Leadership and Knowledge Sharing: A Case Study

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Abstract—**This present article is about knowledge sharing in an engineering company. Based on key concepts of knowledge management and theories of knowledge in organizations, the study sought to identify favoring and hindering factors of the leadership indicator for the sharing of knowledge at an engineering firm. Semi-structured interviews with coordinators and staff members were carried out. A qualitative analysis was then performed, which highlighted that the behavior of knowledge sharing, in the point of view of the coordinators, is part of the company's practice, while for the staff members this indicator represented an obstacle for the sharing of knowledge. The following were identified as facilitating factors for the sharing of knowledge: Management towards knowledge and leadership development. The barriers found were: the lack of systemic thinking and the absence of exchange between teams.**

Index Terms—**Knowledge, knowledge sharing, leadership.**

I. INTRODUCTION

Over the centuries, many philosophers have failed in their attempts to define the meaning of knowledge. Also mention that Russel would recommend not defining explicitly such a term for it would be difficult notion to conceptualize [1].

In the 1970s, due to competitiveness and to rapid technological changes, efficiency in the business environment came to depend more on ongoing learning and updating than on the managerial competence [2].

Around the end of the twentieth century, many organizations suffered from "learning disability" and it was only through systemic thinking that reason and intuition were reconciled. It is expected that in the future companies build processes based on their organizational structures, norms and values that are directed towards knowledge sharing and creativity. The structures should be further decentralized, flexible and should permit integration between teams to disseminate knowledge [3].

A sensitive factor as to knowledge sharing is communication, which is essential to teamwork: for the studied company, affective communication is critical to favor the flow of technical information and interpersonal relations. The present study analyzes the favorable aspects and the hindrances found by leaders and their staff in sharing knowledge [4].

II. THEORETICAL BASIS

The analysis of the favoring factors and hindrances in leadership in the area of knowledge sharing in the company is

the subject of this study.

Knowledge Management is, in brief, the effort to improve human and organizational performance. Knowledge management should have one main objective, which is to make sure everyone in the organization has access to knowledge [5].

Knowledge organizations are companies that present these values and are oriented to the acquisition, processing and dissemination of knowledge that constantly flows in the organization [6].

Power in organizations can come from both the leader and their staff when they have influence on attitudes, behaviors or feelings. In this case, knowledge when viewed of power, is able to influence and dominate others [7].

The term 'knowledge sharing' only makes sense when it is put in action and generates value. In order to more effectively transmit knowledge it is enough to put people together and let them talk to each other. Knowledge sharing in organizations is influenced by many variables that can impact this process in different ways. These include variables of knowledge transfer, with the transmitter and receiver of knowledge, and the context in which knowledge sharing happens [8].

Reference [9] shows the person who expresses some meaning to someone, never produces exactly the intended effect in terms of understanding in the mind of the receptor. What may also happen is that the speaker finds it hard to put in words what he or she would like to share with the others.

Attitude is a predictor of behavior and means the mental state of readiness or predisposition to influencing responses of evaluation directed to objects, people or groups. One base model which is linked to Systems Theory and theories of human communication. The model considers that the process of sharing knowledge is composed by four phases, characterized by specific actions in each phase. These actions were highlighted as compatible aspects with the role of leaders [10].

The required knowledge, knowledge sharing and organizational behavior are aspects associated with leadership and are intertwined with each other, but by means of the theories presented could lay the foundation for structuring and completion of this research. Item III, will detail the development of research presenting its methodology.

III. RESEARCH METHODOLOGY

This research used a qualitative approach in a case study, with an exploratory and descriptive focus. This case study helped understand more broadly and thoroughly the processes related to knowledge sharing in the company studied. In this case, given the nature of the problem and objectives presented before, it is believed that a qualitative

study enabled a deeper understanding of the reality of the chosen company.

The organization in which the study was conducted is called Maia Melo Engenharia Ltda. It is a consulting engineering company, founded in May 31, 1982, operating in the fields of studies and projects, management / supervision / building inspection and other technical services. The company is a pioneer in the field of Quality and was the first consulting firm 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 gain the certification the adequacy of its quality system to the NBR ISO 9001/2000 on 11.29.2001. This organization studied is a private company which operates in the Northern Region (Roraima, Rondônia, Acre, Amapá, Amazonas and Pará) in the Midwest Region (Mato Grosso) in the Northeast (Maranhão, Piauí, Ceará, Rio Grande do Norte, Paraíba, Pernambuco, Alagoas, Sergipe and Bahia), with projects in Rio de Janeiro and the Federal District.

As the survey sample covered project team coordinators, a total of four, (4) as well as four (4) employees who were subject to the same coordination, intentionally chosen by the time they had been in the company, taking into account periods of change in the board of the company. By inviting these employees the idea was to collect more information.

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

It was established as a criterion for choosing the employees' length of service, so there were 2 employees with more than eight years of work in the company and another 2 under eight years of work in the company. The time was determined due to the changes in management that occurred during this period. People directly involved in the research amount to a total of (8) respondents.

Primary data was obtained on the basis of semi-structured interviews. This technique works so that the interviewee can be positioned freely in their own settings, in which the interviewer raises issues to be addressed.

In the first instance, the researcher contacted one of the project coordinators for a closer understanding of how the teams worked. In respect to the coordinators contacted, we verified the feasibility of researching the four coordinators of projects aiming to collect data about their perception about the existence of knowledge sharing as part of culture and its impact on organizational success.

At another point, respondents were contacted by the researcher in order to advance to schedule a day and time for the interview. The interviews were conducted in the actual working environment of the participants, with an average duration of 1 hour each and were all digitally recorded and later transcribed.

The instrument used for analysis was a qualitative interview guide. This instrument contained open questions so the interviewee could express their views and their opinions about the topic searched. Based on theories of knowledge in the related fields, we developed a categorization of responses oriented to the application of the content analysis presented below. For the content analysis non-structured questionnaire were used so as to enable a better visualization of different characteristics and meanings. The content of elements was detailed and clustered around categories. The elements constituted the units of analysis, words that refer to indicators (culture, leadership and motivation), were evaluated according to their position within the contents, meaning and values assigned [11].

In the process we also needed to read between the lines and analyze the contradictions reported in several speeches. The answers of the respondents were grouped according to categories; histograms were produced with the distribution of frequencies of all relevant aspects relating to the indicators identified.

One limitation of this study was that more emphasis was given to the perception of the coordinators of the company studied and a small number of employees were interviewed. Another difficulty is to get the actual position of the respondents, probably they felt apprehensive raising real issues that could denote faults or weaknesses on their performance.

The next items will describe the factors that facilitate knowledge sharing and hindrances to the sharing among employees of the company.

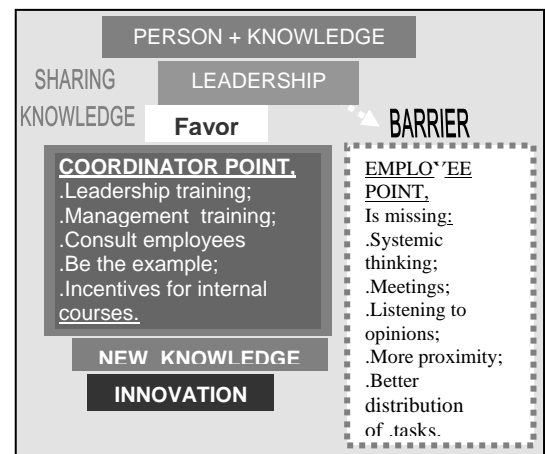This paper focused on leadership indicators as in figure 01.

Fig. 1. Conceptual model.

IV. RESULTS

The findings will be presented that relate to the indicator of leadership as a facilitator of knowledge sharing. The interviews that support this item are all referring to the testimony of leaders.

The top management has an essential role in supporting programs aimed at knowledge management. Reported that leaders who defended knowledge initiatives were cultured and knowledgeable and drove toward a knowledge culture.

The change of posture to promote knowledge sharing should begin by the leaders, because it is they who should initiate and encourage this behavior to spread knowledge in organizations. Respondent 4, explains his initiative to foster the behavior of sharing knowledge [12].

"When there is a need to take immediate knowledge, such as the embanking project, our coordinator puts a technical

expert who dominates the subject near us and he teaches everything to the team." (Interviewee 4).

Stresses the importance of an environment of trust being encouraged as through a trust people tend to share more of their knowledge, and if they perceive ethics and rewards, there will be clear communication between managers and leaders. However, the speech of Engineer 4, below, shows that in his practice as a coordinator there is a mutual interest between him and his followers, but doesn't mention other factors that could stimulate the practice of sharing knowledge.

"Here we have a culture that whenever some process is not okay, then that employee can propose to change the process or any changes. This has happened with both leaders as with the team as a whole." (Interviewee 4).

The testimony of engineer leader (interviewee2) below, shows he stimulates sharing and developing professionally his subordinates, and acts like a mentor. His interview determines attitudes to facilitate a process of sharing knowledge in his vision.

"I have formed some people who work in the area, I try to train these people and then they take their own flights. I'm glad to be able to pass and there are many examples here of people who today are in large companies as engineers." (Interviewee 2)

The viewpoint of the leaders responsible for the organization teams was that there is access to exchanging information, to get feedback and ideas between coordination and coordinated as seen in Table 01, although in the view of employees that statement was not found, establishing this perspective as representing the views only of the coordinators.

Another relevant factor is the testimony of the Engineer 3, who says that the room for communication with the team is facilitated and the opinions of the staff are taken into consideration in decision making, but the same coordinator also stresses that it is not him who opens this space, but the participative member of the staff.

This item contradicts some theories relating to leadership, which stress the influence of the leader is acquired by means of effective personal relationship between leader and staff and that this relationship enables the leader to take the best its staff has to offer.

"I ask the team what is the best way to do something and I give them the power to choose. I think being open or not depends on the developer, some people can do it naturally, no embarrassment, in general people are fine with it." (Interviewee 3)

Finally, the points of greatest relevance collected and analyzed in this indicator, show that the engineers understand their role as leaders as favorable and believe that they are stimulating the practice of sharing knowledge through actions, as indicated by the participation of their teams in development courses, management training and also the formation of new leaders.

Table I below shows the relevant aspects of the findings of leadership facilitators for sharing knowledge.

The next step aims to categorize issues concerning factors that represent barriers of sharing knowledge between the team of the company's projects surveyed.

TABLE I: CATEGORIZATION OF POSITIVE ASPECTS TO SHARING KNOWLEDGE

INDICATOR	F	SIGNIFICANT ASPECTS - FAVORABLE
LEADERSHIP (Coordinators' Point of View)	4	Management training courses for professionals
	4	Training new leaders
	3	Employees are indicated for internal courses.
	3	The coordinator tries to set the example.
	3	The Coordination involves employees in decisions.
	17	TOTAL

Source: Research data.

The indicator Leadership as barrier to knowledge sharing is restricted to employees vision. Table II illustrates the relevant categorization and shows the main barriers for knowledge sharing mentioned in this study.

TABLE II: CATEGORIZATION OF REPRESENTATIVE GATE TO SHARING KNOWLEDGE

INDICATOR	F	SIGNIFICANT ASPECTS – BARRIES
LEADERSHIP (Employee Point)	4	Leaders do not practice systems thinking.
	4	Insufficient planning meetings between teams.
	4	Opinions and suggestions only among engineers and coordination.
	4	Poor listening to the employees' needs.
	4	Inadequate distribution of tasks between teams.
	3	Delegation without monitoring.
	23	TOTAL

Source: Research data.

In the following lines, the employee tells us about the aspects of good listening and the lack of availability of engineers to come closer to the team and be able to understand their real needs as shown in Table II.

"The meetings between engineers could also see where there could be changes so that there was more help and more interaction between the teams, to help break down barrier" (Interviewee 6)

Interviewee 7 speaks about the difficulty to exchange knowledge between leaders and staff, due to poor communication (Table 02).

"The coordinators would be listening more the employees' needs and do more meetings with us, to talk about the priorities in each project. We should get together to have more unity to help everyone. For example, if a project x, has two coordinators, I think it does not belong to neither of them, but should collective." (Interviewee 7)

Reference [13] shows the most important feature of any coach is to be a good listener; the act of human communication is a miracle. The coach should encourage people to perceive other parts of reality and try to find alternatives, interpret the facts and discover new ideas that lead to the growth of knowledge. This is another example related to dialogue as a facilitator of sharing knowledge among engineers cited as deficient by respondent 8.

"We need to have more dialogue with the coordination. They are busy and have a thousand things to do, but they must support us. If I were the coordinator I'd be near to see how hard and to know: "what are you feeling?", "What is

missing here?", "What is necessary?" Because often, we delegate and then we think: "Okay, now I'll concentrate on something else." But there got to be contact at all times. Communication between us must improve! "(Interviewee 8)

A person can only transmit knowledge on solving a particular problem. Below, the employee suggests actions their leaders could take to improve.

"There are follow-up meetings of the board with the coordinators and assistants of the coordinators, but there should be meetings for each section, CAD drawing, Excel industry, computer industry, technical areas, there could be monthly meetings for each section and they'd meet and listen to the people involved." (interviewee 5).

Leaders should change the way in which they act before facing changes, rethink attitudes that have been developed. The leader must learn to listen, orchestrate initiatives and should be aware of his or her position, to be the example of his speech, be true, have passion for the values and encourage more systemic patterns of thinking. He needs to actually accept the challenge of change so as to create an environment in which people also want to change and thus stimulate attitudes towards building knowledge in the team.

The contributors expose below their feelings about the consequence of the lack of listening to their ideas by their leaders and what it can generate in terms of loss for the company. Not listening leads to dissatisfaction and consequently a barrier that is generated by the leader.

"If the employee gives an idea or wants to innovate and if he is not heard, what will happen? He will never look for anyone, and a door will be closed for his ideas and knowledge. The other question is, if he is heard and gets no response. Gosh! That's the worst thing because the employee spent his time studying a certain subject, to go to his direct boss to says, look, I have an idea! And the guy hears it and never puts it in practice. He will be discouraged. So the main thing for the leader is to be a good listener, go ahead and give feedback on that idea to the author of the idea. I think this should happen here." (Interviewee 5).

"There is a dispute because everyone just wants to finish each work. Sometimes we do not talk nor give suggestions because we do not feel there is any room for that." (Interviewee 7).

Below another employee exposes the difficulty experienced by not being encouraged by their leader to share information with a colleague (Table 02).

"I have already taken up some scolding! They've said to me, "look at your work," but I want to help my colleague and I know how it's done! I help anyway, even if I lose a little bit of my time so then I'll do mine. And I've heard: you can't, you can't !" (Interviewee 8).

There are plans for sharing knowledge among leaders. He said that there is an interest in having meetings for dissemination. This idea could be the beginning of a knowledge management strategy as shown in the speech of a coordinator below.

"[...] I had the idea of making meetings with coordinators to pass on knowledge. I saw this in the medical field, every week a doctor would present a case to colleagues, cases of success or failure to transmit. I wanted to do it here. For each project a coordinator would transmit experiences to others,

but I could not, because there is so much to do here, and the ones presenting would have to spend extra time preparing their presentations. But it is a path that we can still try!" (Interviewee 4).

This topic is relevant for the employees' vision on the role of leaders in the sharing of knowledge, highlighting the lack of stimulus for knowledge exchange between individuals and between teams and leaders. For employees this attitude could be stimulated by developing better listening.

Finally, some hindrances to sharing knowledge are worth examining as key issues regarding leadership.

In the indicator of leadership as a barrier to knowledge sharing a new vision could be sought in order to bolster the relationship between leaders and their teams, through the exercise of systemic thinking by managers that would result in a broader view of the company's road, conducting a strategic plan that would aim at actions in this field across the company as a whole.

As shown in Table 02 above actions to remove these barriers need to be planned and implemented. The key issues relating to leadership focused on knowledge sharing are not being seen by the team member probably because these facilities do not have enough strength to work on attitudes directed at passing on knowledge, whereas the aspects that represent barriers have strength of the staff but leaders are not relying on it and therefore it turns out to be barriers which divide the company and prevent the circulation of knowledge. Given these arguments, one can understand that knowledge has no strength to move, or incentive to flow in the organization, and these issues could be addressed so as to improve the process of creation and innovation, which are facts that impacted the success of this company.

It is then fitting to ponder over the notion that there is a need to review the aspects related to a contemporary management, which is related to being able to develop intuition, to broaden perceptions, emotions and imagination, thus transforming managers into leaders and enhancing organizations.

V. FINAL REMARKS

This paper focused on a comparison between the central vision of the leaders and their teams. The research found that while implementing knowledge sharing policies, one must overcome barriers to the improvement of interpersonal communication processes, intergroup and organizational and adopt management styles that facilitate cooperative work and commitment of employees.

The managers interviewed in this study have a vision and experiences that favor providing training to their teams. This point was a significant one and was supported by employees who feel privileged by the ease with which they acquire more knowledge and evolve professionally at the company.

The issue of knowledge sharing has been identified as of interest by the respondents and no association was found with respect to knowledge, power and hierarchic position.

The company has been seen over its history a record of knowledge sharing through the influence of the founder that was intended to generate actions for growth and for the valuing of engineering.

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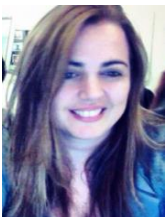
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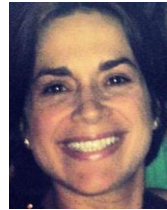
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