Article *ISSN: 2348-3784*

A Study on Knowledge Characteristics among the Employees in Lakhsmi Seva Sangham (LSS),Gandhigram

Well Haorei

Abstract

Knowledge management is a systematic, explicit and deliberate building, renewal and application of knowledge to maximize enterprise knowledge – related effectiveness and returns from its knowledge assets (Biswajeet Pattanayak, 2005). The effective knowledge management will greatly contribute to improved excellence, which is to dramatically reduce costs, provide potential to expand and grow, increase value and/or profitability, improve products and services and, respond faster. The broad objective of the present research work was to study the knowledge characteristics among the employees in Lakhsmi Seva Sangham, Gandhigram and the specific objectives were to explore; (i) In terms of their specialization, (ii) Requirement of processing information to carry out their activities, (iii) Problem solving ability, (iv) Skill variety efficiency and, (v) ability to handle job complexity easily. The study concluded that employees in Lakhsmi Seva Sangham (LSS) does not require much of information processing to carry out the activities of the job, the requirement of specializations of the factors of knowledge characteristic were similar and the mean age of the employees was between 37.5 years and 48.71 years that indicates that employees were in their productive age.

Keywords: *Knowledge characteristics, specialization, Information processing, Problem solving, Skill variety and job complexity*

Introduction

Knowledge has become increasingly relevant for organizations becomes of the shift from an industrial economy based on assembly lines and hierarchical control to a global decentralized, information-driven economy. Organizations now work, compete and cooperate on a worldwide scale. As a consequence, they must be able to maintain and enhance their core competence and corporate identity regardless of the geographical distances and linguistic and cultural differences of the markets in which they operate. At the same time, they must be capable of creatively enriching such competences with knowledge coming from the local communities that participate in their global workplaces. Furthermore, they must be able to help people with in fast pace of the worldwide competition by optimizing the time to market and by being into preserving, reusing and generating and services. Ultimately, they must put maximal effort into preserving, reusing and generating intangible assets, in the form of competitive prices in the global

Dr. Well Haorei, Assistant Professor in Rural Industries and Management, Gandhigram Rural Institute – Deemed University, Dindigul, Tamil Nadu, India; Email: nwhaorei@yahoo.co.in; Mobile: 9486963743

marketplace. Intangibles cannot be bought, because they have no material value but they originate from the principles and goals of the organization.

Review of related literature

Hong Zhan, Tian Tang and Yue Zhang (2013) in their research work on, "Characteristics of Knowledge Workers and Their Motivating Factors: A Review and Comparison Study" concluded that, the studies reviewed many aspects of the issue on knowledge workers' incentive preferences. However, they were almost all on the characteristics of knowledge workers and their needs. Also, they attempted to derive the incentive measures from the two. There had been few that analyzed the incentive factors from the knowledge workers' behavioral dynamics. The researches in China, especially conceptual studies, can be seen based on or adapted from researches of western countries. "Take the management sciences that originated in the western society, whose social psychology, culture, and behavioral norms are all very different, and introduce them into an environment with totally different psychology and culture, then the introduced management would totally likely be set idle or be distorted". They suggested that future researches must consider the unique characters and the culture of China, through theoretical and empirical studies, to identify the incentive preferences for China's knowledge workers.

Tomislav Hernaus and Josip Mikulic (2013), in their empirical research that was conducted through a field study of the largest Croatian organizations with more than 500 employees. Cross-sectional and cross-occupational research design was applied in order to include knowledge workers – managers and professionals – from a variety of different jobs and occupations. They found that task characteristics of knowledge workers have a statistically significant and stronger effect on task performance than contextual performance. Although such results are not aligned with the existing literature, they clearly emphasize the need to take distinct work design approaches towards manual (non-knowledge) and knowledge workers. While previous research efforts and findings were dominantly focused on the former, who primarily conduct routine and non-challenging tasks, the present study examined managers and professionals, who handle very complex and non-repetitive tasks on a daily basis. Their knowledge and cognitively-demanding tasks do not only have enriched task characteristics, but they also presumably create higher value directly through their work tasks. In such circumstances, knowledge workers probably feel more responsible for the work itself and are keen to offer greater task performance.

Katie Truss et al (2013) in their white paper, "Job Design and Employee Engagement stated" stated that, 'we also know that job design needs to take account of factors in three additional domains such as; job content the actual content of the job should be designed to enable people to find their work meaningful. In addition, people need to have a sense of responsibility, and be able to see the link. Job context, this includes factors such as ergonomic job design, work setting, technology, and flexible working options. Work

Relationships, studies have shown, and common-sense tells us, that people are more likely to be engaged when they are in open, trusting and harmonious work settings. Line Manager, the line manager has a vital role to play in bringing the individual's job design to life. Simply having a well-designed job will count for nothing with an unsupportive line manager who provides no feedback'.

Dr.Shin-Tien Chen and Dr. Bao-Guang Chang (2012) in their research work on, "The Effects of Knowledge Characteristics and Absorptive Capacity on the Performance of Knowledge Transfer for SMEs: Moderation Views of Organizational Structure", based on the sample of 171 SMEs, found that: (1) The higher the level of knowledge complexity, and the higher the staff's absorptive capacity, the better the performance of knowledge transfer within the organization. (2) An organization structure with higher levels of coordination is more likely to affect positively the relationship between tacit knowledge and absorptive capacity. (3) An organization structure with higher levels of specialization is more likely to affect negatively the relationship between tacit knowledge and absorptive capacity. (4) An organization structure with higher levels of specialization is more likely to affect positively the relationship between knowledge complexity and absorptive capacity.

Tao Long, Xue Liu, and Xiaojing Liu (2012) in their study on "Motivating Knowledge Workers Based on Behavioral Science" found that knowledge workers have different needs than ordinary employees and suggested that pay more attention to improve their own ability as well as growth in the enterprise space, for this feature, companies should focus on the ability of knowledge workers expertise, arrange appropriate training, to meet employees improve their ability needs to pay attention to the appropriate professional positions, given the development of the space. Usually work at the same time should be more than authorized, in the exercise of their ability, but also improve the sense of accomplishment and confidence in the enterprise.

Ben Akpoyomare Oghojafor and Moruf Akanni Adebakin (2012) based on the findings of their survey on job design and job satisfaction among doctors and nurses in Lagos, Nigeria hospitals, the researcher recommends that: 1) Jobs in organizations should be redesigned constantly and consistently to meet changing needs of workers as well as changes in the work environment. 2) Organizations should therefore take job design very seriously because it is one of the most potent forms of incentive, which could trigger workers' motivation and satisfaction. 3) Despite the achievements of this research effort, there shall always be need to conduct further researches on similar issues both as a means of certifying the validity and reliability of the present research, and to explore further and uncover more facts. 4) Although, this study is an addition to existing literatures on job design and job satisfaction, more researches need to be conducted especially in other manufacturing or service organizations outside the medical field where job design may prove to be the major determinants of job satisfaction.

Bojan Krstic and Bojan (2012) Petrovic made an attempt to point out the importance of developing and implementing an effective system of knowledge management in the modern enterprises for innovativeness. Examining of knowledge management in the function of improving innovativeness and competitiveness of an enterprise opened up new dimensions of knowledge management. The research points out the need for a change of managing practice in contemporary enterprises in the era of knowledge economy in the direction of consistent implementation of the concept of knowledge management. In inadequate comprehending the importance of knowledge management concept and its inconsistent implementing in the practice of an enterprise, there may be serious barrier in its adapting to demands of dynamic business environment.

Abdel Nasser H. Zaied, Gawaher Soliman Hussein and Mohamed M. Hassan (2012) attempted in their research work to provide an understanding of factors that involved in implementing knowledge management concept to enhance organizational performance and to explore the role of knowledge management in enhancing the performance of an organization and to identify the best predictor of the organizational performance, multiple regression analysis was used to analyze the results and the results showed that knowledge management capabilities (infrastructure and process) explained 48 percent (R2=0.48) of the variance in the organizational performance. This confirms the effect of knowledge management capabilities elements in the organizational performance. The results also show positive relationship between knowledge management and organization performance (R=0.69).

Jelena Rasula, Vesna Bosilj Vuksic and Mojca Indihar Stemberger (2012) studied on the impact of knowledge management on organizational performance among the 329 companies both in Slovenia and Croatia with more than 50 employees and the results showed that knowledge management practices measured through information technology, organization and knowledge positively affect organizational performance.

Kumar and Suneel (2011) in their research work on, "Motivating Employees: An Exploratory Study on Knowledge Workers", found that motivated human resource is strategically important for corporate competitiveness. As new age employees are involved in complex knowledge processing which requires a particular set of organizational forces traditional means of motivating employees are no more effective.

Danijela Jelenic (2011) in their research paper aimed to show the great importance of knowledge as a vital strategic resource for modern business, at the beginning 21st century. The study concluded that the globalization brought the enormous changes in business thinking and technologies that had impact on many worldwide organizations. The organizations who want to survive in unpredictable and complex competitive markets should quickly adapt to the new dynamics of business.

Asmahan M. and Altaher (2010) from their empirical case study on the effect of knowledge characteristics in student's performances revealed that knowledge characteristics are important to the student performance. Modifiability knowledge effect student performance but not all types of knowledge can be codifying some kind of knowledge can be articulated, represent the tasks and the way of doing that knowledge. In addition explicitness has the greater effect on student performance because in Jordan they focus in classifying explicit knowledge more than tacit; in general argue that explicit and tacit knowledge kinds of knowledge at the tow end of a continuum. Explicit knowledge high in explicitness and tacit knowledge low. In other hand knowledge teach-ability has second stage; some knowledge could be high in teach ability, however many assignments given to student and case study. In the other hand some knowledge could be low teach-ability like fix problem in computer, adding the advance technology, or documented the new issues.

Nicolai J. Foss, Dana B. Minbaeva, Torben Pedersen, and Mia Reinholt (2009) in their research work on, "Encouraging Knowledge Sharing Among Employees: How Job Design Matters", with the main purpose to further their understanding of how different aspects of job design foster different types of individual motivation (i.e., intrinsic, and external motivation), as well as how these motivation types influence employees' knowledge-sharing behavior. Their results show that (1) job autonomy increases employees' intrinsic motivation toward knowledge sharing, (2) task identity was positively linked to motivation toward knowledge sharing, and (3) feedback on the job has a positive impact on employees' external motivation to engage in knowledge sharing.

William R. King (2009) theoretically analyzed on knowledge management and organizational learning and concluded that knowledge management is a set of relatively new organizational activities that are aimed at improving knowledge, knowledge-related practices, organizational behaviors and decisions and organizational performance. KM focuses on knowledge processes – knowledge creation, acquisition, refinement, storage, transfer, sharing and utilization. These processes support organizational processes involving innovation, individual learning, collective learning and collaborative decision making. The "intermediate outcomes" of KM are improved organizational behaviors, decisions, products, services, processes and relationships that enable the organization to improve its overall performance.

Salina Daud and Wan Fadzilah Wan Yusuf (2008) examined how small and medium enterprises apply knowledge management processes in their daily business activities and analyze the relationship between knowledge management processes and organizational performance. In their study found that, knowledge management processes have a significant relationship with organization performance where knowledge acquisition is the main process that contributes to the organization performance. Knowledge acquisition consists of accumulating, creating, acquiring, generating, capturing and

collaborating activities that were used by SMEs in acquiring new knowledge. Due to their small size, SMEs has an opportunity to gain direct and faster knowledge from their customers which enable them to sustain in the market. Besides that, they will also have an advantage of obtaining information on competitors' actions and behavior, market trends and other developments.

Bhojaraju G. (2005) studied on how the KM initiative has been adopted at ICICI OneSource, to support the achievement of its Business Process Outsourcing objectives and concluded that KM requires a holistic and multidisciplinary approach to management processes and an understanding of the dimensions of knowledge work. KM should be the evolution of good management practices sensibly and purposively applied. KM presents a major shift in focus regarding the development and use of knowledge and information in increasing the effectiveness of any organization.

Karl-Erik Sveiby and Roland Simons (2002) in their empirical study on collaborative climate and effectiveness of knowledge work found that collaborative climate tends to improve with age, education level and managerial role. Contrary to 'common sense' collaborative climate also seems to improve with organizational size at least up to mid-size, an inverted U-shape. They have further found that employees tend to experience a U-formed appreciation of the collaborative climate; very positive at recruitment, then deteriorating during the first 5 years and later improving again closely correlated with seniority in the organization. They have to some degree confirmed theories proposing that people reach a 'professional plateau' after around 15 years in the same profession (an S-formed curve) when it begin to rate lower than in their earlier years what they learn, what they receive from their nearest work environment and their managers. They have also confirmed earlier empirical evidence that distance is bad for collaboration. They found that gender has no impact on the perceptions of collaborative climate. Finally, they have found collaborative climate in the private sector to be generally better than in the public sector.

Muhiniswari Govindasamy (1999) in his study on, "Factors affecting Affective Organizational Commitment among Knowledge Workers in Malaysia" revealed that by working in teams, knowledge workers can build positive relationships with their team members while having an opportunity to share knowledge amongst them. As such, organizations wanting to increase knowledge worker's affective organizational commitment should endeavour to create a knowledge sharing environment conducive for team work and close relationship building amongst workers, have strong organizational policies to encourage such knowledge sharing activities. The sharing of knowledge is also between the top management and the employees. As such, to enable a smooth exchange of knowledge and information, members of the management team members need to be available and approachable by the workers. This may indicate that they are not subjected to hierarchical order or red tape and prefer a more free and easy relationship with the

organization's top management they are not subjected to hierarchical order or red tape and prefer a freer and easy relationship with the organization's top management.

Aija Leiponen examined empirically the structure of relationships between business service firms and their clients; in particular, the allocation of control rights to the intellectual assets created in joint projects and concluded that alternative measures of firms' knowledge bases are the knowledge creation strategies. These are also found to influence the allocation of control rights. Consistent with the results, clients are more likely to obtain ownership of service output of KIBS firms whose knowledge was accumulated through incremental learning by doing and on the job training. Individual-based skills are typically accumulated through learning and training of individual experts, rather than team-based and cooperative learning processes. Thus the characterizations of resource bases and learning activities of business service firms present a coherent picture.

Niels-Ingvar Boer and Hans Berends attempted to show relation models theory is able to integrate different existing models of knowledge sharing, such as gift giving and internal knowledge markets, and might be able to explain contradictory research findings. The attempt revealed that the analysis of knowledge sharing interactions within the NatLab shows that each of the theoretical models of knowledge sharing presented in Table 1 has a limited applicability. This has several implications. First, knowledge management instruments and advices that are based on these models have a limited applicability. As Boer et al. (2002) have argued, knowledge management measures should fit the relational models in use. Second, the demonstration that relational models and therewith existing theories of knowledge sharing have a limited scope may explain the contradictory findings in the literature. For example, with regard to the importance of rewards, Van der Bij et al. (2002) found that the presence of formal rewards for knowledge sharing did not correlate with the amount of knowledge sharing, whereas others found or hypothesized that it did. But Van der Bij et al. studied technology-intensive organizations, comparable to the one they studied.

Objectives of the study

The broad objective of the present research work was to study the knowledge characteristics among the employees in Lakhsmi Seva Sangham, Gandhigram and the specific objectives were to explore;

- In terms of their specialization,
- Requirement of processing information to carry out their activities,
- Problem solving ability,
- Skill variety efficiency and,
- Ability to handle job complexity easily.

Study area

The vision of founder of Gandhigram, Dr. T. S. Soundaram, to create rural employment; hard work of Padmashree V. Padmanabhan and Sri. V. Krishnamuthy along with the expert guidance of Dr. Kondal Rao (founder of IMPCOPS,Chennai) to make quality and affordable Indian medicines, formed the genesis of the Lakhsmi Seva Sangham (LSS), Gandhigram, in 1977. Initially started with about 17 preparations, the Siddha and Ayurvedic drug manufacturing unit today produces 240 preparations with herbs and medicines collected by traditional herb collectors, the processing done under hygienic condition with strict quality control systems monitored by doctors and technicians. The unit provides employments directly to 150 women and 50 men in the processing, packaging and marketing of the medicines, particularly to the destitute, widows and handicapped. So a research has been carried out about how the unit was maintaining their work design.

Methodology adopted

Exploratory method has been adopted to study the work design of LSS and it is empirical case study in nature. The study was confined to the work design of the LSS whereby secondary data was collected from the registers and annually audited statements maintained by the unit. Also using a pre-tested interview schedule the researcher collected primary information directly from 80 men employees and 40 women employees of the study unit as the researcher could meet the stated 120 employees during data collection period. The present study employed tools like percentage, mean, and standard deviation for data analysis.

Major findings

Percentage analysis of knowledge characteristics among the employees:

- Absolute majority (57.13%) of the managers was men and half of the computer and mathematical employees were men in the study unit.
- Minority of the employees in the sales and related department, production assistants department and office and administration support were men.
- Absolute majority of the incumbent population of the study unit were Production Assistants employees (70 %) and Computer and Mathematical employees were minority (1.66 %).
- Nearing to half of the employees (46.66 %) stated that their job was not at all complex and not difficult to perform their activities, 37.5 % of the employees' job was very complex and difficult and, 15.83 % of the employees' job was not very complex and difficult.
- Close to half of the employees (47.5 %) stated that their job requires great deal of information, 41.5 % of the employees' job requires no information and 1.83 % of the employees' job requires less information.
- The study revealed that 41.66 % of the employees' job involved less problem solving activities, 35 % of the employees' job Involved less problem solving

activities and 23.33 % of the employees' job involved great deal of problem solving activities.

- Majority of the employees' job does not required varieties of skill, 41.66 % of the employees' job required varieties of skills and 6.66 % of the job required less variety of skills among the employees in the study unit.
- Half of the employees' job in the study unit required less specialization, 33.33 % of the job need not be specialized and 20 % of the job required highly specialized.

Mean score of knowledge characteristics among the employees:

The mean score of knowledge characteristics among the employees revealed that:

- Requirements of information processing while performing their activities in the job with mean score of 2.0583 concentrated around the score 2 which signifies that employees' job in the study unit required average information to carry out their activities.
- The mean score for the knowledge characteristics such as, complexity and difficulty of the activities and requirement of skill variety to perform the job with mean scores of 1.9083 and 1.9000 respectively concentrated just below the score 2. Hence, these two knowledge characteristics required not much knowledge to perform the activities of the job.
- Knowledge characteristics such as, nature of specializations of the job and problem solving involvements in the job the mean scores for both was 1.8333 that concentrated below the score 2. Hence, these two knowledge characteristics required very less specialization and problem solving to perform the activities of the job.

Standard deviation of knowledge characteristics among the employees:

- The standard deviation that measures how concentrated the data are around the mean; the more concentrated, the smaller the standard deviation and a large standard deviation means that the values in the data set are farther away from the mean, on average, the present study reveals that;
- The calculated Standard Deviation (SD) value lies between .96493 and .69007 concentrating to the Mean Score between 1.8333 and 2.0583 for the 5 knowledge characteristics that was considered for the present study as presented in table 2. Hence, the study found that there was less deviation from the mean score.

Ranking of knowledge characteristics among the employees:

The study found that;

- Requirements of information processing to carry out the activities of the job was ranked 1st among the 5 knowledge characteristics that was considered for the present study, 2nd rank was given to the complexity and difficulty of the activities of the job, requirements of variety of skills to perform the activities of the job was ranked 3rd, 4th rank was given to the involvement of problem

solving to carry out the activities of the job and requirement of specializations to perform the activities of the job was placed in the last rank.

Conclusion and suggestions

The study concludes that employees in Lakhsmi Seva Sangham (LSS) requires processing of information to carry out the activities of the job, requirements of specializations of the factors of knowledge characteristic were similar and the mean age of the employees was between 37.5 years and 48.71 years that indicates that employees were in their productive age. Hence, it is suggested that the study unit requires looking into the switching over to the new technology of production process instead of following the out dated technology of production process.

Table 1: Incumbent population by occupation

Sl.No.	Occupation category	Nos.	Age (years)		Job experience (years)		Sex (%men)
			Mean	SD*	Mean	SD*	
1	Management	07	48.71	5.22	8.57	1.9	57.13
2	Computer and mathematical	02	37.5	2.5	7.5	2.5	50
3	Sales and related	10	42.1	4.3	13.8	6.41	20
4	Protective services	05	46.6	7.83	17	9.27	100
5	Office and administration support	09	37.37	3.99	8.55	5.94	44.44
6	Transportation and material moving	03	40	7.78	7.33	2.05	100
7	Production assistants	84	42.57	5.44	12.9	6.08	28.6
Total		120					

Sources: Primary data

*Note: * Standard Deviation*

Table 2: Knowledge characteristics among the employees

knowledge characteristics		knowledge level		
complex and difficult		score 3	score 2	score 1
		The job was very complex and difficult	The job was not very complex and difficult	The job was not at all complex and difficult
	No.	45 (37.5)	19 (15.83)	56 (46.66)
	Mean Score	1.9083		
	SD	.91666		
	Rank	II		
Requirements of		Requires great	Requires less	Requires no

information processing		deal of information	information	information
	No.	57 (47.5)	13 (1.83)	50 (41.66)
	Mean Score	2.0583		
	SD	.94643		
	Rank	I		
Problem solving involvements in the job		Involves great deal of problem solving activities	Involves less problem solving activities	Involves less problem solving activities
	No.	28 (23.33)	50 (41.66)	42 (35)
	Mean Score	1.8833		
	SD	.75796		
	Rank	IV		
Skill variety requirements		Requires varieties of skills	Requires less varieties of skills	Varieties of skills not required
	No.	50 (41.66)	08 (6.66)	62 (51.66)
	Mean Score	1.9000		
	SD	.96493		
	Rank	III		
Nature of specializations of the job		Requires highly specialized	Requires less specialization	Need not be specialized
	No.	20 (16.66)	60 (50)	40 (33.33)
	Mean Score	1.8333		
	SD	.69007		
	Rank	V		

Source: Primary data.
Note: Figure in the parenthesis represents the percent of respondents to the total respondents

References

Abdel Nasser H. Zaied, Gawaher Soliman Hussein and Mohamed M. Hassan (2012). The Role of Knowledge Management in Enhancing Organizational Performance. I.J. Information and Electronic Business.5,27-35, DOI:10.581/ijieed.2012.14.

Aija Leiponen. Organization of Knowledge Exchange: An Empirical Study of Knowledge-Intensive Business Service Relationships. *Working paper*. Cornell University, Department of Applied Economics and Management, 1-9.

Asmahan M. Altaher (2010). The effect of Knowledge Characteristics in student's performances: An Empirical case study. *International Journal of Advanced Computer Science and Applications (IJACSA),* 1(2), 21-28.

Ben Akpoyomare Oghojafor and Moruf Akanni Adebakin (2012). Assessment of job design and job satisfaction among doctors and nurses in Lagos, Nigeria hospitals. *African Journal of Business Management, 6*(48), 11702-11706.

Bhojaraju G. (2005). Knowledge Management: Why do we need it for Corporates. *Malaysian Journal of Library & Information Science*, *10*(2), 37-50.

Biswajeet Pattanayak, (2005). *Human Resource Management,* (New Delhi: Prentice, Hall of India Private Limited), P.341, para.6 In-text reference: (Biswajeet Pattanayak, 2005).

Bojan Krstic and Bojan (2012). The Role of Knowledge Management in Increasing Enterprise's Innovativeness. *Economics and Organization 9*(1), 93-110.

Danijela Jelenic (2011). The Importance of Knowledge Management in Organizations – With Emphasis on the Balanced Score card Learning and Growth Perspective. *International Conference on Knowledge, Management and Learning paper.* Faculty of Economics, University of Nis, Republic of Serbia.

Dr. Shin-Tien Chen and Dr. Bao-Guang Chang (2012). The Effects of Knowledge Characteristics and Absorptive Capacity on the Performance of Knowledge Transfer for SMEs: The Moderation Views of Organizational Structure. *The Journal of Human Resource and Adult Learning*, *8*(1), 30-45.

Hong Zhan, Tian Tang and Yue Zhang (2013). Characteristics of Knowledge Workers and Their Motivating Factors: A Review and Comparison Study. *American Journal of Industrial and Business Management*, *3*, 557-558.

Jelena RasulA, Vesna Bosilj Vuksic and Mojca Indihar Stemberger (2012). The Impact of Knowledge Management on Organizational Performance. *Economic and Business Review, 14*(2), 147–168.

Karl-Erik Sveiby and Roland Simons (2002). Collaborative Climate and Effectiveness of Knowledge Work – an Empirical Study. *Journal of Knowledge Management*, *6*(5), 1-23.

Katie Truss et al (2013). Job Design and Employee Engagement stated. *An 'Engage for Success' White Paper.* University of Kent, 1-22.

Kumar and Suneel (2011). Motivating Employees: An Exploratory Study on Knowledge Workers. *South Asian Journal of Management*, *18*(3), 1-28.

Long, Xue Liu, and Xiaojing Liu (2012). Motivating Knowledge Workers Based on Behavioral Science. *Advances in Information Technology and Management (AITM),* 2(2), 251-255.

Muhiniswari Govindasamy (1999). Factors affecting Affective Organizational Commitment among Knowledge Workers in Malaysia*. Dissertation,* Graduate School of Business Faculty of Business and Accountancy University of Malaya, in partial fulfillment of the requirement for the Degree of Master of Business Administration, 1-84.

Nicolai J. Foss, Dana B. Minbaeva, Torben Pedersen, and Mia Reinholt (2009). Encouraging Knowledge Sharing Among Employees: How Job Design Matters. *Human Resource Management*, *48*(6), 871-893.

Niels-Ingvar Boer and Hans Berends. The Relational Dimension of Knowledge Sharing: An Empirical Study of an Industrial Research Group. *Working paper.* Erasmus University Rotterdam / Rotterdam School of Management, 1-14.

Salina Daud and Wan Fadzilah Wan Yusuf (2008). An Empirical Study of Knowledge Management Processes in Small and Medium *Enterprises Communications of the IBIMA,* 4, 169-177.

Tomislav Hernaus and Josip Mikulić (2013). Work Characteristics and Work Performance of Knowledge Workers: What Goes Hand in Hand. *Working paper*, Faculty of Economic and Business, University of Zagreb, 2-28.

William R. King (2009). Knowledge Management and Organizational Learning. *Knowledge Management and Organizational Learning*, DOI 10.1007/978-1-4419-0011-1_1.