The Culture of Sharing Knowledge: The Road to Organizational Success

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***Abstract*—This article discusses the culture of knowledge sharing as a factor of business success of an engineering company. Based on the key concepts of culture and theories of knowledge in organizations, it aimed to identify the predictors of success of an engineering company and to analyze the culture of knowledge sharing and its impact on organizational growth. After conducting semi-structured interviews with managers and employees, qualitative analyses were performed and the indicators of success were defined, which allowed for an assessment of the knowledge sharing culture and its relevance for the organization's success. The findings indicate that knowledge sharing is part of the organization's culture and represents an important factor for its success. Innovation, training, quality management and the values established from the foundation are key elements that fostered organizational growth.**

***Index Terms*—Knowledge, knowledge sharing, organizational culture.**

I. Introduction

Since ancient times we have discussed knowledge. It was, possibly, in the work of Plato, that one of the first definitions of knowledge appears. Over the centuries, many philosophers have failed in their attempts to define the meaning of knowledge [1].

In the early 90's many organizations suffered from "learning disability" and it was only through systemic thinking that reason and intuition were reconciled. It was found that organizational success would be linked to the ability to learn faster than competitors [2].

Then, knowledge management arises and brings together three learning processes in organizations: acquisition and development of knowledge and dissemination of construed memories in a process of developing the skills necessary for the organization [3].

There was a significant increase in information available to support decisions in organizations after the development of communication technology and information technology. Organizations now have new characteristics: the rapid increase in the number of knowledge workers when compared with production workers; those employees who are in production depend more and more of knowledge workers and knowledge becomes the key to a competitive effort [4].

Some researchers say that in order to manage the large flow of information it is not enough to make diverse information technologies available, but it is necessary to stimulate the creation of a knowledge-oriented environment with appropriate systems to face problems, supporting strategies and procedures in the company [5].

Other researchers confirm the importance of IT for knowledge management, but emphasize that because knowledge is a complex process, it is essential to involve people in order to change culture [6].

Therefore, it is expected that, in the future, companies build organizational structures based on processes, rules and values directed to sharing knowledge and to creativity, with a positive culture. Decentralization and flexibility stimulate integration between company teams and help strengthening this kind of culture [7].

The company focused in this study emphasizes knowledge sharing as one of its strong features, a value that has been present since its foundation. In this context, the study aimed to identify the critical success factors of Maia Melo Engineering and the relevance of culture for the organization's growth.

This paper is divided in five sections. The first one is the introduction, theme formulation, context and purpose of the research. The second segment covers the theoretical basis for the theme and the problem being investigated; the third part presents the methodology used to implement the study; the fourth section indicates the data analysis and, lastly, the fifth section presents the final remarks of the research.

II. Theoretical

For the company to be competitive it must maintain over the years competitive advantages obtained through innovation that is based in knowledge. It is through knowledge that we can minimize the uncertainties generated by innovation. Knowledge is socially constructed by the individual through learning that seeks the solution of problems arising in the workplace. An innovative action depends on the efforts of its initiatives to be competitive [8].

Knowledge is related to beliefs, commitments, attitudes, perspectives or any specific intent. Knowledge is about purpose and meaning. Information does not exist in relation to action, nor to beliefs and attitudes. There is, however, a relation with meaning as well as in knowledge such [9].

Considering the constant changes in a competitive environment and also in the internal environment of an organization, it is possible to observe what is necessary to have effective participation in order to make the company more agile and better prepared to fulfill its competitive needs. The way to success is through learning that will lead to knowledge [10].

Yet their theories distinguish between two types of

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knowledge: tacit and explicit. Explicit knowledge is one that can be verbalized or written, thus can be easily transmitted among individuals. Tacit knowledge is difficult to be articulated in formal language, it is personal knowledge incorporated to the individual's experience, involves intangible factors such as personal beliefs, perspectives and value systems. Tacit knowledge, subjective knowledge, is experience - body, while explicit knowledge, objective knowledge, is rationality – mind and both kinds of knowledge complement each other. Tacit knowledge is highly personal and subjective, developed and internalized over time by the individual, especially through the experiences he or she went through.

Researchers defend that knowledge that comes from a practical work is largely tacit. In the words of tacit knowledge they say: *"is deeply rooted in the actions and experiences of an individual as well as their emotions, values or ideals. Opinion, insights and subjective hunches fall into this category of knowledge."* [9]-[11].

In this sense, tacit knowledge consists of cognitive and technical elements. The cognitive elements related to mental models of individuals are the schemes, paradigms, perspectives, beliefs and perceptions that shape how individuals perceive reality. The technical elements correspond to the skills, techniques and concrete know-how, difficult to define and articulate.

The biggest challenge for organizations is to transform tacit knowledge into explicit, and organize it in order to make it available. Knowledge has no value in the organization if it is not accessible, it must be externalized and available to be effectively used as in [12].

They also say that information is all the competitive advantage a company needs, experience, skills, values and insights from its members. Companies should create conditions for the knowledge accumulated by everyone in the organization to be effectively shared. The terms share, transmit, exchange and transfer are frequently used in this study preserving the idea that sharing involves providing certain knowledge that is absorbed by the recipient. A strategic approach to communication is the effective way to transfer knowledge, so it is necessary to choose the best key methods for each specific kind of knowledge. Organizational culture is understood by the norms and values that help determine what is appropriate and inappropriate. These norms and values which can be considered control systems direct us to achieve effectiveness.

Reference [13] shows uphold that the beliefs represent what people understand as reality and thus influence what individuals perceive, think and feel. The author emphasizes that values are the basis for people to judge what is right and wrong on a conscious level, and argues that the core of an organizational culture is formed by values and beliefs. Beliefs are beyond the level of awareness and help the individual to predict how things are and how new facts may occur.

Changes in culture do not occur by means of words or decrees, but by influencing the beliefs and values of people who join a corporation. In order to think about knowledge organizations must aim at a culture of learning with the support from top management [14].

III. Research Methodology

The information collected in the survey was analyzed using a qualitative approach, by means of a case study with exploratory and descriptive focus. This case study helped to understand more broadly and thoroughly the processes related to sharing knowledge in the company researched.

The organization studied is Maia Melo Engenharia Ltda. It is a consulting engineering company, founded on May 31, 1982, operating with studies and projects, management / supervision / building inspection and other technical services. The company's effort has been directed towards the development of projects and supervision of highways and railway construction, which represents about 85% of its activities and has contributed with innovative solutions such as the use of types of low cost pavement. The company is a pioneer in the field of Quality certificate and was the first organization to get certified by ISO 9001/1994, in the North and Northeast of Brazil on September 29, 2000 and the first national consulting engineering firm to get the certification of adequacy of its quality system to the NBR ISO 9001/2000 in 2001.

For this research, four project managers and four employees were interviewed. Those were intentionally chosen because of the time they had been in the company, considering the changes of CEOs.

The criteria for choosing the sample was the following: representativeness (interviewing all 4 project coordinators), availability (interviewing four employees who were present at the institution and were available for interview during the stage of data collection) and accessibility (interviewing people residing within the city of Recife).

The managers interviewed are bachelors in civil engineering, one of them has a master's degree, and the other three are still taking the master certificate. Two of the employees are engineers, and two have technical training.

The instrument used for analysis was a qualitative interview guide with open questions in order to make it possible for the interviewee to express their views and opinions about the topics as in [15].

The responses were categorized with the application of qualitative tools and a system of categories was established pursuant to the objectives.

IV. Results

To analyze the critical factors of success, it was necessary to list items considered as indicators of success by the interviewees (Table I).

As the interviewees describe, historically the company presents attitudes to socialize information, experiences and ideas. Knowledge sharing has been a priority.

Dr. Antão was a teacher, he always looked forward to upgrading; he organized seminars, courses; to all the engineering people, his ultimate objective was the development of engineer knowledge." (Interviewee 1)

The culture of the company researched has presented since its creation a special concern with matters of innovation and that makes a difference. Perceptions on the company's success today are related to the founder's innovative

behavior, which was oriented towards improving and acquiring new knowledge

TABLE I: INDICATORS OF SUCCESS

VARIABLE	*F*	SUCCESS INDICATORS
SUCESS	6	Founder: Future Vision, Innovative Spirit
	5	Founder implanted Culture of knowledge sharing
	3	Productive capacity of Human Resources.
	2	Technological Innovation
	2	Professionalism
	2	Quality of services
	2	Current Directors
	2	Technical Improvement
	2	Quality Certifications
	1	Founder's National Recognition
	1	Founder: Trained and effected the board
	1	Pioneering several products (Innovation)
	1	He come from a strong company in the industry
	1	Good environment
	31	*TOTAL*

"Our founder has left a thought that consist in doing your best always, this philosophy we try to put into our practice and what we have today is what was planted yesterday with serious work." (Interviewee 3)

"That was our difference, because Dr. Antão was a teacher, he constantly liked to bring news, his mentality was always innovative, he was passionate about books, innovative ideas, and he loved to create, these things were the seed that he gave us and guided us, they're still here today. His spirit of bringing new ideas is still alive; they'll be welcome and accepted." (Interviewee 2)

[...] "The culture of delegating and teaching is an important feature of the company, and nowadays the company remains as one of the top competitors in North and Northeast regions of Brazil." (Interviewee 4)

The values left by the founder were not forgotten over the years, for what can be noticed, and are still present even for those employees who weren't part of the organization at the time the founder was present. The fact is that the meaning of how the work should be carried out remains the same, being considered a critical factor of success for the interviewee, according to his testimony below.

"[...] I did not work here at that time, the staff say that the entrepreneurial spirit, vision, and innovation of Dr. Antão made us go ahead with new ideas. [...] so he had the initiative to create new solutions and I think that was one of the things that made us have this competitive advantage. Because if we just wanted to imitate others or do the same always, Maia Melo would not be where it is today, and he encouraged people by saying "look, let's do it in a different way!" The texts that he wrote, the personal comments that he always tried to make, his own identity for each of the projects, while other companies do not do that [...] " (Interviewee 5)

We changed completely the way to make projects. [...] Our library has grown and has always been extremely organized." (Interviewee 2)

"I joined during a phase in which many changes were made ... because the world asked for it, computers, software being developed. Dr. Antão and the staff before me, had done many things in preparation for the 2000s in which technological changes were tremendous!" (Interviewee.5)

The biggest step was the computerization, and with it, Maia Melo was soon investing, the managers never waited, there was no one to teach us. We were ahead of our competitor in this area." (Interviewee 8)

To conclude, it can be noticed that at Maia Melo Engineering things haven't been different from what was mentioned for over 25 years, tacit knowledge was stimulated through research, readings, insight through the creation of new technologies. Another important point to be noted was the founder's enthusiasm to learn and enrich their tacit knowledge and transform it into explicit through wanting to teach, move and exchange information. These attitudes laid the foundation and the culture gave support to face economic crises and achieve success.

A. Culture as a Critical Factor of Success

Maia Melo's culture of knowledge sharing was described by respondents as being a predominant factor for its success. It derived from the values of the founder who used to direct the efforts to transmit and share information, experience, ideas and knowledge demonstrated in the testimony below.

"At the time of Dr. Antão, he really shared, he usually called employees, designers, for example, to know their opinions and views, and he asked "what do you think?". Today it's still like that. I see one or another coordinator asking the opinion of their team." (Interviewee 7)

"I've seen interesting things, sometimes on Saturdays, Dr. Antão looked at drivers outside and called them to watch the slides, he projected and explained everything to the drivers." (Interviewee.2)

Reference [16] shows further defines the influence of mentoring on learning and establishes that this interaction could happen between people who are close or even between employees and people who are considered an authority in the area, which is the case of mentors.

The importance of the director's authority created positive impacts to the perpetuation knowledge sharing as a key aspect of the company's success today.

"How many times I have come as a student, to seminars organized by the teacher, right here in this organization and had access to the company's works. Classes in the field, we saw what was being developed on site, having field trips." (Interviewee 3)

"Each employee tells the engineer what he would like. Then, the coordinator sees what is compatible with the vision of the company, analyzes the employee's request and the company's needs. So it is great! We always make progress and courses happen with our own employees as teachers". (Interviewee 1)

The company culture, its customs and traditions rely heavily on what was done before success was achieved and its primary source is the founder [17].

The managers emphasized that the founder sought

competitive differential, and according to them, this created today's atmosphere of respect and prominence in the field of engineering as a legacy left by the founder.

In short, on what regards the culture, the most important teachings left by the founder were the importance of disseminating knowledge, innovation, and the value given to employees' professional development, which positively impacted on organizational success at Maia Melo Engineering.

TABLE II: CULTURA AS A CONDUCTOR OF SUCCESS

VARIABLE	F	SIGNIFICANT ASPECTS
CULTURE (Values and beliefs)	8	Teaching left by the founder, the importance of disseminating knowledge.
	8	Value in the professional growth.
	7	Founder stimulated creativity.
	7	Believed in innovation as a differentiator
	4	The ideas are always welcome.
	34	*TOTAL*

V. CONSIDERATIONS TERMINAL

The present study showed that knowledge sharing is part of the organizational culture of Maia Melo Engineering and represents a critical factor of success for the organization. In this study we could trace a line that went as far back as the company's foundation and were able to understand the dynamics in the formation process of the organization's cultural values and beliefs that are held in this company.

During the research, it was possible to investigate the factors that accounted for the success of the organization from the point of view of the managers and explore the field of knowledge sharing, involving issues of human interaction.

The findings indicate that the vision and innovative spirit of the founder, who implemented a culture focused on sharing knowledge, are the most relevant variables for the organization's success. Now, there is knowledge sharing but it happens informally, there are no norms to help institutionalize it. In this case, as the company already presents a culture of knowledge sharing it shouldn't be hard for them to document and reinforce their current practices. Competitiveness requires a differential. Right before succession, the founder distributed shared among key employees, creating a board of directors, "rewards in terms of results". It was an achievement of the past, of its visionary founder, and this measure supported the organization during periods of instability.

The managers interviewed in this study have a strong vision towards training their teams. This was seen as a significant point defended by employees who feel privileged to acquire knowledge and evolve professionally.

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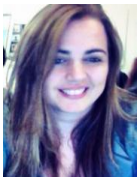

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