INFORMATIONAL SOCIALIZATION FOR KNOWLEDGE CREATION IN THE ELECTRICAL AND ELECTRONICS SECTOR

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Abstract

The factors involved in socialization that contribute to the processes of knowledge creation and innovation in the Brazilian electrical and electronics sector are presented. Managers of three hierarchical levels (strategic, tactical and operational) were selected as subjects of study. A Likert-type scale containing five variations, ranging from 'none' to 'many times' was applied in three medium-sized and big-sized plants, constituting a total 53 (fifty-three) respondents. Thus, the identification of aspects of socialization linked to the construction of knowledge, led to infer that there is such a socio-cultural process, which acts on innovation. Socialization occurs in the researched organizations using various tactics, informal and formal, institutionalized and individual. The study of the contributions lead to a discussion on the process of inclusion of individuals in each context as influential to construct knowledge focused on innovation. The influence of socialization is perceived, especially in behaviors of seeking, construction and sharing with peers and superiors. These factors support knowledge creation and innovation.

Keywords: knowledge management; organizational socialization; knowledge and information sharing; knowledge creation; individual or group training.

1 Introduction

The creation of knowledge in organizations primarily depends on people and how they socialize the information they receive. In Information Science, the reports of need for stimulus to appropriation and use of information by individuals are not rare. The notion of need is only possible in each context (Nicholas and Herman, 2009 *apud* Dorner et al. 2015), as observed in the literature on information behavior. However, especially in the national literature, there are no discussions on the factors that drive or motivate organizational socialization aimed at creating knowledge to generate innovation.

Innovation is the result of an intense process of knowledge creation, obtained by including and preparing people to perform their organizational activities, in which the role of socialization is crucial.

The literature on the theme 'socialization' (Van Maanem and Schein, 1979; Jones, 1986; Borges and Albuquerque, 2007) and knowledge management (Nonaka and Takeuchi, 2008) is extensive, therefore, this article will not focus on presenting theories, models, methods, techniques or the various approaches attributed to this issue.

> The organizational socialization is a necessary process to the full extent of the organizational structure, guiding people's behavior, as it is the insertion that aims at instruction and internalization of a given reality. (Moraes et al, 2014).

Thus, various types of socialization manifest in the organization, depending on the type of information required by the organizational subject (Morrison, 1993; Dirsmith and Covaleski, 1985), and the type of context, structure and existing organizational culture, as pointed out by Dorner et al (2015), since it is centered on the analysis of information needs.

From this understanding of organizational socialization, it is important to develop the notion of informational socialization, which deals with the socialization and inclusion of an individual into an informational context, whose result is expressed in significant informational behavior for organizations. From this perspective, the factors involved in socialization that contribute to the processes of knowledge creation and innovation in the Brazilian electrical and electronics sector are presented.

2 Material and methods

To this end, managers of three hierarchical levels (strategic, tactical and operational) were selected as subjects of study. The data collection instrument was composed by 41 (forty-one) statements created from the literature, aimed at identifying the organizational socialization factors affecting the creation of knowledge for innovation[1]. A Likert-type scale containing five variations, ranging from 'none' to 'many times' was applied.

The collected information received quantitative and qualitative treatment, as they were analyzed statistically, but also qualitatively based on the literature. The application of the collection instrument was *in loco* in three medium-sized and big-sized plants, constituting a total 53 (fifty-three) respondents: 20 (twenty) from company 'A'; 17 (seventeen) from company 'B'; and 16 (sixteen) from company 'C'. The identification of participants and companies was kept confidential in accordance with the ethical research procedures, which were based on Resolution 196/1996 of the Brazilian National Council of Health.

The electrical and electronics plants have idiosyncrasies regarding the way they manage innovation and socialization. The actions turned to innovation need constant motivation, especially because they can generate advantage for the organization, but also because it is related to teaching and influencing people.

The Brazilian Electrical and Electronics Industry Association (ABINEE), the main representative of the sector in Brazil counts more than 600 associated member companies. Several segments were formed to represent the different types of products. Among the main segments, electrical and electronic components; power generation; transmission and distribution; and electrical equipment installation are highlighted.

The sector is responsible for producing various kinds of products, such as: electrical and electronic components, electric engines, transformers, circuit breakers, sockets, etc. The manufacture of equipment and security cameras and many other products also compete in this sector considered a Hypersector ICT by Europe (Observatório Industrial del Sector de Electrónica, 2009).

One of the main obstacles to electrical and electronics sector corresponds to the high tax burden (Cunha, 2007: 99). Difficulties also appear in the scientific literature about the area. According to Jabbour and Jabbour (2012, p. 818), there is a lack in the production of Brazilian scientific studies on the electrical and electronics sector. The same authors mention data exposed by ABINEE (2010) to explain that in 2009 this sector accounted for 4% of Brazil's GDP (Gross Domestic Product), and that importation has stood out in relation to exportation in recent years.

Thus, the sector urges scientific and technological research that may generate guidelines for competitiveness, regarding innovation process on the preparation of people's participation that compose part of the staff of these companies.

It is observed that the human dimension related to the external environment of the company is comprised by a collaborative network, involving part of the members for the organization's operation. Thus, organizational socialization can be understood as an important facili-

tator for knowledge construction process between internal and external agents to the organization.

The analysis of the data was obtained based on the chi-square test to verify the independence of the statements contained in the data collection instrument, whose variables are qualitative. The discussion of the data is presented with the statistical analysis.

The Chi-square Test, symbolized by (χ^2) is a nonparametric test of hypotheses, which aims to analyze the existing independence relationship between two statements. According to Siegel (1975, p. 117) "[...] the test is used to determine the significant difference between two independent groups," analyzing the behavior of statements when they intersect.

3 Results and Discussion

Information and knowledge sharing, information seeking, knowledge creation and the individual or collective training were themes used to organize information about the dependencies found by the chi-square test. The categories were defined considering the presence of at least one of the central themes, prioritizing the insertion of dependence in the categories of knowledge sharing, seeking and creation. However, when found in the same dependence, we sought to identify and group following the order: 1) create; 2) share; and 3) seek. Finally, the dependencies that did not contain these subjects were allocated in the category training.

3.1 Individual or Group Training

Three dependencies were selected to compose this category, however, other issues involving training are disseminated in other categories. Thus, we sought to identify whether employees receive individual training and if, concurrent with it, receive guidance on the tasks they will perform. This dependent relationship was confirmed by the chi-square test ($\chi^2 = 20,46$, $df = 12$, *p-value= 0,06*) indicating that these statements present relation among each other, at 10% significance level.

Reviewing the fact that formalized socialization shows that there is segregation of the individual in relation to the group, the dependence found in comparison indicates the formalized process of socialization. As the individual, must be familiar with the role that he/she will take, it is necessary to access information on how to carry out specific tasks. For Di Sério and Vasconcellos (2009, p.104), such information is not only restricted to the task itself, but also to other aspects such as the acquisition of new hardware and software resources, changes in layout and changes in organizational structure. However, it is necessary to consider that receiving guidance on tasks in individual training can lead to stigmatization, as suggested by Van Maanen (1996, p. 49).

Besides the location in formal and informal dimensions, it is important to note that a more individual

strategy than a collective strategy, despite being costly and promote lower homogeneity, also achieves significant individual changes, even though, creating a collective consciousness in the individual using an individual strategy is less likely. Finally, the literature indicates there is less resistance from the individual when such a strategy is used (Van Maanen, 1996, p. 50). On the other hand, both formal and informal socialization can contribute to the attribution of sense, with the identification to effect social exchanges.

Therefore, the dependence proven by the comparison provides subsidy to understand that innovation cannot be achieved if there is a lack of collective awareness, as well as they are unviable for organizations with many people who need to be socialized. If innovation processes occur frequently, it is likely that the use of individualized strategy can be considered unproductive when there is a great number of people involved.

Schein and Van Maanen (1979 *apud* Borges and Albuquerque, 2007, p. 335) indicated that the content of innovation is likely when formal and collective strategies are present. On the other hand, the same authors explained that extreme forms of innovation, including regarding roles, occur in the form of individual and informational strategies. Thus, practiced socialization indicates some type of process turned to innovation.

These considerations are close to the result of the comparison between receiving guidance (information) about the tasks and collective training, identifying that companies offer collective training, i.e., the guidance on the tasks that employees will perform are presented when they are in a group. The relationship of dependence between the two statements was confirmed by the chi-square test ($\chi^2 = 20,70$, $df = 9$, *p-value* <0,05), at a 5% significance level.

Employees evidenced receiving training when a new technology is acquired, as well as that, all employees receive training in the company. The interaction between the two statements was confirmed by the chi-square test ($\chi^2 = 32,24$, $df = 9$, *p-value* <0,05), at a 5% significance level, demonstrating the degree of dependence among the analyzed questions. Thus, training is associated with the implementation of new technologies.

Francis and Bessant (2005) considered that for the introduction or improvement of new processes, it is essential to train people. Thus, the results identified in the data collection corroborates the literature, for among the sources of knowledge for organizational learning focused on innovation, Bell (1984) proposes "learning through training", which is formalized training important as a source of technological capacity.

3.2 Knowledge Creation

The creation of knowledge is referred as the most important result arising from the socialization focused on innovation. Thus, two dependencies comprise this category. The study found that employees receive training to be able to share knowledge with other colleagues, as well as that the employees confirm using the information acquired in training to create knowledge. The interaction between the two questions was confirmed by the chi-square test ($\chi^2 = 23,64$, $df = 12$, *p-value* <0,05), at 5% significance level. However, when determining the Average Ranking of the answers to each statement of the instrument, it is observed that the isolated results on the existence of training directed to knowledge sharing shows that few are applied for this purpose. Other nuclear statements were analyzed, also through Average Ranking and shown at the end of this subsection.

However, it is possible to consider that information acquired during training can result in behaviors of sharing and creation of knowledge, indicating the presence of socialization conducted by the divestment strategy, information that modifies people's behavior is acquired. It is noteworthy that the individual tactics, including the divestiture (or stripping), are associated with behaviors of innovation. For Borges and Albuquerque (2007), it is necessary to use a proportion of institutionalized and individualized tactics, as each one reaches a different effect.

3.3 Knowledge and Information Sharing

Information and knowledge sharing composes a socialization analysis category; reflecting stimuli present in the organizational context. From this perspective, knowing the organizational context, including its history, is critical to learn about the exercise of an organizational role. Among the various informational content required for such a role play are identifying myths, rituals and customs related to organizational culture, as explained by Chao et al (1994 *apud* Borges and Albuquerque, 2007, p. 338).

Organizational culture is responsible for providing favorable social-cultural context to organizational behaviors, so that when acknowledging a historical context with rituals, customs and other positive cultural elements, one can have behaviors of information sharing with the group. The creation of a social identity is important to create commitment, as pointed out by Kramer (2012). Thus, the comparison between two other statements clearly indicated that the guidelines and training reinforce and build the organizational culture, as well as socio-cultural processes such as socialization, to stimulate important behaviors for innovation. Respondents indicated they received guidance on the history of the company and claimed they received training to share knowledge with other members of the

organization. This dependence relationship was confirmed by the chi-square test ($\chi^2 = 21.30$, df = 12, p-value <0.05) at 5% significance level.

To investigate the correlation between the training offered to employees for seeking and constructing knowledge through information sharing with co-workers, we found, by applying the chi-square test, the dependence of such statements at 5% significance level ($\chi^2 = 26.88$, df = 16, p <0.05). The literature highlights that individuals seek information to reduce uncertainty about their own role and the work they execute, but also on the social context of which they take part. However, organizational socialization influences not only the information seeking, but also the proper exercise of the organizational role. The search for information per their own individual demands (uncertainty and gaps) is a proactive behavior. Thus, it is considered that sharing information demonstrates a more complete and important proactive behavior regarding innovation.

The favorable environment with factors that affect organizational socialization was also evident when comparing the training provided to stimulate seeking and construction of knowledge, in parallel to sharing knowledge with hierarchical superiors. Thus, the conclusion suggests that the training provided in the company promotes seeking and constructing knowledge, whose variable is related to information sharing between employees and hierarchical superiors (boss, manager, supervisor, and leader). The chi-square test was applied and verified the dependence of the statements, at 5% significance level ($\chi^2 = 26.88$, df = 16, p <0.05).

Considering that socialization depends on a favorable communication environment (Kramer, 2012, p.4), whose information exchange are recurrent, it was found that employees share information with their superiors when encouragement to seek information happens concurrently, to improve their own work. The chi-square test was applied by checking the dependence of the statements at 5% significance level ($\chi^2 = 45.56$, df = 16, p <0.05). In this case, in addition to the communication context indicate a propensity for sharing, it also suggests that there is encouragement to proactivity, since people need to seek for information to do their work and meet the knowledge gaps.

This correlation also indicates that socialization is a process of inclusion in which only part of the information is provided, requiring the individual to seek knowledge to achieve a comfortable condition about his/her own information needs. Thus, the incentive to seek information on the work itself suggests that gaps and uncertainties remain on the individual. On the other hand, this situation is perceived as positive, since the individual must be active, build personal relationships, and create knowledge, as there is a sharing dependence. It is inferred that the gaps may also lead to innovation,

because existing knowledge can be added and modified. Moreover, the correlation also established that, in practice, used socialization tactics promote extreme innovations, as they indicate the use of informal socialization tactics, because they lead the individual to construct knowledge to fill the gaps left in the formalized process.

Aiming to identify whether there is both information sharing with superiors and stimulus to seek information on the external environment of the company, it was found, through chi-square test, the dependence of these statements, maintaining the 5% significance level. It is concluded that if employees participate in socialization that intends proactivity, it is expected that among the behaviors obtained, they practice information seeking internally and externally to the organization.

Socialization focused on innovation needs to reach, among the practiced behaviors, the behavior of sharing. However, it is noted that there are different types of innovation, which may vary in relation to job positions and hierarchical levels. Thus, the correlation may be indicative of the relationship between the product of socialization practiced to construct knowledge aiming at innovation. According to Rivero (2006, p.361) constructed knowledge can be reversed into changes or improvements, but its construction depends on the identification of information gaps, the seek to meet them and, in some cases, the sharing when necessary to the group.

3.4 Information Seeking

Information seeking is the result of socialization processes, and it is a necessary behavior to improve social interaction, execute tasks through access to information.

Relationships between "employees receive incentives to seek and carry out training (training in settings such as schools and colleges)", versus "employees receive group training" was tested through chi-square test ($\chi^2 = 23.04$, df = 12, p < 0.05), at a 5% significance level, showing dependence. One possible inference of this dependence is related to whether the training provided in the company is given in group, but also whether employees are motivated to obtain training externally. The effects of these socialization strategies appear in the individual's social commitment or identification with the organization. From this perspective, it is observed that there is incentive from the companies to their employees seek training and knowledge, thus contributing to innovation.

Organisation for Economic Co-operation and Development (2004) distinguishes two types of sources of information for innovation: (i) internal (endogenous) to the company - the primary sources of technological information are located within the company, with Research and Development and marketing department the

most relevant for having an important role in decisions involving innovation; and (ii) external (exogenous) to the company - the main sources are the public research institutions, the intercompany and inter-industrial technological flow, competitors, customers or consumers, consulting firms, equipment and raw materials suppliers.

The interaction between two other statements was checked through chi-square test (χ^2 = 20.38, df = 12, p <0.06) at 10% significance level, showing the degree of dependence, which addressed the existence of training offered in the company to all employees as well as whether the training promotes seeking and construction of knowledge. The relationship between such statements suggest the importance of formal socialization conducted through training, generating knowledge sharing among participants. Training programs provide the improvement of the workers, providing group and individual learning (Van Maanen, 1996, p.50).

As important elements, it is noted that the socialization process of the surveyed organizations use a group tactics (Van Maanen, 1996), which stimulates the technical information, since it is from there that the specific organizational knowledge for business is improved. Despite the socialization tactic be in group, the result is the individual construction of knowledge, in addition to evidence that organizations conduct socialization to incorporate as many people as possible to their goals.

Scarbrough (2003) presents a similar view to promulgate the role of intra and inter-organizational networks in innovation processes. For this author, human capital is crucial to the success or failure of innovation initiatives. Amid the ways to empower human capital, there is the inclusion in formal and informal groups of creation and exchange of knowledge among people allocated in different functional areas. Discussions concerning inter-organizational networks for innovation (also named external networks) have been considered important for some time, with meaningful theoretical/practical knowledge available in the literature on the issue. However, intra-organizational networks (also known as intranets) need to be better understood. Martin-de Castro *et al.* (2013) also discuss technological innovation related to the human factor from the perspective of intellectual capital and, as Scarbrough (2003), they consider the role of internal networks of relationships.

The training provided in-company promotes the pursuit of knowledge construction and stimulates the improvement of the work performed individually. This relationship was tested through chi-square test (χ^2 = 84.32, df = 16, p <0.05), at a 5% significance level of, demonstrating the dependence between statements.

From this perspective, an environment to encourage the improvement of the work performed individually is

evidenced, demonstrating that organizations are investing in training to use new technologies, reinforcing learning and quality in the work performed. It is emphasized that this aspect is crucial for individuals to perform the work in a way to seek for improvements and/or innovation. The literature suggests that individualized tactics stimulate creativity, leading to innovation (Jones, 1986 *apud* Borges and Albuquerque, 2007). However, improvements are achieved in processes of adaptation to the needs and individual ways of thinking, subsequently transferred to the group.

For Anand et al. (2009, p. 455), 'people' constitute one of the elements of the organizational infrastructure necessary for the practice of continuous improvement focused on innovation, and the training of the actions indicated for training the human element. According to these authors, it is important to consider that both training and learning are needed to affect the use of methods to solve problems and to lead teams aimed at improving processes.

Another considered necessary comparison was made between the training offered to employees, aiming at seeking and construction of knowledge, and the training collectively run. The result of the comparison shows that the training provided in the company promotes seeking and construction of knowledge and stimulates the improvement of the work done collectively. This relationship was tested by chi-square test (χ^2 = 47.63, df = 12, p <0.05), at a 5% significance level.

It is considered that the socialization aims both behaviors to meet the needs through seeking and the construction of knowledge and, therefore, impacts on the general improvement of the work and the results obtained in groups. So, seeking and knowledge construction are felt in the overall improvement of the group's work, since knowledge is used to perform the work and to achieve improvements. This relationship is also required to obtain innovation.

The general improvement of the group's work is achieved, as there is a group sharing a consensual form of solutions (Van Maanen, 1996, p. 50). However, for achieving this condition, the subjects need to commit or share a social identity with the group or even present social exchanges.

The relationship of the training offered to encourage seeking and knowledge construction regarding the behavior of access to information was verified. The training provided in the company seems to promote seeking and construction of knowledge and seems to stimulate people to seek and access information in the organizational environment. At 5% significance level, it was proved the dependence between the statements (χ^2 = 59.73, df = 16, p <0.05). In this case, the training reaches two important aspects related to innovation:

knowledge is constructed and seeking and access to information is carried out. It is inferred that it is not about training individuals and purposely leaving gaps and uncertainties of knowledge, but performing socialization to prepare them to develop valid behaviors focused on innovation, being proactive and seeking to mitigate informational needs.

The statement that the offered training is promoter of seeking and knowledge construction was significantly correlated with the same level of significance (5%), with the statement that appropriate information is used in training to create knowledge (χ^2 = 43.20, df = 16, p <0.05). In this regard, the literature states that divestment strategy is implemented to create elements in the subject (knowledge and behavior) different from those already inherent to him/her and important to the organization. Thus, knowledge creation that arises from training in companies is a form of divestment, which aims to create new knowledge (Borges and Albuquerque, 2007: 335). From the collected and analyzed data, we verified that the used information appears to be useful, filling in the individual gaps, either knowledge gaps on the group of tasks or gaps on the social role of the individual. The relevance of correlation between the statements indicates that the information reaching the individual during the socialization process is useful (Borges and Albuquerque, 2007, p. 335).

In addition, sharing information is a desired behavior as it hosts newcomers (or individuals with uncertainties - cognitive gaps), as concluded by Feldman (1976; 1980 *apud* Borges and Albuquerque, 2007, p.339) on factors affecting organizational socialization. The correlation indicates the presence of relationships guided by socialization and which produce a social environment that leads to innovation.

Deducing that organizational socialization contributes to creating and establishing an organizational culture, it is concluded that the effects of this process leads to intensify the relationship with tutors, who may be hierarchical superiors (Borges and Albuquerque, 2007: 339). In this case, information sharing with superiors evidence an atmosphere of organizational culture that stimulates proactivity and does not rely only on peers and superiors, but also provides support for sharing. The role of managers and their administrative styles are increasingly considered as key factors for innovation processes (Carballo, 2006, p. 99).

Thus, from the collected data, it is inferred that the training provided in the company promotes seeking and construction of knowledge when related to the existence of stimulus to seek information to improve the work itself. The chi-square test was applied and verified the dependence of statements at 5% significance level (χ^2 = 58.80, df = 16, p <0.05). As this correlation indicates, it is essential to state that socialization stimulates seeking for information on the work. In this case,

the process not only encourages, but also teaches individuals to identify their information needs. The identification of knowledge gaps leads individuals to seek information and thus they need reliable sources of information. Such sources may be registered in databases or based on peers' knowledge. The comparison performed through chi-square test also indicates the presence of background conditions stimulating proactive behavior, as stated by Ragin (1997; Saks and Ashforth, 1997; Maier and Burnstein 2001 *apud* Borges and Albuquerque, 2007, p. 339). Such a comparison also indicates that the notion of socialization found in companies is grounded on the modern approach of socialization, suggesting the effective search for information by individuals to achieve proficiency on their own work.

Also in relation to the variable training for seeking and construction of knowledge, there was a correlation regarding the presence of motivation to seek information outside the company's environment. The chi-square test indicated the dependence between the statements at 5% significance level (χ^2 = 33.989, df = 16, p <0.05). This correlation shows that training encourages individuals to construct knowledge that goes beyond the immediate needs of the work performed in the organization.

The information obtained externally to the company's environment can be sought to improve the knowledge applied in the organization. In this case, socialization tactics indicates the need to develop proactivity, aiming at career development or innovation to develop the work.

If there is close relationship between innovation and knowledge management, Silva and Rozenfeld (2007) proposed a model for evaluating knowledge management in the process of product development (PD). The model consists of four dimensions: (1) strategic dimension; (2) organization dimension; (3) activities/information dimension; and (4) resources dimension. The organization dimension consists of organizational and behavioral perspectives that corroborate the discussions presented in this work, namely: (i) adoption and maintenance of organizational structure for PD; (ii) execution of leadership in PD - skills and behaviors of leaders and managers; (iii) execution of work in group - culture that encourages communication and conflict management; and (iv) the existence of training programs and monitoring of the qualification of the people involved with PD.

Socialization has several functions, including preparing the individual to be a team player, i.e., to act in group, either seeking improvements to his/her work or to social relationship. In both situations, socialization must encourage proactive behavior in the individuals, as not only the individual gaps should be identified, but also the group ones, to improve both the work and the necessary relationship for good communication. In this case, it was identified that the offered training encour-

ages the improvement of the work done collectively, however, this occurs when there is incentive to seek information to improve social interaction with co-workers. The chi-square test was applied and verified dependence of the statements at 5% significance level.

Improvements can take place both on how to perform the work, but also on the social interaction. To Alvarenga Neto (2008, p. 121),

> The mere provision of knowledge is not transferred. The purpose of this transfer is to improve the organization's ability to do things and therefore increase its value.

3.5 Average Ranking

To verify the results obtained through the chi-square test, the Average Ranking (AR) of the responses to the five (5) most important statements were calculated.

The AR is used to identify the trend on the answers to scales, and a central item may represent a position of neutrality. To perform the calculation of AR, one should multiply the total of responses for each item of the scale by itself, dividing this result by the total respondents (Oliveira, 2005). Therefore, AR= Weighted Average/Total of respondents.

The analysis of AR allowed to relativize some of the considerations achieved with dependence identified among the statements of the instrument. From Table 1 (see Appendix), when statement 20 is analyzed isolated, an AR of 2.8 is reached, which shows that few trainings are developed aiming to encourage sharing with other colleagues. This does not mean the lack of training aimed at sharing, but probably training that does not have, as main objective, the sharing of knowledge among peers. Therefore, trainings are mainly focused on developing knowledge and not sharing them. On the other hand, item 36 achieved significant AR, indicating that despite item 20 indicate that there is little training for sharing, this is quite evident especially when it comes to sharing information.

Statement 17 has an AR of 3.1, showing a slightly positive trend. It is inferred that the training is offered in the company, but that does not always occur. Items 12 and 35 showed clearly positive AR, indicating that they receive training in the company, and that the information obtained in this procedure are used to create knowledge.

In addition to the 41 statements structured in the Likert Scale, three other were used to compose the research instrument, whose choices allowed the respondents to position between yes and no. Per 70.8% of the respondents, the first statement evidence that the reception is not performed by the peers only, which means that when a new employee starts in socialization, hierarchical superiors actively participate.

Presenting 87.5% of the responses, another statement identified that the reception is considered as the beginning of socialization; it is not directed only to the act of learning the daily work. It is inferred that different information is passed on to the potential newcomers, including on the operation, culture, objective and vision of the company, fundamental to ensure correct understanding and immersion in the organizational environment. Thus, 92.3% of respondents say that the superior (manager/leader) makes the reception.

Therefore, it is inferred that the answers to such statements suggest that early socialization is not exclusive responsibility of the peers, with the participation of superiors, as well as that the information can come from formal or informal training, but always with the participation of two people, the new employee/newcomer and another one that can be a superior or peer.

Although these three percentages are significant, they only contribute in a specific way for situations in which organizational/informational socialization is used with new employees to the organization.

It was noticed that companies use various tactics. Among the aspects identified by the analysis and that compose the socialization process are included:

- There is stimulus to behaviors of knowledge seeking and sharing, but little training is offered for this specific purpose.

- There is socialization (training) collectively and individually; the results are behaviors of seeking and exchanging of information, important for innovation and improvements with individual and collective results, suggesting the existence of preparation for the individual to act alone or in groups.

- Group socialization tactic is used to promote a network of internal interactions to create knowledge.

- The information received throughout socialization results in modification in the socialized behavior.

- There is encouragement to commit to the organization, aimed at building an identification with the goals of the companies. However, this result also indicates that social changes are present. In addition, it was shown that individuals can seek information or share it with their superiors, which facilitates the flow of information within the organization.

- There is encouragement to seek for information, both internally to the company and externally.

- Trainings are conducted with specific objectives, aimed at including individuals into new technological contexts.

- Socialization makes use of both formal and informal tactics to promote information sharing with peers and with superiors. However, it seems more likely, as described in the AR analysis, that socialization used to promote the informal sharing is based on informal tactics as it evidences there is little training focused to knowledge sharing among peers.

- There is evidence that individuals are socialized to be proactive, as they seek to create knowledge and access information in different sources.

- In addition to encourage information seeking to improve the execution of their own work, socialization applied by the companies teaches people to identify their needs and informational gaps.

4 Conclusion

A more contemporary view on socialization reinforces the existence of more than one participant agent in the process, and therefore, socialization does not occur passively. The socialized individuals are as responsible for the result of socialization as the organization itself. It is assumed that this is due to the fact the organization instructs and facilitates learning, making use of information specific to the occupation of a position or a social role. However, the organization cannot foresee and identify all requirements of the involved people, resulting in a process that may be insufficient.

Knowledge gaps may emerge, not only regarding to the work of an individual, but also on other organizational processes and objectives, such as those involving change or broader improvements over both processes and products. Thus, individuals generally remain with a knowledge gap, with the possibility of resulting in information seeking behavior, however, not only the gap promotes this behavior, but also socialization is responsible for stimulating the seeking, sharing and use of knowledge.

Thus, the socialization process is responsible in part for the attribution of meaning given by the individual, for it teaches the meaning of phenomena for the group he/she joins. The construction of identity is a slow process and depends on socialization. The tactics employed to effect the socialization are many, and have different objectives and effects and the individuals involved in the socialization should facilitate communication between hierarchical levels of the organization.

The purpose of this study aimed to identify the factors of organizational socialization involving knowledge construction for innovation, so that the correlations demonstrate the dependence between the process of socialization and knowledge construction; and to this end, uses various tactics. The selection of organizations for the research included both a productive sector with

features aimed at constant innovation, and organizations whose size indicated the need for innovation. Thus, the identification of aspects of socialization, defined as behavioral and tactical effects, linked to the construction of knowledge, led to infer that there is such a socio-cultural process, which acts on innovation.

The achieved results are consistent with the image of the organizations, since they are three socially consolidated companies in the region and recognized in the industry for the achievements portrayed in their expansive production.

Socialization occurs in the researched organizations using various tactics, informal and formal, institutionalized and individual. Training and incentives to seek improvement in the external environment also emerged from the data collected.

From this perspective, the study of the contributions lead to a discussion on the process of inclusion of individuals in each context as influential to construct knowledge focused on innovation.

Thus, prior to socialization, organizational structure with positions in need to be subject of study must be planned and, then, formal influence through adequate job descriptions can be achieved. It is worthy to note that socializing is the act of teaching or helping to incorporate a body of knowledge, based on parameters laid by the organization itself. This means that the value to information and the required behavior can be systematically planned and included in the organizational structure.

In addition to that, it became clear that organizational socialization influences the process of knowledge creation and innovation when teaching people, through different socialization tactics, either aiming at creating identification or commitment, either helping the individual to build a sense and a reality considered correct and accepted by the organization. The influence of socialization is perceived, especially in behaviors of seeking, construction and sharing with peers and superiors. These factors support knowledge creation and innovation.

Considering that the individual tactics (individual, informal, random or non-sequential, variables, disjunctive or isolated and of disinvestment) have greater positive impact on the behaviors of innovation as they encourage creativity, compared with institutionalized (collective, formal, sequential, fixed, serial and of investment) that aim to adapt the individual to the existing norms and standards in the organization. Thus, it is suggested, as guidelines, that the participant organizations invest on the second group of mentioned tactics. Since the intention is innovation, it is necessary that individuals of these organizations develop creative behaviors. However, institutionalized tactics should not

be abandoned, as they guide and consolidate the behaviors considered correct by the organization.

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Notes

(1) Some preliminary results were published at X EDICIC – 2016.

(2) The research instrument was published in full in IBERSID 2014. In addition, partial results on the theoretical framework were also published.

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Appendix

Table 1: Average Ranking.

Statement	Likert Scale					Total of Respondents	Average Ranking
	1	**2**	**3**	**4**	**5**		
12 - All employees receive in-company training.	0	2	14	27	11	52	4,0
17 - The training is continuously offered in the company.	3	10	16	20	3	53	3,1
20 - The employees receive training to be able to share knowledge with other co-workers.	6	12	23	12	0	53	2,8
35 - The employees use information acquired in training to construct knowledge.	1	6	14	28	4	53	3,5
36 - The employees share information with other co-workers.	1	4	18	26	4	53	3,5

Caption: 1= None; 2= Rarely; 3= Few times; 4= Many times; 5= all the time.

Source: Research Data.