

The Importance of the Learning Organization in Construction Industry

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Abstract—In recent years, the transformation of construction companies using contemporary management approaches has gained momentum according to acclimate changing conditions. Because developing knowledge increases the competition rapidly. The organizations which are able to learn faster with all of the elements achieve the development and survival. The concept of learning organization is one the most important approaches for adapting the organizations to new environment. Although the researches of business and management sciences have explored the effectiveness of this subject intensively, the concept of learning organization in construction sector has not been entirely investigated yet. For this reason, in this study, learning organization is introduced and examines in terms of construction industry which is quite different from other industries.

Index Terms—Construction management, knowledge management, learning organization, learning process.

I. INTRODUCTION

Recently, organizations discover that available knowledge is no longer sufficient for their quick response to changes and decision-making in rapidly changing environment. The competitive advantage is acquired by those organizations which are able to learn faster and use their knowledge and resources more efficiently [1]. Moreover, it was found that sustainable competitive advantage depends not only on the nature of the resources at a certain point, but on their ability to be continually renewed, allocated and redefined in accordance with changes in the environment. However, learning for organization is more than a rational adaptation to environmental constraint.

A few decades ago, the concept of the progressively learning organization emerged when describing modern organizations. Learning organization theory was developed by Peter Senge in 1990 [2]. Senge published a book named “The Art and Practice of the Learning Organization - The Fifth Discipline” and underlined the principles of the concept. These five principles elevated the field of learning organization both in the industrial and academic world. In this work, Senge emphasizes that organizations must focus less on day-to-day events and more on the underlying trends and forces of change that cause day-to-day events to occur.

From this analysis, organizations can focus on learning new ways to address issues and adapting behavior to improve

processes. This concept adopts the idea that both generative and adaptive learning must occur in a learning organization. The work carried out in the framework of these five disciplines summarized in Fig. 1 ensures that employees develop themselves by providing continuous improvement, development and learning which are the most crucial factors affecting today’s business world and companies.

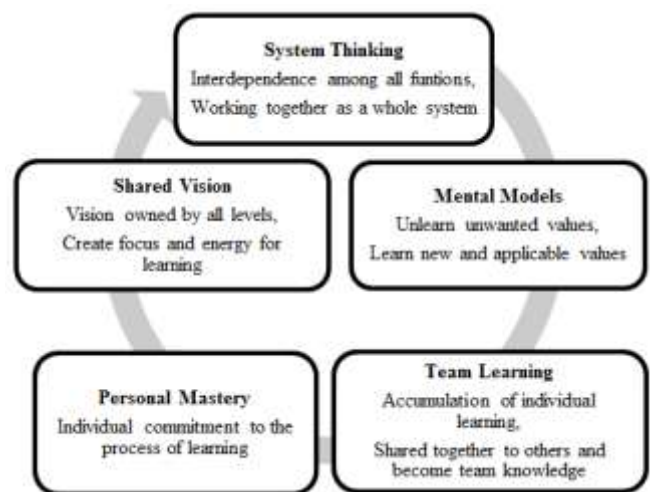


Fig. 1. The five components of learning organization.

II. THE CONCEPT OF LEARNING ORGANIZATION

Since the concept of learning organization combines several disciplines, primarily organization, education, management and sociology, even its very definition is complex and many researchers have tried to explain. Different terms for calling of the same issue are often used in the literature. “Learning Organization”, “Organizational Learning” or “Learner Organization” which have the same meaning that “the organization that learns”. The term of learning organization is adopted in this paper. Although researchers once debated whether learning organization should be defined as a change in cognitions or in behavior, that debate has declined [3]. In recent years, most researchers agree with defining learning organization as organizational knowledge that can be changed as a function of experience. Organizational knowledge includes both theoretical and procedural knowledge or routines and assumptions.

Liu and Li indicated that learning organization should stress on sharing, mutual learning among organizational members, actively collecting organization internal and external information, cooperatively learning with suppliers and customers, creating value, and acquiring competitive advantages [4]. It presented a change management method,

Manuscript received January 23, 2018; revised May 1, 2018.

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particularly stressed on the enhancement of employee value and decisions sharing as well as the establishment of a learning community having the employees contribute to the work and organization. Khosravi and Ahmad proposed learning organization as an organization combining knowledge management, intellectual asset management, innovation, organizational learning, individual learning, and information system as well as an organization being able to facilitate the learning and transformation of itself and business members [5]. The five dimensions are proposed for learning organization which is defined as system thinking, personal mastery, mental model, shared vision and team learning by Cheng and Fu [6]. Ganjinia et. al. proposed that learning organization allowed organizational members

constantly expanding the abilities, creating really satisfactory results, being able to cultivate new-style thinking, fulfilling shared vision, and constantly learning to learn together so as to lay the foundation for success [7]. Aslam et. al. also pointed out a learning organization as an organization constantly learning and transforming [8].

Learning organization has its own characteristics which are able to adapt changing conditions and to predict the future challenges economic, cultural and political trends. The overall definition of a learning organization can be further defined by five main characteristics as follows: Leadership, processes, communication, education and culture which are shown in Table I.

TABLE I: MAIN CHARACTERISTICS OF LEARNING ORGANIZATION

Leadership	Processes and Infrastructure	Communication	Education	Culture
Championing the integration of new knowledge into the organization	Facilitating the exchange and management of knowledge	Sharing of knowledge in pursuit of organization improvement	Considering education as a value to both the individual and the organization	A receptiveness to new ideas and cultural integration with a culture that is open to change
Encouraging experimentation	Institutionalizing new knowledge through new processes	Supporting the establishment and continuation of community of practice	Developing a systematic approach to obtaining education and disseminating knowledge	A desire to seek, initiate, improve, and generate new ideas and concepts
Taking proactive steps to achieve a shared vision	Transferring a resource commitment from executive management to implementation plans and proper organization design	Eliminating of barriers to communication	Developing a structured approach to promoting education	A belief that the individual is part of something larger and is pursuing goals that are greater than the individual

The learning organization is the opposite of a conventional organization is described as flexible and encouraging personal skills, open to communication and teamwork; its employees are not afraid of making a mistake which is a part of learning process. Also hierarchy is replaced by mutual cooperation and values such as honesty, trust and tolerance are prevailing. Process of learning must

be maintained and encouraged at individual, group and organizational levels to enable effective creation and spread of knowledge, formation of skills, specific abilities and experiences.

For comparison, the typical characteristics of a learning organization and conventional organization are presented together in Table II.

TABLE II: TYPICAL CHARACTERISTICS OF CONVENTIONAL AND LEARNING ORGANIZATIONS

Characteristics	Conventional Organization	Learning Organization
General value	Utility	Organizational renewal Excellence and expertise
Management style	Control	Assistance and training
Strategy planning	Top-down approach Road map	Consulting with everyone Learning plan
Structure	Hierarchy	Flat structure Dynamic networks
Personnel characteristics	People who knows Knowledge is power	People who learn Mistakes are tolerated as inseparable part of learning
Exceptional skills of personnel	Applicable learning	Generative learning
Evaluation system	Financial performance measures	Financial and non-financial performance measures
Teams	Work groups in separate functional departments	Cross-functional teams

Apart from the above, there are commonly held principles that in order to become a learning organization. These principles were listed by [9] as follows:

- Company should create continuous learning opportunities,
- Promote inquiry and dialogue,
- Encourage collaborative and team learning,

- Establish systems to capture and share learning,
- Empower people toward a collective vision,
- Connect the organization to its environment.

The development of a learning organization does not occur in a short period. To evolve into a learning organization, several responsibilities should be defined and applied on each levels of the organization.

For the learning individuals to becoming learning organization, a set of infrastructures was adapted from [10] and [11] are presented in Table III.

TABLE III: PROCESS OF LEARNING ORGANIZATION

Pre-learning	Experience accumulation	Knowledge articulation	Codification/Storage	Dissemination/Distribution
Allocated resources available for learning	Informal organizational routines, rules and selection processes	Knowledge facilitators and managers	Process maps	Communities of practice
Flexible organization to allow mobility of employees	Departmentalization and specialization	Personal reflection	Project management process	Information technology
Reward system	Benchmarking	Error corrections	Lessons learned database	Regular formal and informal meetings
Established informing system	Induction programs for new members	Joint project research	Job descriptions	Informal communication
System for control mechanism	Staff development / on-the-job training	After-action reflection	Routines	Updating and coordinating meetings among various teams
Employee feedback system	External & internal seminars	Review from success & failure	Standard operational procedures	Job/role rotations
Evaluation system	Corporate mentoring	In-house research improvement programs	Rules and regulations	Trade shows and exhibitions

III. THE IMPORTANCE OF LEARNING ORGANIZATION CONCEPT FOR THE CONSTRUCTION INDUSTRY

The transformation of construction companies towards a learning organizational culture has gained momentum in recent years [12]. According to Chinowsky et. al. “the primary driver for implementing a learning organization is the need to remain competitive in the new knowledge era through the delivery of knowledge-based solutions that better meet the needs of clients”. Given the dynamic competitive pressures of an emergent knowledge economy, the challenge for construction firms is to pro-actively promote organizational policies, procedures and practices that explore and exploit knowledge creation to cultivate a sustainable learning agenda [13].

The construction industry, and particularly construction companies, is typified by the fact that its business mainly runs through projects. The feature of the construction industry is the execution of tasks using projects. Each project is unique and construction sites are always different. These conditions of construction industry make it distinct from other production branches [14]-[16]. On the other hand, one of the main characteristics of construction is that it is a labour- intensive industry. Of course, the efficiency of construction enterprises is ultimately viewed through profits resulting from realized projects in a given period. However, the results depend on the work of the knowledgeable and developing personnel. Furthermore, in recent times

construction has been exposed to intense business globalization, and in the international context, the understanding of knowledge and its diversity becomes even more important. Therefore, the ability to manage information and education in construction has become more important.

Learning organization is today considered one of the most significant determinants of the strategic development of an organization. From the managerial aspect, that is one of the most important functions which are highly related with increasing individual and organizational success [17].

In terms of construction industry, the study of learning organization is quite new. Especially since the last decade, learning organization applications have been intensified and adopted in construction firms. The main goals of the sustaining the learning organization applications are determined as cost reduction, productivity improvement, source saving, environmental protection, occupational health and safety.

For the construction industry to adopt a learning organization, continuous learning and personal advancement must become fundamental within organizations at every level and throughout every project and business process. Adopting this concept requires the engineering and construction industry to focus on a long-term outlook for learning. Also, in construction sector, the cultural type of an organization has a strong impact on becoming a learning organization [18].

A successful learning organization will combine experience-based improvement with expanding knowledge. Experience-based improvement will allow the organization to build upon past successes by permitting personnel to store, access, and expand upon project experiences gained throughout the organization. Understanding the integration of the knowledge capture technology with the cultural shift to a learning organization is the underlying requirement for the future of construction learning organizations.

IV. CONCLUSION

A learning organization is considered to be a model of a perfect organization pursued by many organizations in

search for ways of successful response to changes in the ever-changing environment. This paper reviews the elements of a learning organization within the context of the construction industry which is inherently different from other industries. This is because its factory moves around and hardly ever develops the same product twice. Due to its unique properties, adopting the concept requires the construction industry to focus on a long-term outlook for learning. Also to gain a learning organization culture, the concept of continuous learning and personal advancement should become a fundamental operating concept within organizations at every level and throughout every project and business process for construction industry. The concept of learning organization provides a great opportunity to learn experiences from previous projects that helps work quality and reduces cost and time required in projects by providing problem solutions and reducing the probability of mistakes, also can be used for staff training in construction industry. The development of a learning organization requires strategic investments in all characteristics of the learning organization. The organizations should objectively evaluate where they currently stand in the learning process and should fulfil the deficiencies appropriately. The feedbacks from the evaluation of the application provide very useful knowledge for the improvement of the management system which is very vital for organizational survival.

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