

Knowledge Management Factors Contributing to the Development of
Learning Organizations in the Automobile Industry
: A Research Progress Report

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Abstract

This paper aims to verify the knowledge management factors contributing towards the development of learning organization in the automobile industry in Thailand. A questionnaire survey was conducted among 429 employees from six participated automobile companies. The research results show that leaders are the key knowledge management factor contributing to the development of the organization into a Learning Organization (LO). Additionally, research also indicates that the workplace training, being knowledge team, openness towards the environment, and the ability to acquire knowledge from organization memory system are observed to be factors contributing to knowledge management as of the learning organization.

Introduction

Business today faces numerous challenges and complexities. To compete in the rapidly changing business environment requires visionary leaders, resources, know-how, the right information and proper management tools. One such management tool that is widely recognized and extensively accepted to help organization cope and compete with change and build a sustainable competitive advantage is to develop an organization into a learning organization (LO).

While an LO is defined as an organization that continuously learns through its members individually and collectively to create a sustainable competitive advantage by effectively managing internally and/or externally generated change (Sudharatna, 2004). It seems to have the learning capability as a build-in ability to manage and compete with change thus create a sustainable competitive advantage for the organization. The learning capability itself seems to be developed through the three stages process: knowledge acquisition, knowledge sharing and knowledge utilization (Crossan et al., 1999; Dibella et al., 1996; Huber, 1991) which are key activities of knowledge management (Huber, 1991) and together, they form the integral parts of learning organizations. However, just as many research studies draw attention to knowledge management, none sheds light on the knowledge management factors relating to the development of LO, especially in developing economy such as Thailand. This paper, therefore, aims to identify factors in knowledge management that contribute to the development of learning organization in the automobile industry of Thailand.

Knowledge acquisition

Knowledge acquisition is a stage in the development process during which members in an organization must be able to learn independently and cooperatively from past experience and best practices of others; from others' successes and failures; from experimentations; and from training and educational activities. As a result, members in organizations obtain knowledge from continuous learning.

When examining knowledge acquisition, it is important to recognize where learning in the organization takes place and who the learners are as well as the sources of the knowledge.

Members in organization can learn in various forms e.g. dialogue among individuals who share an interest in learning (Srikantia and Pasmare, 1996); observation of others who take actions to learn successfully; the rotation of work assignments; learning from both successes and failures as well as learning from past experiences to improve their skills and abilities (Rowley, 1998). Moreover, training and education is strategic action which help to create an LO.

To ensure that knowledge acquisition arises in an organization, manager needs to apply motivation factor (Ahmed et al., 1999). S/he needs to reward their members (Burgoyne, 1995; Gephart & Marsick 1996; Jones, 2001; McGill, Slocum Jr. & Lei, 1992); provide learning opportunities (Hill, 1996) and give personal time to developing; reviewing and analyzing activities associated with learning (Rowley, 1998).

Moreover, the organization environment needs to support knowledge acquisition which includes unobstructed and open communication; the free-shared information; the atmosphere of trust; a supportive relationship between members; and co-operative planning (Sudharatna, 2004).

In short, the knowledge acquisition, contributing towards the development of LO, involves continuous learning to acquire new knowledge or competence.

Knowledge sharing

Knowledge sharing is the second stage of knowledge management in order to expand organization into an LO. After individual members learn and acquire new knowledge, the whole organization can only benefit from the knowledge if it is transferred and shared with other employees, customers, suppliers and stakeholders. Therefore, knowledge sharing involves members individually and collectively in the organization.

Knowledge sharing is the distribution of knowledge. If members of the organization acquire learning but share nothing with each other, it is difficult to develop an organization into an LO. Therefore, 'how to' share knowledge is an important concern.

Knowledge sharing relates to the sharing of mindset, vision, values, sharing of knowledge, sharing of communication and information and openness and trust (Addleson, 2000; Ahmed et al., 1999; Bennett & O'Brien, 1994; Black & Synan, 1997; DiBella, 1997; Jones & Hendry, 1994; Liedtka, 1999; McGill & Slocum Jr., 1993; McGill et al., 1992; Port et al., 1999; Ulrich & Van Glinow, 1993; Watkins & Golembiewski 1995). In addition, sense of ownership, sense of responsibility and leadership commitment, localized decision making and teamwork are important factors contributing to knowledge sharing (Elliott et al., 2000; Hill, 1996; Leitch et al., 1996; Popper & Lipshitz, 2000).

To share knowledge in an LO, features that must be present are: culture of open communication where people speak openly and honestly about important issues; where problems and errors are shared and conflicts are accepted as ways to solve problems. For example, the culture of open communication with a norm of speaking openly and honestly about important issues, the freedom to speak one's mind including inquiry as well as a climate among members where problems and errors are shared and conflict are accepted as ways to solve problem (Appelbaum & Reichart, 1997; DiBella 1997; Elliott et al., 2000; Senge, 1990).

Additionally, the culture that encourage risk taking, acceptance of mistakes and absence of punishment for mistakes or failures (Ahmed et al., 1999; Liedtka, 1999; Nevens, 1992; Ulrich & Van Glinow, 1993); life long learning and boundary-less environment (Pedersen, 1998); teamwork and collaboration and trust (Eckhouse, 1999; Pan & Scarborough, 1999); Rewards and promotions for employee who learn continuously and share knowledge with colleagues (Gephart & Marsick, 1996; Miller et al., 2002; Solomon, 1999) are vital elements that support sharing knowledge in organizations.

Sharing and distributing information and knowledge in an organization involves people. Hence, the interaction among employee is essential. They should have a strong commitment to generate and transfer new knowledge (Limerick et al., 1994); shared knowledge, insights, mindset, vision with open-minded communication (Hedgetts et al., 1994; Martinez, 1998; Ulrich, 1993) and the ability to work in team (Amstrong, 2000; Bhasin, 1998).

Knowledge sharing is not only engaged among members in an LO but also managers or leaders. Management's commitment and support have been found to be critical to the success of change in general (Goh, 1998; Popper & Lipshitz, 2000). A successful organization inspires leadership at all level. Managers, have to commit to the accomplishment of the organizational goal of knowledge sharing (Goh and Richards, 1997). Leaders cannot just say 'go and do it', they have to be role models in knowledge sharing activities (Gephart & Marsick, 1996; Kahle, 2000; Prokesch, 1997; Teare & Dealtry, 1998).

For that reason, the knowledge sharing that contributes to the development of LO involves the distribution of what members have learned and transferred to their colleagues.

Knowledge utilization

Knowledge utilization - an ability to adapt to change is the last and main objective for an organization to become an LO. It can merely be achieved if organization members are able to utilize the learning or knowledge acquired. Additionally, knowledge utilization requires the management of learning at individual, team and organization levels.

To effectively manage and use knowledge, one needs to know where knowledge is located in organizations (Bohn, 1994). For this reason, they are able to pick it up when there is a need to apply the knowledge into their work. Knowledge utilization is different from knowledge acquisition and knowledge sharing (Rich, 1997). It depends on the effectiveness of an organization's memory and knowledge acquisition in previous learning. For that reason, understanding the utilization process is significant when managers need their employees to understand and use knowledge to create action and for decision-making. Thus, knowledge utilization at this point means that knowledge has contributed to a decision or an action. It means that knowledge has been received, understood, and has led to some concrete action.

From literature, members in organizations need to understand their purpose or objective and how their work contributes to organizational goals (Stambaugh, 1995; Ulrich & Van Glinow, 1993). They need to also have a set of skills such as ability in teamwork; creating workplace problem solving and innovation (Amstrong, 2000; Bhasin, 1998); and be empowered to lead from whatever position they hold (Gephart & Marsick, 1996).

While the managers or leaders need to make use of organizational knowledge that is in alignment with organizational competencies and organizational goal; senior managers who have critical role and are role model must foster knowledge sharing and the using of technology to facilitate values creation (Appelbaum & Reichart, 1997; Unruh, 1997) through the proper designing of organizational policies and strategies that integrate vision, values and purpose all together (Senge, 1990)

After applying organizational knowledge into the workplace, the organizations should demonstrate and encourage best practice – doing things better and doing better things (Buckler, 1998), excellence in on time and better delivery, superior quality, increased market share, zero reject and performance improvement (Hitt, 1995)

In conclusion, knowledge utilization that facilitates the development of LO involves the use and re-use of organizational knowledge.

Background of the automobile industry

The automobile industry is one of the Thai government policy supported industries. The industry, comprising car manufacturing and auto component parts, together generates revenue of US\$ 17.5 billion in 2005, representing the highest export income for Thailand or about 12% of the country's GDP in the same year. With such a robust growth potential, the government has increased the export target for the industry by 50% to US\$ 26.25 billion in 2010.

(<http://www.buyusa.gov/thailand>) Production share of car/automobile manufactures in Thailand shows in Table 1

Insert Table 1

Methodology

Six car manufacturers namely Toyota Motor (Thailand) Co., Ltd.; Isuzu Motor (Thailand) Co., Ltd.; Mitsubishi Motor (Thailand) Co., Ltd.; Auto Alliance (Thailand) Co., Ltd.; General Motor (Thailand) Co., Ltd.; and Siam Nissan Automobile Co., Ltd. have participated in the research findings. Together, they contribute approximately 88.92% of the country's total car production.

A questionnaire survey designed by one of the authors (Sudharatna, 2004), labeled 'The Inventory of Learning Organization Indicators and the Organizational Readiness to Change' was applied in this research. The questionnaire were distributed to more than 830 employees in those six companies as well as electronic mail in one department of Toyota Motor (Thailand) Co., Ltd.. The number of response is 429 set which is about 45.78 % rate of response. The detail of questionnaire survey shows as follows:

Insert Table 2

Data are analyzed by computer program SPSS version 11.0 for Windows. Factor analysis is applied in order to measure the latent variables (Loehin, 1987 as cited in Kline, 1997) of knowledge acquisition, knowledge sharing and knowledge utilization.

To check the acceptability of the technique, the KMO was used to show the suitability of the measurement methodology (0.946 for Knowledge acquisition: 0.953 for Knowledge sharing; and 0.944 for Knowledge utilization) with the Bartlett Sphericity Test and Cronbach's alpha taken into consideration.

Factor constructs from survey extraction that indicate key elements for knowledge acquisition, knowledge sharing and knowledge utilization are then used to analyze knowledge management factors of LO characteristics in the automobile industry.

Finding

From factor analysis, there are four factors that can be extracted from the LO characteristics of knowledge acquisition. They are labeled as (a) leader's role in KA, (b) Employee's responsibility in KA, (c) workplace training, and (d) knowledge

acquired from sources. The total variance explained by these three factor constructs is fifty-eight point two-eight-five percent (58.285 %). The Cronbach alpha coefficients of these three factors constructs show at 0.943, 0.870, 0.824 and 0.650 respectively.

There are three factors that can be extracted from the Factor analysis of the LO characteristics of knowledge sharing. They are labeled as (a) leader and workplace support to Knowledge sharing, (b) willingness to be knowledge team, and (c) open surroundings/environment. The total variance explained by these three factor constructs is fifty-four point nine-two-four percent (54.924 %). The Cronbach alpha coefficients of these three factors constructs show at 0.903; 0.836 and 0.740 respectively.

For knowledge utilization, there are four factors that can be extracted from the Factor analysis. They are labeled as (a) leaders' supportive in KU, (b) employee's competencies in applying knowledge, (c) accessible organizational memory system, and (d) performance outcome. The total variance explained by these four factor constructs is sixty point six-five-eight percent (60.658%). The Cronbach alpha coefficients of these four factors constructs show at 0.917; 0.864, 0.871 and 0.823 respectively.

Conclusion

It is clear that leadership plays an important role for developing the organization into LO, as reflected in the factor constructs of knowledge acquisition, knowledge sharing and knowledge utilization. Equally in significance are the attributes of employees in regard to the development of LO characteristics at the stages of knowledge acquisition, knowledge sharing and knowledge utilization. In addition, an organizational environment that supports learning, training as well as openness, seems to be important for LO development.

The research findings also points out that sources of knowledge is a vital factor construct for LO development at the knowledge acquisition stage, and that organizational memory that employees could access and utilize at the knowledge utilization stage. Last but not the least, this research has also found that performance outcome is a vital factor construct for LO development at the knowledge utilization stage.

This research study primarily shows that leadership and employee attributes are the most important factors that contribute to the development of LO as shown in each of every construct of knowledge acquisition, knowledge sharing as well as knowledge utilization. Additionally, workplace training, organizational environment, and organizational memory are also significant factors essential for knowledge management as of learning organizations in the Thai automobile industry.

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Table 1 Production share of Car manufacturers in Thailand

Company	Production share (%)
Toyota Motor (Thailand) Co., Ltd.	36.97
Isuzu Motor (Thailand) Co., Ltd.	16.39
Mitsubishi Motor (Thailand) Co., Ltd.	12.47
Auto Alliance (Thailand) Co., Ltd.	9.66
General Motor (Thailand) Co., Ltd.	9.42
Honda Car (Thailand) Co., Ltd.	9.38
Siam Nissan Automobile Co., Ltd.	4.01
Others	1.70

Automobile Institute of Thailand (2006)

Table 2 Detail of Questionnaire survey

Company	Approx. No. of Employee	No. Survey	No. Response	Response rate
Toyota Motor (Thailand) Co., Ltd.	12,000	110+e	106 56+e=49	50.90+e
Isuzu Motor (Thailand) Co., Ltd.	2,300	160	79	49.37
Mitsubishi Motor (Thailand) Co., Ltd.	3,800	250	89	35,60
Auto Alliance (Thailand) Co., Ltd.	3,100	120	55	45,83
General Motor (Thailand) Co., Ltd.	3,000	70	33	47.14
Siam Nissan Automobile Co., Ltd.	2,100	120	68	56.66
Total	26,300	830+e	429	45.78