

Factors Influencing Knowledge Sharing Toward Innovation: A Study of Electronic Industry of Iran

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Abstract

Extant research have postulated that innovation has vital role in developing industries, and it can be boosted by knowledge sharing. This research tries to explore the main factors influencing knowledge sharing in electronic industry of Iran. At the end, 9 factors were highlighted based on the 122 managers' opinion from 18 largest companies.

Keywords: Knowledge Sharing, Innovation, Electronic Industry, Iran

Introduction

Because knowledge sharing posses a significant chance of increasing innovation, a great number of organizations have realized that their corporate knowledge is an important source of developing sustainable competitive edge especially in the current state of the business environment (Bhagat et al., 2002; Chaudhry and Higgins, 2003; Koeing, 2003; Zahra et al., 2000; Chong et al., 2011). Knowledge sharing is a process that takes place when people show the willingness and readiness to learn from others or help them learn in the process of developing new knowledge and competencies (Yang, 2007; Wei et al., 2012).

It can also be referred to as a voluntary distribution of the dissemination gathered experiences and knowledge to other members of the company (Davenport, 1997; Ipe, 2003). It is significant because the knowledge of individuals will not affect the company significantly unless it is shared and becomes available for the use of other members (Nonaka and Takeuchi, 1995). Therefore, knowledge sharing is considered as a kind of social activity that happens in a system where knowledge is regarded as a valued source (Fulk et al., 2004). Through knowledge sharing, competitive capabilities are created which results in firm performance of the organization (Wei et al., 2012; Ipe, 2003).

Organizations are particularly driven to adopt knowledge sharing due to their belief in the fact that this will stimulate the effectiveness, performance, and productivity (Brown and Brudney, 2003; Wei et al., 2012), the reduction of expenses, improved efficiency and quality, and reductions of the available resources (McAdam and Reid, 2000; Wei et al., 2012). Iran's electronic industry does not possess an acceptable degree of innovation needed for entering the global market; however, there is nor any problem in its tangible and intangible (intellectual capital) resources. In this relation, this industry has to emphasize on knowledge sharing (Et al., 2013). Thus, this research attempts to investigate the most significant factors influencing the sharing of knowledge in Iran's electronic industry based on the opinion of the experts.

Literature Review

Strategy

Based on Buckman's statements, an employee is regarded to as the most valuable who is a source of knowledge and shares the knowledge he or she possesses with others actively (Scabrough, 1998). One of the most significant factors of knowledge sharing in this context is a conscious and clear knowledge strategy. In a number of nations, this strategy for knowledge focuses on computer. With great care, knowledge is coded and then stored in relevant databases where they can be easily employed and accessed by other members of the organization. This knowledge sharing method is known as codification strategy. In other organizations, knowledge is closely related to the individual who developed it and is shared mostly by direct contact (person to person).

The main purpose of computer at such organizations is to help individuals in communicating knowledge and not the storing of it. This method is regarded as the personalization strategy (Hansen et al., 1999). A strong emphasis is critical in successfulness of knowledge management to both the employees and the company. If missions and values are not shared, employees will employ their own sense of mission and values as the principle in guiding their working behavior; little or no attempts have been made in aligning them with the culture of knowledge sharing. One reason knowledge management systems fail is due to the absence of a clear connection between business objective or goals and knowledge sharing (Low and Mohammad, 2005).

Staunton and Clarke (1989) offer a knowledge management process model that can be helpful in mapping the knowledge about human resources. This model has four concepts which are the use of knowledge, dissemination, embodiment, and construction. The adoption and employment of knowledge mapping will be useful in the sharing and learning of knowledge; it also is among the major responsibility of companies to be clearly stated in the work plans of the office as well as in personal work. Based on the statements of Low and Mohamamd (2005), Gross, (2001), and Scarbrough (1998), the involvement of managers holds significant importance in knowledge sharing.

This is due to the general view of the manager who is perceived as a charismatic individual who is ready for taking risks and creating long term alterations in the culture, behaviors and attitude of people (Low and Mohammed, 2005). Thus, it can be concluded that leadership is an obvious resource for the managerial skills in the knowledge sharing culture of developing companies. Managers have the ability of creating a culture that supports alteration through improved and new ways of working which creates a vision that focuses on alteration and shows a positive attitude towards alteration (Arad et al., 1997; Low and Mohammed, 2005).

Structure

The knowledge infrastructure is a significant part of organizational structure. Knowledge infrastructure can be regarded as the entire guidelines and structures of the organization along with its non-technical and technical expedients which are at the organization's disposal. The support of the expedients along with these guidelines and structures can facilitate the process of learning in the company. With their help, companies can achieve their goals and objectives most efficiently (Gareth, 2004). The organization processes and structures have to be redesigned that encourages the sharing of knowledge between employees by teamwork. An efficient teamwork has partly been based on the abilities and skills of the team members and partly been based on the shared values of the group (Shattow, 1996; Low and Mohamad, 2005).

With regard to the effect of the organizational culture on different structures, values such as cooperative teamwork, freedom, and flexibility will promote innovation and creativity (Arad et al., 1997). Flexibility is in relation to the ability of organization in adopting and working efficiently through various situations with different employees. With the alterations of the environment, organizations also alter and the market falls and rises; therefore, flexibility is critical in the success of knowledge sharing culture, along with other areas, of companies (Low and Mohammad, 2005). The review of literature indicates that the degree of empowerment is determined by the amount of authority and freedom employees have in making the decision to solve the problems (Arad et al., 1997).

This is due to the fact that the level of freedom employees can employ in their work show their efforts to share and learn. Empowerment can be regarded as bestowing the authority of making significant decisions and being responsible for their results to every employee at any level of organizational hierarchy (Gareth, 2004). When the authority of decision making is assigned within the organization, employees' particular knowledge must be considered by the management. Relating specific knowledge with decision authority can be achieved through ensuring that the employees who have decision authority possess the essential and necessary knowledge or through giving the decision authority to employees that have acquired the knowledge (Brickley et al., 2003; Low and Mohammad, 2005).

Thus, the structure of companies has to be chosen in a way that encourages individuals to create their own attitude, capacities, information, and knowledge productively. It has been widely recognized that enhancement in employees sense of responsibility results in elevated quality. When the opportunity of overseeing the process of work is given to the employees, they have a better situation of employing their own specific ideas and abilities for the improvement of the process they are best aware of. Specifically, the behavior and attitude of individuals who work within the organizational structure can affect the efficiency degree which in turn affects the effectiveness and productivity.

Support Mechanism

It has been realized that information technology (IT) is closely related to knowledge sharing and knowledge management. This is due to the fact that IT provides us with a platform for access and storage of information as well as communication (McC Campbell et al., 1999; Low and Mohammad, 2005). Thus, to materialized the notion of knowledge sharing culture, companies have to focus on their infrastructures of information technology and tools like telephone conferencing, video conferencing, email with picture reference, Intranet, Internet, facsimile, telephone, and mail. But, the ones who are responsible for the employment of the tools as well as the performance of operations are individual beings.

The researches of O'Dell and Elliot indicate that organizations that have efficient Intranet and Internet structure positively affect knowledge sharing. This is due to the fact that through the employment of Intranet and Internet for exchanging and communicating of ideas, the chances of sharing knowledge to take place will be enhanced. Moreover, Internet furnishes everyone with easy, common access to everything. Based on the arguments of Smith (2001), the availability of IT tools (regarded as software) have central role in knowledge management. Consequently, the employment of CAD software, software for technical estimation, and project management software are helpful in organizational sharing and learning efforts.

Management Development

The method through which companies take care of the mistakes indicates whether or not their employees feel free to operate innovatively and creatively in their efforts of sharing knowledge. "People can use mistakes to punish others, covered it up, ignore it, or consider as an opportunity for learning" (Brodtrick, 1997; Low and Mohammad, 2005). If employees are encouraged to discuss their mistakes openly, an "openness and help seeking" culture is created which results in the creation of knowledge sharing and learning.

Accepting risk taking as "part of the job" and believing that accidents occur to others have been recognized as the key to unsafe behaviors on various sites (Lingard, 2002). These behaviors will be altered only if the employers show that risk taking is not accepted and that safe working is not a negotiable employment and working condition. "To do this a number of criterions are required which are: effective systems, safety matters derived from senior managers, safety standards, continuous and constant education and training designed to change the behaviors and attitudes, and effective communication strategies and induction to ensure an understanding and awareness of occupational safety and health matters and their significance in the project management team (Low and Mohammad, 2005).

Communication

One of the well known leaders in the field of knowledge management is British Petroleum (BP). They describe the way through which they managed to gradually alter the culture of their company to promote sharing by other business initiatives like the introduction of a safety culture that encourages sharing and communication (Martin, 2002). However, written communication tends to be the most lasting, official, and formal form of communication in organizations (Low and Mohammad, 2005; Hedberg, 1981). A method for sharing knowledge is story telling (Ellis, 2001). This is due to the fact that a greater number of employees spend their time talking than listening; therefore, oral communication has significant importance for companies.

Through storytelling, the personal tacit knowledge of individuals tends to be told. “This exchange is an encouraging and stimulating process since individuals can listen to critical stories better than those types of communication that are less narrative (Jeffcutt, 2004). Thus, a policy of open-door communication which consists of open communication between departments, teams, and individuals for the purpose of attaining new viewpoints, is essential in the creation of a supportive culture (Samaha, 1996; Filipczak, 1997). Moreover, in order for trust to be developed among the employees themselves and also between them and their company to gain the ability of sharing knowledge which is promoted and encouraged by open communication, they have to feel emotionally safe and free.

Based on the remarks of Bruce (2004), one of the oldest and, until today, most efficient ways of communicating and sharing current and relevant information is face to face interaction. Moreover, face to face interaction with individuals who possess the right set of knowledge and skills is regarded as the best and most valuable source for further development of an organization. Honest communication and interactions have significant importance in the creation of an environment where individuals have the willingness to contribute their intellectual potential and capacity to stores of the organization (Sonnenberg, 1994).

Thus, managers have to be not just extraordinary communicators but also the person whom the upper management and employees communicate their objective, perspective and goals with, addressing them with a language that befits their culture. Feedback can be defined as the information that is provided in response to some taken actions that are useful and reinforces the employees to share and learn knowledge when it reiterates what has taken place and makes a helpful statement. Feedback can be very simple such as top of a page checkmark or complicated like a long point by a point rebuttal message (Low and Mohammad, 2010; Van Fleet, 1991). Due to this, feedback has significant importance in efficient sharing and learning

Trust

In the current environment of knowledge economy, building trust between the employer and employee has more significance in the motivation and maintenance of the employees’ knowledge. Companies that lack high levels of trust will not succeed in gaining the maximized amount of brain potential (Geoffrey, 1997; Low and Mohammad, 2010). None of the management strategies will be successful without great amounts of attention paid by organizations to their employees as well as their existing organizational knowledge. Only after that the culture of knowledge sharing will show little signs of effectiveness.

Guidance has been defined as a continuous provision of signposts and maps to provide the learners with the needed information about the place they are and how to arrive at the place they want to reach to (Low and Mohammad, 2005; Grainger, 1994). In this context, support is defined as the provision of encouragement and help anytime it is required and in a fashion that encourages, motivates, and stimulates employees to continue their participation in the knowledge environment. Confidence and trust are the constructions made by leadership for a more cooperative environment of knowledge sharing (Goman, 2002).

“A good long term relationship furnishes employees and employers with incentives to try trusting in their company (Sonnenberg, 1994). Managers are provided with more time for learning about the abilities, interests, work habits, and skills of their individual employees through a long term relationship which makes it a lot easier to match employees and jobs within every industry. The majority of people are not willing to take the risk of sharing their knowledge without a sense of trust or a good reason (Ellis, 2001).

Proper knowledge management initiatives results in the building of trust which helps in breaking down the cultural barriers and the alteration of ways through which groups or individual beings share knowledge. The key to creating a positive environment where employees are motivated to make innovative, efficient, and productive decisions, and a knowledge oriented organizational vulture is the building and creation of trust throughout an organization

Motivation

Robbins (1993) defined motivation as possessing the will to show great degrees of effort toward corporate objectives, conditioned by the ability of that effort for satisfying the needs of some individuals. The retention and satisfaction of employees are heavily affected by the way through which an organization rewards its employees. This is due to the fact that individual beings know that the organization help them in developing their potential in exchange for their commitments and efforts. As a result, rewarding individuals for the work they do in the organization is a significant factor in tapping, retaining, and attracting knowledgeable workers.

Through their researches, Yang and Ching (2000) realized that incentives are required for the encouragement of knowledge sharing. People are motivated and encouraged to share their knowledge by being rewarded. A number of companies have attempted to integrate learning within the pay system through rewarding employees based on the amount of knowledge they possess (Frances, 1999). This closely associates learning with tangible reward. Giving recognition for knowledge sharing indicates the importance organization gives to sharing and shows that the amount of energy and time individuals spent on sharing knowledge is taken into "account" in their career and performance (O'Dell and McDermott 2001).

Personal recognition is a significant and powerful tool in rewarding employees individually. It is possible for the formal award programs to have the same power. A great number of organizations spend a lot of effort and time on the setting of these programs. Instant awards, Most Valuable Contribution plaques, and Employee of the Month are all processes devised for giving recognition to employees; however, performing it well can create the difference in the program and the pride intended (Frances, 1999). Trench (1978) suggested in 1970s that the effectiveness of the industry can be enhanced by the amount of consideration management pays to the motivational potential of some work environment aspects like a future, a sense of belonging, job satisfaction, and money.

Even though the suggested statements of Trench might seem a bit simplistic, he does refer to a rather critical aspect which is the matter of work environment. A work environment that is safe and has been designed well allows the employees to make use of their abilities and capabilities better and in a great number of cases helps in the provision of satisfaction for human needs (Krogh, 2000). A comfortable working environment has a close association with cleanliness which has to be emphasized by the management. The physical configuration, design, and lay out of the office encourage the interaction of employees which in turn improves their willingness to share and learn knowledge.

Learning

Learning has been defined as the ability using information that is remembered through realizing and understanding its relevance with the experience of individuals (Low and Mohammad, 2005; Trevor, 1992). Individuals become motivated to learn when they realize that there is personal benefit for them in learning. Thus, learning has great importance for individuals who wish to have skills and knowledge that allows them to have an advantageous edge.

Organizational learning has been defined as the process managers employ to elevate and enhance the ability and desire of their employees and organizational members to manage and understand the organization along with its environment in order to make decisions that constantly elevate the efficiency of the company (Senge, 1990). Moreover, a learning organization is one that constructs and designs its strategy, culture, and structure in a way to improve and maximize the potential for organizational learning to happen (Dodgson, 1993).

Companies learn from individuals (Dodgson, 1993; Senge, 1990). However, it has been widely recognized that organizational learning is far beyond the entire individual learning. Individual beings who work in companies come and go; however, the company itself remains and keeps specific values, routines, structures, and knowledge through time (Hedberg, 1981). Based on March's (1991) statements, the interaction of organizational and individual learning is a type of mutual learning; that is, companies learn from individuals and individuals become socialized to organizational articles of faith through exemplification, indoctrination, and instruction.

Understanding and realizing the skills and knowledge that the current employees possess and the skills they are going to require in the near future are the key to an effective, successful company. After that, the learning requirements of every group or individual can be defined and the training for bridging the gap can be arranged by the organization (Munro Faure, 1996). Employees have to be trained in new set of skills and encouraged to use and employ them on the job. In the development of learning, the support of a mentor is a useful help.

The mentor's role is generally the assistance of learners; he or she empathizes with, supports, encourages, coaxes, coaches, and advises others. Mentors can be fellow managers, supervisors, colleagues, and learners. What each the learner and the mentor expect from the other along with a timetable of outcomes and agreements has been specified by a learning agreement between both (Low and Mohammad, 2005).

Among the best ways of keeping the morale high is the coaching of the workplace (Grainger, 1994). When a criticism is offered by a manager, the proper feedback on how the performance can be elevated and how employees have to guide one another has to be provided. If these factors are provided by every team member, coaching, teaching, and encouragement will be enhanced. Another effective method for learning is job rotation which relates to the programmed and scheduled movement of individuals between jobs in a period of time for one or more various reasons (Bennett, 2003).

The purposes and objectives of job rotation plan have to be clear and related to business demands of the company at an organizational level which is to improve the enrichment of knowledge. An organizational knowledge that is learning oriented has to encourage the sharing and learning of knowledge more effectively. The most efficient and effective way of doing that is through setting up activities during which individuals can learn along one another.

Method and Results

This research employs the scoring method. The related data were gathered in a span of two months from 122 managers (middle and top) of 18 largest organizations in 8 cities of Iran. 1 to 10 (a total of 20) were chosen for every practice to show its significance based on the innovational requirements of the organization. In the end, every high score practice (practices whose scores are more than 100) were chosen as proper enablers.

Furthermore, two other questions were introduced; the first this research tried to find the answer to was whether or not knowledge sharing should take place in R&D department and the second focuses on the nature of knowledge sharing referring to individual attributes of group tendencies. The score of every factor is illustrated in Table 1.

Table 1: Scores of factors affecting knowledge sharing

Factor	Score	Factors	Score	Factors	Score
1. Confidence	176.7	8. Emphasizing on Innovation	102.4	15. Individual Learning	65.4
2. Leaders' attitudes	163	9. Award	100.9	16. Working Environment	65.4
3. Staffing	162.1	10. Risk taking	92.4	17. Coaching	60.2
4. Training	143.4	11. face-to-face interaction	87.3	18. IT solution	54.9
5. Recognition	132	12. Job Rotation	83.1	19. Internet	44.2
6. Performance Evaluation	111.4	13. Flexibility	79.9	20. Support	38.7
7. Reward	109.3	14. Freedom	68.2		

Referring to Table 1, nine factors have scores higher than 100, and they are confidence, leaders attitude, staffing, training, recognition, performance evaluation, reward, emphasizing on innovation, and award. Besides, 83% of respondents asserted that the reason of knowledge sharing is dependent to individual characteristics instead of group's tendencies. Almost every respondent (92%) believes that knowledge sharing should not be limited only in R&D.

Conclusion

One of the most important factors affect innovation is knowledge sharing, so organizations have come to realize that their organizational knowledge is a dominant source of developing sustainable competitive advantage, particularly in this dynamic yet turbulent business environment. There are various research that categorized the main factors affecting knowledge sharing. Therefore, this research applied them to highlight which factors are more important toward innovation in electronic industry of Iran. The results of interview ranked 9 factors based on their priority, and they were, confidence, leaders attitude, staffing, training, recognition, performance evaluation, reward, emphasizing on innovation, award.

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