

## Presenting a conceptual model for innovation development in organizations

Zeinab Sadeghi<sup>1,\*</sup>, Jafar Salemi<sup>2</sup>

<sup>1</sup> PhD Student in Educational Management, Kharazmi University, Tehran, Iran

<sup>2</sup> PhD Student in Educational Management, Kharazmi University, Tehran, Iran

[zeinab\\_sadeghi1291@yahoo.com](mailto:zeinab_sadeghi1291@yahoo.com)

**Abstract:** Organizations require improving innovative methods and creating new positions to develop. Human resource management (HRM) could play a vital role in providing required conditions to conduct people in development of innovative activities. By development of innovative activities, organizations are faced with more instability in innovation process and would require creative staff with flexibility against uncertainty and ambiguity, so there should be more emphasis on these characteristics in their functions and performance. Organizations could encourage employees to creative thinking and innovation by some human resource management functions, such as recruitment, training, participation, performance evaluation and reward systems. Innovation power of an organization is closely associated with its ability to use its knowledge resources. Innovation process involves acquiring, sharing and applying new and available knowledge. Human capital with its knowledge, expertise and skill is a valuable organizational resource. Organizations that effectively enhance employees' latent knowledge and expertise would be able to create more innovative ideas. So to recognize effective factors in organizational innovation, different aspects of each factor was identified using descriptive method. And a conceptual model is presented to develop innovation in organizations. This model suggests that knowledge management is as a catalyst for human resource management and organizational innovation relation. Accordingly, human resources management affects on innovation through its functions in knowledge management. It means that organizations can use a set of human resources functions, to foster knowledge acquisition, sharing and applying level, and this leads to accelerating and improving employees' adherence to organizational innovation.

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### Introduction

Organizations with strong innovation power in response to changing environments and to develop new capabilities to allow them achieving better innovation, are more successful. : (Giovanni & Massimiliano, 2007, P: 875-894). Therefore innovation is known as a vital tool to enable organizations in creating value and persistence in current changing environment with growing complexity. (Subramaniam & Youndt., 2005, P: 450-63). In order to create innovation, organizations could use human capital to develop organizational expertise to make new products and services. Although because of deliberation of specific tasks and objectives in a certain environment expertise is a more complex concept. (Ericsson & Charness, 1997). This targeted exploration leads to improve performance efficiency of responsible employees. By determining and applying a set of human resource functions, organizations could improve willingness and motivation of employees to do these sensitive operations in order to increase and improve organizational expertise to achieve innovation. (Jacobs & Jones, 1995; Swanson, 1994). So human

resource operation could conduct innovative activities because it creates possibility of discovering and using knowledge and expertise in the organization. (Scarbrough, 2003). Of course knowledge is in the middle of human capital and organizations couldn't simply transfer it among persons. (Hansen, 1999, P: 83 -111; Grant, 1996, P: 109-22). Although organization has access to knowledge, skills and expertise of employees, but instead of ensuring effective use of human capital in developing organizational expertise to create innovation, it might require acquiring good capacities in knowledge management tools administration. Knowledge management is a path to improve or creating value by more actively increase available knowledge and expertise in human thoughts. (Ruggles, 1998, P: 80-9; Scarbrough, 2003). Mc Duffy use recruitment, pay, situational barriers and training four criteria to demonstrate innovative management of human resources. He shows that integration of human resource practices is associated with improved production rate (MacDuffie, 1995, P: 197-221). Ichniowski and collaborators examined the manufacturing effects of innovative work practices in

a same study. They used different criteria for innovative work practices, including motivational paying, hiring and selection, group work, work tasks, flexibility, Job security, training and communication and suggest that this innovative work practices leads to achieve higher levels of productivity than conventional methods such as defining specific work scope, hard job rules and hourly paid with exact monitoring ( Ichniowski, Shaw,Prennushi,1997,P: 291–313).

Additionally, Youndt and colleagues using four dimensions of human resource management including recruitment, training, performance appraisal, and wage suggested that a human resources management system is associated directly with multiple operational efficiency dimensions. (Youndt, Snell, Dean, Lepak, 1996, P: 836–66)

In terms of financial efficiency, Delery and Doty taking into account three most dominant theorization type, identified seven key functions of human resource management including career progression path, training, result oriented recognition, wages, employees' job security, and enrichment job content and using them to develop converged theoretical discussion with each of these three views. Results show that each viewpoint would use to create theoretical discussion of significant change levels in financial efficiency (Delery &Doty 1996,P: 802–35). Although previous studies have examined the effects of human resource management on organizational outcomes, but rare cases have ever studied the effect of human resource management on knowledge management and innovation (Laursen K, Foss, 2003,P:243-63).

Currie and Kerrin examined the effect of human resource management as a case study and from organizational learning view, including efficiency management, recruitment and selection, employee engagement and career development in sharing knowledge within the company. They mentioned Human resources management could improve sharing knowledge in the structure and culture of a function-oriented organization. (Currie &Kerrin, 2003,P:1027-45). The purpose of this paper is to present a conceptual model of innovation development in organizations. Therefore, it considers used criteria in previous studies with human resource managemen, knowledge management and innovation concepts. Finally, the conceptual model for organizational innovation is presented and discussion and conclusion will be addressed.

### **Human Resource Management**

Human resources are the most important assets of an organization and effective management of them is the key to organizational success. If policies and

procedures about organization;s employees are fit together and contribute substantially in achieving organizational objectives and strategic plans, so organizational success is more likely. Culture and overall values, organizational conditions and resulted managerial behavior from that culture, have a great impact on achieving desired excellence. Such a culture needs to be managed which means that continuous efforts should provide to create acceptance and perform them. (Armstrong, 1993).

Human resource management is: planned use of human resources and doing tasks which enable the organization to meet targets and improving organizational performance and creating an organizational culture that encourages creativity and flexibility. (Truss and Gratton,1994,P:123-37 Wright and Macmahon,1992,P:47-61).

Human resource management is: organized comprehensive, innovative foresight and evolution orienting in providing organization's human resources, its training and remediation, improving the quality of work life and timely and effective implementation of this strategic resource with recognition and applying influenced and effective internal and external organizational environment aspects in order to determine strategies to achieve organizational mission and goals. (Mirsepasi, 2002). Human resource management refers to the policies, procedures and systems affected on behavior, attitudes and performance of employees (Noe et al, 2000).

Human resource management is a Strategic approach to to recruit, develop, manage, motivate and gain commitment of key organizational resources; it means people who works in or for organization (Armstrong 1993). HRM is a process includes four recruitment, development, motivation and retaining human resources tasks.(DeCenzo and Robbins, 1988). Human resource management means management of organizational employees (Scrapello and Ledvinka, 1988).

The purpose of HRM is providing required policies and practices to implement parts of management tasks which are related to employees' activities specially recruiting, training, performance appraisal, reward and creating a healthy and fair environment for employees.

For example, these policies and procedures include followings:

- Job analysis (determine each employee's job nature).
- Human resource planning and recruiting.
- Selection of qualified applicants
- Orienting and training new hired employees
- payroll Management (compensation of employees)
- Incentives and rewards

- Performance Evaluation
- Communicating with employees (interviewing, counseling and disciplinary provisions)
- Human resource Development and Training
- Commitment to employees ( Desler, 2002).

### Knowledge Management

Knowledge management definitions are more abstract and vague. In fact there is no standard for this term, whereas all individuals, groups and organizations need to an approach to create knowledge and managing it according to its own culture. (Ives,Torrey & Gorden,1998).

Even organizations may not use the term knowledge management, but be they would be successful in implementation and management critical principles in

this area are. So every effort to prepare precise standards for knowledge management may not lead to desired results and consequently those models will have less applicability and generalizability (Olson,1999).

Knowledge management includes all processes or activities for acquiring, capturing, sharing and using knowledge, wherever it may be, to enhance learning and performance in organizations. Purpose of wherever it may be statement is that this process is also includes tacit knowledge (knowledge that is in people's minds). (Loremans,2002,p: 79-93). Various definitions were presented for knowledge management which some important definitions are presented in Table 1 (Brooking,1998; Hung,2005,p:164-183;Rowley,2007,p:20-29).

Table 1: Definitions of Knowledge Management

Person	Definition
Quintas (1997)	Knowledge management is a process to meet existing needs, identify and exploit existing and acquired knowledge assets and develop new opportunities.
De jarnett (1996)	Knowledge management includes creating a knowledge, which is followed by interpretation, dissemination and application.
Brooking (1997)	Knowledge management is an activity that is related with strategies and solutions for human capital management.
Gartner (2000)	Knowledge management is a discipline that provides an integrated approach for identifying, capturing, evaluating, retrieving and sharing all information assets of an organization.
Alavi & Leidner (2001)	Knowledge management is a special organizational and systematic process for acquiring, organizing, storing, using, disseminating and recreating explicit and implicit knowledge of employees to increase organizational performance and value creation.
Broadbent (2002)	Knowledge management is about strengthening the use of organizational knowledge through appropriate information management and organizational learning activities.
Aksber and Abel (2003)	The ultimate and critical source of organizations is information. Most important competitive advantage is the ability to use information. Knowledge management is sum of these two factors.
Hung (2005)	Knowledge management is a systematic and integrated management strategy that combines information technology with organizational processes. Managing knowledge is a managerial activity which promotes transfer, upload, storage, and apply knowledge, also provides real information to organization for reaction and make proper decisions with the aim of reaching organizational goals.

Finally, a definition which is focuses on the human, structure and technology and is applicable in practice, provided: knowledge management is the process of discovering, acquiring, and developing, sharing and applying appropriate knowledge in appropriate time by people in the organization and linking human resource, information technology and appropriate organizational structure to achieve organizational goals.

### Human Resource Management and Knowledge Management

The expressive and explicit messages of modern global conditions and changes for institutions, organizations and even nations is the message of production, transmission, application, storage of knowledge and skills through effective training and development approaches and mechanisms, learning organization, Knowledge management and (Pakdel,2004). Human capital with its Knowledge, expertise and skills is a valuable resource for organization. Organizations which effectively manage and enhance laid knowledge and expertise in people, would be able to create more value and

achieve to better competitive advantage. Of Course, people often wouldn't be able or have no willing to share their knowledge and expertise with others because of personal reasons or lack of confidence (Hayes&Walsham , 2000).

So this point will be important for organizations to control employees' participation and knowledge sharing through knowledge management. Human resource management is primary methods for extracting and enhancing expertise and knowledge which organization require them. Since employees own an important part of the special expertise and knowledge of organization,

Organizations must make maximum use of human resource work practices to manage knowledge and expertise. (Lave & Wenger, 1991). Some HR functions such as recruitment, training, participation and reward and performance appraisal are related to strength commitment, reduced cost and increased performance through its effect on employees' motivation and growth. Using human resource management, one could provide employees 'access to skills, resources and required insight to develop knowledge management. (Guthrie, 2001, p: 180-90). Therefore in this study it acknowledged that human resource management is a key element by which organizations could increase their ability to apply and facilitating management activities.

Employing people with special expertise and skills is something very difficult for organizations to be able to use knowledge management activities. If newly hired employees reach to new landscapes and appropriate situation, they would be able to effectively share their knowledge. Selecting individuals with appropriate skills and attitudes to do task would enable organizations to consolidate fragmented sources of knowledge and motivating to creating innovative ideas. (Scarborough & Carter, 2000).

Also employees' training is effective in the development of knowledge management. Steady growth of professional skills is important for knowledge workers. One should develop and foster employees' knowledge and expertise by providing internal and external training opportunities. Providing different training programs for employees would help them to learn new knowledge and skills, broaden their horizon and equip them with innovative skills and ideas. These training programs lead to stimulate employees to share expertise and experience with others, acquire new knowledge and application of new knowledge. So training programs are essential in knowledge management process (Argote, McEvily, Reagans , 2003,p: 571–82). Participation as other element of human resource management, would stimulate employees to involvement and positive

partnership in learning and knowledge management activities. More authority should be given to employees with more skills, expertise and job responsibility in carrying out his duties. (Nonaka &Takeuchi,1995,p:40-54).

In order to obtain desired behavior in the area of performance evaluation, feedback and motivations should be used in this field. If inconsistent objectives were used through performance evaluations, the probability of doing knowledge management activities especially knowledge sharing would decrease. And vice versa in the case of using homogeneous and consistent criteria in connecting employees' performance with their role in sharing and use of knowledge in duties, their motivation would increase to do knowledge management activities. Reward would increase creativity, risk appetite and problem solving ability in order to increase knowledge influence and sharing it ( Von Krogh, 1998,p: 133–53).

If rewards payment system, plays incentives role in the acquisition and exchange of information, employees could devote more effort to knowledge management activities. Based on the above reasoning, human resources management is useful in motivating employees to acquisition, sharing and application of knowledge.

### **Knowledge Management and Innovation**

Innovation power in an organization is closely associated with its ability to use its knowledge resources. Knowledge management is a Way to increase knowledge and expertise actively to create value and contribute to influence the organization (Gold & Malhotra ,2001,p:185-214).

Organizations with higher levels of knowledge management have learning effect that can improve their ability to rapidly respond to changes and developing creative ideas and innovation. Effective knowledge management, facilitates communication and transfer level of required knowledge in innovation process and enhances innovation through development of new perspectives and abilities (Madhavan & Grover,1998,p:1-12). Therefore knowledge management plays a central role in supporting and promoting innovation. Due to the complexity of the innovation process in knowledge management, this study provides mechanisms that organizations use to acquire, share and apply new knowledge.

Knowledge acquisition from outside the organization and from employees within the organization, allows recombination of existing knowledge and information to create new knowledge. (Yli-Renko, Autio, Sapienza,2001.P: 587–613).

New knowledge in interaction with existing knowledge could save and change the width and depth of available knowledge, so enhance the potential of innovative new gains. This knowledge oriented view shows that knowledge acquiring activities enhance organizations capability to Knowledge could enhance organizational ability to carrying out its role effectively. Capable organizations in acquiring external and internal knowledge reduce uncertainty and achieve to greater administrative and technical characteristics (Sarin & McDermott,2003,P:707-39).

Therefore, we conclude that knowledge acquisition is positively correlated with organizational innovation. Since there are different levels of knowledge within people or different levels, to create new methods or models of thinking, organization members should share it with others (Galunic & Rodan ,1998,P:1193-201).

Previous studies have shown that knowledge sharing can lead to increased innovation ability in organizations. Especially researchers believe that knowledge sharing requires a new combination of existing knowledge and results from process improvement or new products (Tsai ,2001 ,P:996-1004). Also when people are willing to share and exchange information and resources, there will be possibility to benefit from collective learning and synergy. Innovation created when organization members share their expertise with other members and transform it to a different product or service (Nonaka I, Konno, 1998).

Based on Knowledge oriented view, the value of individual and organizational knowledge in respect of difficulty and implicit is primarily depends on its application. Development of new products and innovation requires the implication and combination of specialized knowledge in different parts. Deeper use of the knowledge leads to continuing transformation of organizational expertise to real products (Spender, 1996, P :45-62).

Therefore it can be concluded that knowledge management involves acquiring, sharing and application of knowledge and plays a positive role in organizational innovation. Through effective knowledge management, organizations could transform knowledge into products, services and innovative processes that ultimately leads to better technical and administrative results.

### **Human Resources Management and Innovation**

HRM can influence on selection, capacities and behaviors of employees to achieve organizational goals and to change them. And has a vital role in providing required conditions for accelerating and grouping and leading people to develop innovative

activities (Martinsons,1995,P:17-34). Using some human resource management activities such as recruitment, training, participation, performance evaluation and rewards as a motivational tool for employees' commitment, organizations could enforce employees in creative and innovative thinking (Davenport & Prusak,1998).

By developing innovative activities, organizations face with greater uncertainty and variability in innovation process and need more innovative employees whom are more flexible, risk-taking and tolerant against uncertainty and ambiguity, so there should be more emphasis on these characteristics in their functions and performance (Madsen & Ulhoi, 2005,P:488-501).

By applying innovative and creative capabilities in recruitment and selection criteria, employees will tend to make more variety in innovative ideas and behaviors. By using effective recruitment procedures, employees will converted to important sources of new ideas in innovative processes (Brockbank ,1999,P:337). Applying these methods in training, facilitate the exposure of employees with a wide range of knowledge and information and increase their desire to more creative ideas. Extensive and diverse training programs lead to increase employees' required knowledge, skills and abilities in doing their tasks. Training resulted in enhancement of organizational expertise demand level and innovation content (Jaw & Liu, 2003,P:223-41).

Increased participation leads to encouraging employees to provide new ideas and share information on innovative process and enhance innovative achievements. Participation and collaboration of employees could be implemented by incorporating them in problem solving and involvement in effective decisions (Jiménez & Sanz-Valle,2005,P: 364–81).

Performance evaluation can help to motivate employees to commit to innovative activities and to assist organizations in achieving the desired innovations results. Also compensating for individual or group situations by financial rewards is one of the ways to encourage innovation. Both regular and random bonuses are essential in motivating employees to perform challenging jobs and create necessary motivation for providing successful and new ideas (Mumford, 2000, P :313-51).

Thus, by applying effective human resources management, including hiring, training, participation, performance evaluation, and reward we could reach to organizational ability in providing new products and services and ultimately better results in achieving organizational innovation.

### **Discussion and Conclusion**

Based on available research, human resource management aspects are related with organizational innovation and therefore have the same relationship

with knowledge management. Knowledge management is associated with organizational innovation.

Table 2: Factors associated with the concept of knowledge management and organizational innovation

Dimension	Factors	Concept
<b>Organizational Innovation</b>	Human Resource management	Employment Training Participation Performance Evaluation Reward
	Knowledge management	Knowledge acquiring Knowledge sharing Knowledge application
<b>Knowledge management (acquiring, sharing, application)</b>	Human Resource management	Employment Training Participation Performance Evaluation Reward

After identification of related factors to the concept of knowledge management and organizational innovation and their dimensions which are listed in

table (1), a conceptual model of study is presented in figure (1).

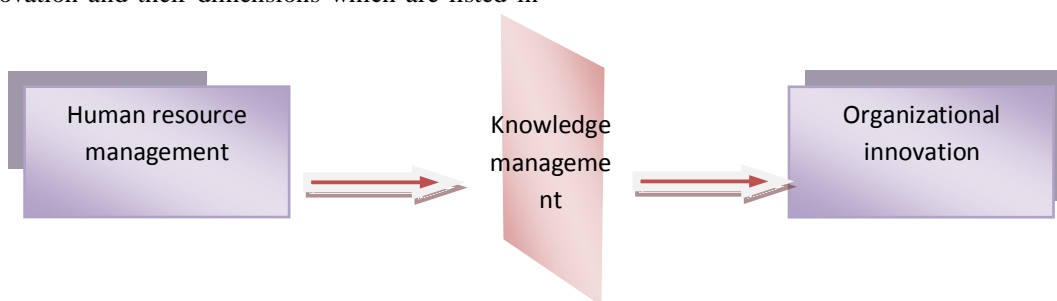


Figure 1: conceptual model of study.

This study acknowledged that knowledge management is as a catalyst in relation between human resource management and organizational innovation. In other words, knowledge management speeds up the relationship between human resource management and organizational innovation. In this regard, human resource management is affected on organizational innovation through its operation in knowledge management. It means that organizations can use a series of human resources operations, to develop management of acquiring, sharing and applying knowledge and it turns to promoted employees' orientation and accelerating and guiding them towards innovation.

These findings highlight the critical role of Human resources management and knowledge management in organizational innovation processes. By applying findings in organization, managers should actively use organizational human capital by human resource

management to stimulate acquiring, sharing and applying knowledge management capability. To facilitate the relationship between HRM and innovation, managers must first understand the importance of knowledge management. Then they should apply human resources management to foster knowledge management which leads to desirable organizational innovation results. Although previous studies suggested the importance of human resource management in organizational innovation process, but the contribution of this study to extend this field is to examine relationships between knowledge management and human resource management and organizational innovation factors. Results suggested that using human resource management including recruitment, training, participation; performance evaluation and reward have positive effect on organizational innovation and knowledge management is a mediator in reducing this positive

relation. So using a theoretical model we show knowledge management is a mediated mechanism and human resource management leads to increase in organizational innovation.

## References

Alavi, M., & Leidner, D.E. (2001). Review: Knowledge Management and Knowledge Management Systems: Conceptual Foundations and Research Issues. *MIS Quarterly*, Vol. 34, No. 1, PP. 64-70.

Argote L, McEvily B, Reagans R. (2003) Managing knowledge in organizations: an integrative framework and review of emerging themes. *Manage Sci* 49(4):571-82.

Armstrong, M (1993). A handbook of personnel management practice. 4th ed. London: Kogan Page.

Brockbank W. (1999) If HR were really strategically proactive: present and future directions in HR's contribution to competitive advantage. *Hum Resour Manag* 38(4):337-52.

Brooking, A. (1998). Intellectual capital: core-asset for the third millennium enterprise. London: Thompson press.

Currie G, Kerrin M. (2003) Human resource management and knowledge management: enhancing knowledge sharing in a pharmaceutical company. *Int J Hum Resour Manag* 14(6):1027-45

Desler, G. (2002). Fundamentals of human resources management. Translated by: Parsayan and Aarabi. Tehran: cultural research bureau

Delery JE, Doty DH. (1996) Modes of theorizing in strategic human resource management: tests of universalistic, contingency, and configurational performance predictions. *Acad Manage J* 39(4):802-35.

Davenport TH, Prusak L. (1998) Working knowledge, Boston. Harvard Business School Press.

DeCenzo, D.A., and Robbins, S. P. (1988) Personnel/ Human Resource Management. 3rd ed. London: Prentice-Hall.

Ericsson KA, Charness N. (1997) Cognitive and developmental factors in expert performance. In: Feltovich PJ, Ford KM, Hoffman RR, editors.

Expertise in Context: Human and Machine. Menlo Park, CA: The MIT Press.

Galunic DC, Rodan S. (1998) Resource recombinations in the firms: knowledge structures and the potential for Schumpeterian innovation. *Strateg Manage J* 19(12):1193-201.

Giovanni Guidetti, Massimiliano Mazzanti, (2007) Firm-level training in local economic systems: Complementarities in production and firm innovation strategies, *Journal of Socio-Economics*, Volume 36, Issue 6, Pages 875-894.

Gold AH, Malhotra A, (2001) Segars AH. Knowledge management: an organizational capabilities perspective. *J Manage Inf Syst* 18(1):185-214.

Grant RM. (1996). Toward a knowledge-based theory of the firm. *Strateg Manage J* . 17:109-22.

Guthrie JP. (2001) High-involvement work practices, turnover, and productivity: evidence from New Zealand. *Acad Manage J* 44(1):180-90

Hansen M. The search-transfer problem: the role of weak ties in sharing knowledge across organizational subunits. *Adm Sci Q* 1999 44(1):83 - 111.

Hayes N, Walsham G. (2000) Safe enclaves, political enclaves and knowledge working. In: Pritchard C, Hull R, Chumer H, Willmott H, editors. *Managing Knowledge: Critical Investigations of Work and Learning*. London: Macmillan;

Hung, C.Y. Ming Hung, S. Pin Lin, Q. Tsai, M. Ling. (2005). Critical factors in adopting a knowledge management system for the pharmaceutical industry. *Industrial Management & Data Systems*, Vol. 105, No. 2, PP. 164-183.

Ichniowski C, Shaw K, Prensushi G. (1997) The effects of human resource management practices on productivity: a study of steel finishing lines. *Am Econ Rev* 87(3):291-313.

Ives, W. Torrey, B. Gordon, c. (1998). Knowledge management is an emerging area with a long history. Anderson Consulting.

Jacobs RL, Jones MJ. (1995). Structured on-the-job training: unleashing employee expertise in the workplace. San Francisco: Berrett-Koehler.

Jaw B, Liu W. (2003) Promoting organizational learning and self-renewal in Taiwanese companies: the role of HRM. *Hum Resour Manag* 42(3):223–41

Jiménez-Jiménez D, Sanz-Valle R. (2005) Innovation and human resource management fit: an empirical study. *Int J Manpow* 26(4):364–81.

Laursen K, Foss NJ. (2003) New human resource management practices, complementarities, and the impact on innovation performance. *Camb J Econ* 27(2):243–63.

Lave J, Wenger E. (1991) *Situated learning: legitimate peripheral participation*. Cambridge: Cambridge University Press.

Loemans, J. (2002). Synergizing the learning organization and knowledge management, *Journal of knowledge management*, Vol 6, No. 3. PP.79-93

MacDuffie JP. (1995) Human resource bundles and manufacturing performance: Organizational logic and flexible production systems in the world auto industry. *Ind Labor Relat Rev* 48(2):197–221

Madhavan R, Grover R. (1998) From embedded knowledge to embodied knowledge: new product development as knowledge management. *J Mark* 62(4):1–12.

Madsen AS, Ulhøi JP. (2005) Technology innovation, human resources and dysfunctional integration. *Int J Manpow* 26(6):488–501

Mirsepasi, Amir (2002). *Strategic human resources management and work relations*. Tehran: Mir publication.

Mumford MD. (2000) Managing creative people: strategies and tactics for innovation. *Hum Resour Manage Rev* 10(3):313–51.

Martinsons MG. (1995) Knowledge-based systems leverage human resource management expertise. *Int J Manpow* 16(2):17–34.

Nonaka I, Takeuchi H. (1995) *The knowledge-creating company*. New York: Oxford University Press.

Noe, R. A., Hollenbeck, J. R., Gerhart, B., and Wright, P. M. (2000). *Human Resource*

*Management: Gaining a Competitive Advantage*. 3rd ed. Boston: Mc Graw-Hill.

Nonaka I, Konno N. (1998) The concept of 'Ba': building a foundation for knowledge creation. *Calif Manage Rev* 40(3):40–54.

Olson, G. (1999). Knowledge management: what does it mean to you? <http://knowledge.globalrecall.com>

Pakdel, Rahmatollah (2004). *Education management and*. Tehran: Institute of Management.

Rowley, J. (2007). Knowledge management in pursuit of learning: the learning with knowledge cycle, *Journal of information science*, 27(4), 20-29.

Ruggles R. (1998). The state of the notion: knowledge management in practice. *Calif Manage Rev* 40(3):80–9.

Sarin S, McDermott C. (2003) The effect of team leader characteristics on learning, knowledge application, and performance of cross-functional new product development teams. *Decis Sci* 34(4):707–39.

Scarborough H, Carter C. (2000) *Investigating knowledge management*. London: CIPD.

Scrapello, V. G., and Ledvinka, J. (1988). *Personnel/Human Resource Management*. Boston: PWS-Kent.

Spender JC. (1996) Making knowledge the basis of a dynamic theory of the firm. *Strateg Manage J* 17(10):45–62.

Subramaniam M, Youndt MA. (2005) The influence of intellectual capital on the types of innovative capabilities. *Acad Manage J* 48(3):450–63.

Swanson RA. *Analysis for improving performance: tools for diagnosing organizations and documenting workplace expertise*. San Francisco: Berrett-Koehler; 1994.

Truss, Catherine and Gratton, Lynda (1994). *Strategic Human Resource Management*, *The International Journal of HRM*. NO 43.123-37

Tsai W. (2001) Knowledge transfer in intra-organizational networks: effects of network position and absorptive capacity on business unit innovation



and performance. *Acad Manage J* 44(5):996–1004. Tsai W, Ghoshal S. Social capital and value

Von Krogh G. (1998) Care in knowledge creation. *Calif Manage Rev* 40(3):133–53.

Wright, P and Macmahon, G (1992), Theoretical Perspective for SHRM; *Journal of Management*, NO 18. 47-61.

Yli-Renko H, Autio E, Sapienza HJ. (2001) Social capital, knowledge acquisition, and knowledge exploitation in young technology-based firms. *Strateg Manage J* 22(6/7):587–613.

Youndt MA, Snell SA, Dean JW, Lepak DP. (1996) Human resource management, manufacturing strategy, and firm performance. *Acad Manage J* 39(4):836–66.

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