resource.

Aiming at the human resource value in enterprises, Einarsen et al. (2011) pointed out the remarkable differences among industries, the number of employees, and the years of an enterprise being established. Raymond et al. (2012) also mentioned the notable differences between the role of human resource and social capital among various corporate characteristics. It is therefore inferred that different corporate characteristics could present remarkable differences between the role of human resource and social capital. Besides, lots of studies have described the

differences between the role of human resource and social capital among various corporate characteristics, in addition to the theoretical meanings and structures of variables. The following hypotheses are proposed in this study.

H2: Corporate characteristics present significantly positive effects on social capital.

H3: Corporate characteristics show remarkably positive effects on the role of human resource.

3. SAMPLE AND MEASURING INDICATOR

3.1. Research sample and object

Being approved by the provincial government in 2006, Kunshan High-tech Industrial Development Zone was named Jiangsu Kunshan High-tech Industrial Park, which was successfully advanced to High-tech Industrial Development Zone in September, 2010. For years, Kunshan High-tech Industrial Development Zone insists on combining opening-up promotion and innovative drive, greatly cultivating high-tech industry with competitive advantages and development prospects, and cultivating emerging industries with independent intellectual property rights and development potential, which have become the primary carriers for the science and technology innovation in Kunshan.

Kunshan High-tech Industrial Development Zone, with less than one-eighth area of the entire city, creates and contributes one-fifth of GDP and one-fifth of financial income to the entire city as well as attracts and gathers one-third of industrial and commercial businesses and one-third of invention patents of the entire city. Aiming at Kunshan High-tech Industrial Development Zone, the management and employees in the manufacturers are distributed 1000 copies of questionnaires, and 683 valid copies are retrieved, with the retrieval rate 68%.

3.2. Reliability and validity test

Corporate characteristics, social capital, and role of human resource of the entire structural are verified the casual relationship with Linear Structural Relation Model in this study, and the data registration is based on the correlation coefficient matrix of above observed variables. The analysis results of Linear Structural Relation Model reveal the overall model fit reaching the reasonable range that they show favorable convergent validity and predictive validity. This study refers to Kerlinger (1986), who suggested verifying the construct validity of ques-

tionnaires with item-to-total correlation coefficients, i.e. reliability analysis, and judging the questionnaire contents with the calculated item-to-total correlation coefficients. The item-to-total correlation coefficients in this study are above 0.6, presenting the construct validity of the dimensions.

Reliability and validity analyses are further proceeded to further understand the reliability and validity of this questionnaire. According to Cuieford (1965), the higher Cronbach's α showed the better reliability. The Cronbach's α reliability of the formal questionnaire in this study appears in 0.81~0.92, apparently conforming to the reliability range.

4. ANALYSIS OF EMPIRICAL RESULT

4.1. Evaluation indicator in LISREL Model

LISREL (linear structural relation) Model, as a research instrument to calculate multiple factors and multiple causal paths, combines Factor Analysis in traditional statistics and Path Analysis with simultaneous equations in econometrics. Regarding the evaluation of model fit, Bagozzi et al. (1998) suggested to evaluate preliminary fit criteria, overall model fit, and fit of internal structure of model.

The research data are organized in *Table 1*. The preliminary fit criteria, internal fit criteria, and overall model fit are illustrated as below.

From *Table 1*, the preliminary fit criteria reach the significance ($t > 1.96$, $p < 0.05$), ($t > 1.96$, $p < 0.05$), and ($t > 1.96$, $p < 0.05$) on the three dimensions of corporate characteristics (corporate culture, leadership, organizational structure), three factors in social capital (Structural Dimension, Relational Dimension, Cognitive Dimension), and four dimensions of role of human resource (Transaction, Translation, Transition, Transformation), respectively. Apparently, the overall model shows favorable preliminary fit criteria.

Internal fit criteria present notably positive correlations between corporate characteristics and social capital (0.861, $p < 0.01$), social capital and the role of human resource (0.875, $p < 0.01$), as well as corporate characteristics and the role of human resource (0.845, $p < 0.01$), respectively, revealing H1, 2, and 3 being supported.

The standard χ^2/Df of overall model fit is 1.532, less than the standard 3, and RMR appears 0.005, showing both χ^2/DF and RMR being appropriate. Moreover, the chi-square value is sensitive to sample size that it is not suitable for direct judgment. However, the overall model fit GFI appears 0.927 and AGFI 0.909, above the standard 0.9 (the close GFI and AGFI to 1 revealing the better model fit) that this model presents favorable fit index.

Table 1. Analysis of entire Linear Structural Model

Evaluation item	Parameter/evaluation standard	Result	t	
Preliminary fit criteria	Corporate characteristics	Corporate culture α_1	0.722	4.38**
		Leadership α_2	0.736	5.27**
		Organizational structure α_3	0.708	4.85**
	Social capital	Structural Dimension β_1	0.802	7.43**
		Relational Dimension β_2	0.811	8.21**
		Cognitive Dimension β_3	0.796	6.69**
	Role of human resource	Transaction σ_1	0.842	10.41**
		Translation σ_2	0.855	11.23**
		Transition σ_3	0.824	9.27**
		Transformation σ_4	0.837	9.81**
Internal fit criteria	Corporate characteristics→social capital	0.861	16.73**	
	Social capital→role of human resource	0.875	24.27**	
	Corporate characteristics→role of human resource	0.845	15.49**	
Overall model fit	X2/Df	1.532		
	GFI	0.927		
	AGFI	0.909		
	RMR	0.005		

Note: ** stands for $p < 0.01$

4.2. Hypothesis verification for LISREL Model

From *Figure 1*, Relationship path diagram, the estimates for the relationship between other dimensions and variables are significant. The verification results of research hypotheses are shown in *Table 2*.

Table 2. Hypothesis verification

Research hypothesis	Correlation	Experimental result	P	Result
Hypothesis 1	+	0.875	$P < 0.01$	supported
Hypothesis 2	+	0.861	$P < 0.01$	supported
Hypothesis 3	+	0.845	$P < 0.01$	supported

5. CONCLUSION

The research results reveal remarkably positive effects of corporate characteristics on social capital and the role of human resource. The ideas of fit and connection are emphasized in this study. The fit and connection among dimensions are often discussed in research, aiming to receive the accuracy of fit among issues,

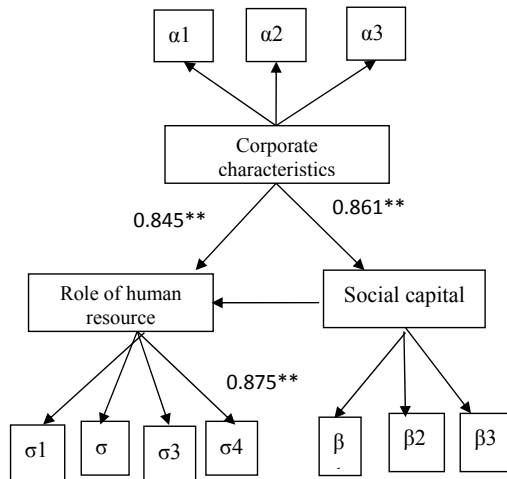


Figure 1. Relationship path diagram

Note: ** stands for $p < 0.01$

the mutual effect, and the influence relationship. Current role of human resource has gradually changed from traditional Transaction, Translation, and Transition to Transformation. An enterprise should reinforce the investment in social capital for promoting human resource practice and operating various functions of human resource. It is therefore considered in this study that any practical functions have to consider matching corporate characteristics with organizational strategies, internal organizational conditions, and any available programs. According to the research conclusion, social capital is the element to start human resource management and benefit the presentation of multiple roles of human resource. It is believed that the discussions of social capital and human resource would appear more popular in the future. The mutually causal relationship would require further clarification.

6. SUGGESTION

To sum up the research results and findings, practical suggestions are proposed as the following.

1. To further develop human resource, an enterprise should stress on the investment in social capital, which presents positive effects on the multiple roles of human resource. Social capital could effectively have the investment in the organizational operation relationship receive real rewards. Current role of

human resource has crossed traditional roles of Transaction, Translation, and Transition and promoted to Transformation. An enterprise should reinforce the investment in social capital for the practical promotion of human resource and the operation of various functions.

2. Corporate human resource management must match with organizational strategies and consider various conditions inside the organization and available programs in order to promote human resource management in an enterprise. An organization is suggested to focus corporate characteristics on the responses to markets and competitors or the promotion of internal production efficiency before concentrating on any human resource management programs. It is worth practicing to further confirm the network relationship of social capital, trust, and the consensus with collective objectives so as to achieve the optimal fit and connection.
3. When organizational members show close relationship, trust each other, and present consistent consensus, the promotion of human resource functions theoretically would be more efficient. Regarding to the functions of integration, delivery, and making transformation policies, a lot of obstacles are reduced to make the evolution of human resource smooth. As a result, the human resource management measures could be positively correlated or affected. Social capital could not be generated depending on systematic regulations or management systems; instead, it requires being naturally intervened to provide the growth environment. It is therefore suggested that a manager should frankly and sincerely face such intervention to invest in social capital.

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