

SHARING TACIT KNOWLEDGE AND ORGANIZATIONAL LEARNING IN PORTUGUESE VOLUNTARY FIRE FIGHTERS CORPS

Abstract

The growing importance of the third sector and its institutions justifies the attention of the academic community, in order to establish and adopt best practices aimed at fulfilling its missions and reinforcing organizational learning. However, there are few studies on the importance of the intensity and availability for the sharing of tacit knowledge, as a form of organizational learning, directed to organizations of this typology. The option of conducting a case study such as the Portuguese fire brigades (FB's), unique in their action and identity, accompanies the need increasingly recognized by Portuguese society to enable these organizations to achieve the best performance to tragic events in recent years in this country. Thus, by placing the focus of the study on the intensity and availability of tacit knowledge sharing, and on past learning, by FB commanders in Portugal, we have identified as objectives, to identify if there is an intention and tacit knowledge sharing available to the commanders of FB's and realize if this intention and availability is matched in what is the treatment of knowledge obtained by past learning. Eight interviews were conducted with commanders of fire brigades in the central region of Portugal, under the snowball methodological technique, for a qualitative study. It was possible to conclude that the commanders of these FB's tend to demonstrate the intensity and availability of tacit knowledge sharing, but that this is not reflected in their practices derived from past learning. As limitations of the research, it should be noted that the present research focuses exclusively on the sharing of tacit knowledge, not considering other forms of knowledge. As a case study, although with heterogeneous organizations, the same cannot be replicated to different realities.

Keywords

Organizational Learning, Volunteer Fire Department, Tacit Knowledge, Intent, Availability, Non-Profit Organizations

1. INTRODUCTION

Knowledge is a resource that can and should be managed with a view to organizational learning and the improvement of its performance in the pursuit of the accomplishment of its missions. However, the sharing of tacit knowledge, notwithstanding the recognition of the benefits that may result, is not something that is easy to establish as a regular practice. Due to their unique characteristics, non-profit organizations (NPOs), where Portuguese Voluntary Firefighters (FBs) are incorporated, increasingly have the need to incorporate this knowledge sharing.

There are scarce studies on the availability and intention of joint efforts in favour of implementing measures to this sharing of tacit knowledge, which in turn would promote organizational learning. Thus, the present article presents the results of a research on tacit knowledge sharing in Portuguese FBs, assessing the prevalence of the intention and availability of their commanders to this sharing and analysing whether this intensity and availability matches the treatment given to the knowledge obtained by past learning, coming from marked operational events.

It should be noted that in Portugal there is no other type of organization where its driving force is composed of a combination of purely voluntary elements and employees that provide the minimum daily operational services, with the volunteers assuring the night service and week, where there is an increase in the intervention and availability of these elements in the summer season, with a clear decrease in service in the remaining seasons,

where the hierarchical structure follows a paramilitary regime, but which may include at the top of its pyramid firefighters who only perform functions under a pure voluntary system and operate in a service area as sensitive as civil protection. In an organization with these characteristics, the sharing of tacit knowledge is of paramount importance as a form of organizational learning for excellence.

The article begins with a brief summary of the essential information about the objectives, the methodological approach, the main conclusions, the limitations of the research, and the originality or value of the research. The following is a brief introduction to the theme and keywords. The theoretical framework, with emphasis on tacit knowledge sharing and organizational learning, is presented below. The next point deals with the presentation and discussion of the results. Finally, we present the conclusions and recommendations for future studies.

2. THEORETICAL FRAMEWORK

Tacit knowledge refers to a type of knowledge whose description or communication is not an easy task. According to Dalkir (2005), Haldin-Herrgard (2000), Kikoski and Kikoski (2004), McAdam et al. (2007) and Pavlicek (2009), it is possible to gather a set of identifying properties about what is tacit knowledge. For these authors, it is a type of knowledge that resides in human minds and in relationships between individuals in an unstructured form, difficult to see, codify, estimate, formalize, investigate, describe, capture or communicate with precision, being acquired through the sharing of experiences, observation, imitation or by "face to face" interaction. It is, therefore, a knowledge rooted in action, in procedures, in commitments, in values and in emotions. For these authors, tacit knowledge empowers the individual to better deal with exceptional and unexpected situations. For Stanton and Stammers (1990), the main characteristic of tacit knowledge is the belief that their nature is personal. For Sternberg and Horvath (1999), tacit knowledge has a practical utility because it is predominantly about how to do things. For Polanyi (1966) and McInerney (2002), tacit knowledge is subconscious, personal, difficult to articulate, perceived, unconscious, based on experience, shared through conversation, and imbued with stories. It is also based on insights and understandings, judgments, assumptions, relationships, norms and values, and organizational culture. Davenport and Prusak (1998) describe some of the characteristics of tacit knowledge that make their sharing a challenge. For these authors, tacit knowledge is difficult to code in documents or databases; is developed and internalized over a long period of time and within a specific cultural environment; this tacit knowledge-taking process is not always a conscious process; and some of this tacit knowledge may not even be capable of representation outside the human mind.

Since the present study focuses its attention on the contributions of this type of knowledge to organizational learning, it is important to understand how this occurs. For Akgun et al (2003) and Chan (2003), there is clear evidence that learning occurs in organizations during dynamic interactions between individuals, groups and the organization itself. According to Senge (1990), in an organization, the learning process can occur at three levels: individual, group and organizational. For this author, it is precisely at the organizational level that the process of individual learning, of understanding and interpretation shared by the group, is institutionalized and revealed in various forms, such as organizational structure, rules, procedures or symbolic elements. For Drejer (2000), this organizational learning is recognized when it is perceived that it is responsible for equipping the organization with greater competences. According to Kim (1993), organizational learning is more complex and dynamic than individual learning, given the increase in the number of participants, complexity increases. For the same author,

organizational learning is therefore the result not only of individual learning, but also of the dynamics established between individuals in organizations. Thus, according to Davenport and Prusak (1998), knowledge, in general, moves in organizations, being applied to the service of the organization whenever it is justified. However, we have already seen that tacit knowledge is especially difficult to share, so Nonaka and Takeuchi (1995) refer to socialization as the process of excellence for sharing tacit knowledge among individuals and based on a process of sharing experiences that is often done through observation, imitation, and practice, and often occurs in the aftermath of the development of informal relationships among organizational elements.

3. DATA COLLECTION AND METHODOLOGY

In pursuit of the objectives, case studies of this type of NPOs in Portugal, the FBs, were carried out, without the pretension of generalization or extrapolation, since tacit knowledge is intrinsically related to the environment in which it is developed. It was decided to carry out a qualitative research, for which a set of semi-structured interviews was carried out, with a pre-approved script, but with sufficient openness to alter the order of the questions, applied to FB's commanders of the central region of Portugal. The interview questions dealt with the demographic data of the interviewees and their experience, a set of questions to ascertain the intensity and availability of tacit knowledge sharing and another set of questions to identify the treatment given to the knowledge obtained in past learning. The technique used to select the sample was the snowball technique, with the 8 interviews (Commanders of the volunteer firefighters of Brasfemes, Oliveira do Hospital, Anadia, Góis, Loriga, Penela, Guarda and Miranda do Corvo) carried out between the July 12 and August 24, 2018.

4. PRESENTATION AND DISCUSSION OF RESULTS

The presentation and discussion of results is divided into two parts. Part I concerns data on the intensity and availability of tacit knowledge sharing within FBs, while Part II deals with data on treatment of past learning within these institutions.

Part I - Intent and availability of tacit knowledge sharing

Table 1. condenses the answers obtained from the commanders of FB's who were interviewed as part of this study, regarding the intention and willingness to make efforts to lead the organization to greater sharing of tacit knowledge. In this regard, it is important to mention the contribution of Rêgo et al. (2012), which tells us that when a person is approached to share what he knows, he is asked to invest his time and dedication, usually without any reward or recognition, which has already been confirmed that is what happens in the present study. Therefore, it is important to assess whether there is in the organization under study the intensity and availability necessary for a reinforcement of this process of tacit knowledge sharing.

Table 1. Intention and availability for increased sharing of tacit knowledge in FB's

	Brasfemes		Oliveira Hospital		Anadia		Góis		Loriga		Penela		Guarda		Miranda Corvo	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Intention and availability	X			X	X		X		X		X			X		X

Source: Authors' own elaboration

Thus, with respect to the indicators under study, it is possible to verify that most of the interviewees acknowledge their intention and willingness to share tacit knowledge, with only E2 (OLIVEIRA DO HOSPITAL), E7 (GUARDA) and E8 (MIRANDA DO CORVO) show that they do not have this intention and availability. The reasons that these interviewees point out focus on the privilege they give to the relationship with the elements of the hierarchical superior positions, such as the elements of the command and control, the fear of overcoming the competences that belong to the intermediate staff of the organization, the fear of excessive internal competition, both between those who learn and between those who teach and the fact that similar experiences have existed that have been unsuccessful. Thus, according to E2 (OLIVEIRA DO HOSPITAL):

I have my Staff who are my two fellow command helpers. (...) The trick and the tip to work with the volunteers, but only to keep them motivated, and here the trick is very simple: always walk on top of them. "E2 (OLIVEIRA DO HOSPITAL)

E8 (MIRANDA DO CORVO) emphasizes past experiences without success and shows fear in the excessive internal competitiveness that tutoring processes or more individualized monitoring could promote, and highlights that there are aspects of their activity as a commander that should not pass to the knowledge of the hierarchical inferiors:

"No. (...) We have here something that is not working and that are the tutors. All trainees have a probative part they have to have a tutor and this no one is complying with this part because it does not make sense. There are things we know, which are for us and which should not pass down a certain hierarchical position. There are small things that we must keep ours, because otherwise the commander did not exist."

However, the majority of respondents acknowledges having availability and intent to share tacit knowledge, and in this regard, we highlight the contributions of E4 (GÓIS) and E6 (Penela), which present their arguments and give examples:

"Yes. I would like to be able to serve as a tutor to most of my firefighters and then put them to practice what they could learn from me. Every day, if I come and see something that they are not doing or if they see something, they can do to improve it, it's something I do, a job of correcting, up to compliment if that's the case. I think this is my role, that of improving day by day here of the boys. E4 (GÓIS)

"We are living, we are acquiring a set of knowledge and for me this is very important. The question of being able to share these things ends up being a bit of vanity that ends up having." E6 (PENELA)

Regarding the indicators under analysis, it is important to highlight the testimony of E5 (LORIGA), which states that the future of its FB is based on this sharing of knowledge between itself and its members, and is the main driver of knowledge that is made within this organization:

"Yes. This is mandatory in a house of these because otherwise we have no future. I have a 3rd class firefighter here who works directly with me in my office. Because I'm not here every day, I've volunteered for 25 years and if there's no one in here who can really understand how it's done, I take everything behind me, and this has no logic at all." E5 (LORIGA)

E5 (LORIGA) further states its readiness to cooperate with any subject of your organization in order to contribute to the optimization of the daily tasks of these:

“All. There is one thing that normally is up to me, which is the question of budgets, and I would like to point out that this girl (3rd class firefighter who supports the Commander), as my deputy and second commander, are also present to tell your opinion and in general we talked”. E5 (LORIGA)

Part II - Past learning

Past learning is considered a process that allows an organization to learn from its mistakes and successes, preventing mistakes from being repeated in the future, but successes are. For Dressler (2007), the lack of involvement and commitment on the part of the leadership with a process of learning in this way is the most critical barrier that can be found. However, if the focus of this analysis is to point the finger at the guilty of something that went less well, quickly loses focus of learning and the process exits frustrated because the essential must not judge what happened but learn and grow from the collective experience. It is important to understand how the target FBs of the present study relate to past learning and to what extent they produce effects and relate to tacit knowledge sharing.

Table 2. Incorporation of past learning in tacit knowledge sharing in FB's

Past learning	Brasfemes		Oliveira Hospital		Anadia		Góis		Loriga		Penela		Guarda		Miranda Corvo	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Further analysis to a striking event.	X			X		X		X		X	X			X		X
Sharing of conclusions resulting from the analysis of a striking event.	X			X	X			X		X	X			X		X
Alterations to operational performance by striking event analysis.	X			X	X			X	X		X			X	X	
Embedded learning in instructional context.		X		X	X			X	X		X			X	X	
Learning communicated to the ANPC command structure.		X		X		X		X		X		X		X		X
Learning communicated to another FB's.		X		X		X		X		X		X		X		X

Source: Authors' own elaboration

The first question seeks to understand whether there is a subsequent analysis of a major operational event within the organization under study. By analysing the respondents' answers, it is possible to verify that this analysis is not done and that only a minority of

the respondents, E1 (BRASFEMES) and E6 (PENELA) pronounce themselves in the sense that in their organizations, this analysis is performed. Among them, it is important to mention the contribution of E1 (BRASFEMES):

“At each occurrence, we make a briefing of this occurrence. Things that went well, things that went less well. ... we pass this analysis to the personnel, we have immense occurrences in the day to day and for this purpose, we only value those that escape our routine.” E1 (BRASFEMES)

However, most interviewees acknowledge that this is not the case in their FBs. The main reason pointed out is the lack of time that the volunteers present to be present in these moments of analysis, being that we highlight the testimony of E7 (GUARDA):

“We try and the right word is we try because we are based on volunteering, but ideally after an event we spend a little of our time analysing the events, but I recognize that it is not always possible. Time is running out, because firefighters have to pick up the wife, the son, and it becomes difficult for that to happen.” E7 (GUARDA)

The second question aims to determine if there is a sharing of conclusions with all elements of the FB's active body, resulting from the analysis of a striking event. Following the collected testimonies, it is possible to verify that the majority of the FBs do not share the conclusions of this analysis, being that 3 interviewees indicate that this is their practice. As an example, we highlight the testimony of E3 (ANADIA):

“Normally it is decided at the moment of the briefing, if the subject is consensual, changes to procedures and way of acting and communicate to the rest of the fire department. E3 (ANADIA)

Despite these cases, most interviewees report that there is no such sharing of conclusions so that they reach all the elements of the active body. It is possible to see that when there are these efforts to share conclusions, they only reach the elements involved in operations on the ground and not the organization as a whole, or at least the active body, or it is done late, when the focus attention is no longer desirable. As an example, we highlight the testimonies of E7 (GUARDA) and E8 (MIRANDA DO CORVO):

“Sometimes this is done in a more solitary way than it should be, it should be a team and if possible, at the right time, because everything is very fresh in the memory, but since sometimes we do not have that possibility, we do it posteriori and some information has already been lost.” E7 (GUARDA)

“Yes, we come to some conclusions, but are only shared by those who have been there. There is no general document that helps to pass the information to the other firefighters all.” E8 (MIRANDA DO CORVO)

The third question seeks to determine whether there are operational changes following the analysis of significant operational events. Following the collected testimonies, it is possible to verify that the majority of the FB's adopt attitudes, procedures and operational behaviours following the analysis of striking events. A minority of three respondents said they did not do so, arguing that it is something that they intend to implement or pay more attention in the future, such as E4 (GÓIS):

“These changes will eventually take place when the rest is fully implemented.” E4 (GÓIS)

However, most of the interviewees refer to adopting changes in their operational performance following major operational events. As an example, we highlight the testimony of E1 (BRASFEMES) and E8 (MIRANDA DO CORVO):

“Of course. Especially in the mistakes that deserve more our attention and concern for a correction of these errors. We are responsible for the various areas of action, such as forest fires, urban fires, rescue, among others and if those responsible say that things must change to work better this is incorporated and passed on to the organization.” E1 (BRASFEMES)

“Yes, even at the level of the equipment and the material in the car, that instead of staying where it was, it happens to be in the place where it was seen that it would be better. In this case, it must be said in the following formations that the material has changed place.” E8 (MIRANDA DO CORVO)

The fourth question seeks to determine if the learning referred to in the previous questions, resulting from marked operational events, is incorporated and trained in the context of instruction or other specific training moments for the task. Following the collected testimonies, it is possible to determine that there is a balance in the answers of respondents, since half of these states that apply this learning in instructional context and the other half says otherwise. Among the negative responses, we can find arguments such as the lack of time for these tasks and the fear of innovating or adopting new positions in sensitive matters such as the provision of relief. It is important to highlight the contribution of E7 (GUARDA):

“No, it is the first time we do a simulation of uncaring trying to approach the circumstances of an accident where we had difficulty. We've tried to do that, but it's never been the same. We do not do it the best way because time is the enemy of these things and being volunteers, sometimes we have these difficulties.” E7 (GUARDA)

On the contrary, among the testimonies that point to the adoption and training of these learning in context of instruction or training specific to the task, we must refer to the following testimonies of E3 (ANADIA) and E5 (LORIGA):

“When changes can be trained in instructional context, yes. There are small procedures that do not apply to the instruction context.” E3 (ANADIA)

“Sometimes they are, sometimes they are just attention calls that have to be made.” E5 (LORIGA)

The fifth question seeks to determine if the lessons learned in the previous questions arising from the analysis of significant operational events are communicated to the command structure of the National Civil Protection Association (ANPC) or to other national bodies that relate to the FBs and to those who these lessons can also be useful. Following the testimonies collected, it is possible to verify that no interviewee acknowledges this. All the testimonies collected point in the opposite direction, in the sense that this sharing of learning is never done. Among the reasons for this, we can point out that there is no hierarchically superior body to the commander of each FB, that in some way can promote the sharing of knowledge and learning in an operational context, of internal issues and therefore of should not be shared or, if they are mentioned with other entities, they are mere coincidences, in fortuitous meetings between people who occupy positions in these institutions, and in this case we cannot consider this a formal communication. It is important to note the testimonies of E3 (ANADIA), E4 (GÓIS) and E8 (MIRANDA DO CORVO):

“The hierarchical structure of the firemen ends at the commander and there is a very large void because above four hundred and such, there is nothing and no one.” E3 (ANADIA)

“There is no care of sharing with the ANPC or other FBs, and there may be informal conversation, after being in an informal environment, it is nothing official or formal.” E4 (GÓIS)

“No. It's all internal.” E8 (MIRANDA DO CORVO)

The last question seeks to ascertain if the learning referred to in the previous questions coming from the analysis of important operational events, if they are communicated to another FB's. Following the testimonies collected, it is possible to verify that no interviewee acknowledges this. All the testimonies collected point in the opposite direction, in the sense that this sharing of learning is never done. Among the reasons for this we can point out the fear that this attitude of proactivity could be seen by other FB as an arrogant attitude to demonstrate that if it is better or that one knows more and that one wants to teach others to do their work, the fact that it is not habit or practice for some commanders to know the organizational reality of FBs other than those where they actually perform functions or, once again, to deal with internal issues that only concern the FB in question. It is also mentioned that there is no hierarchically superior body to the commanders that promote these moments of sharing of learning and eventually there happens talks between commanders, they take place in a spirit of informality, without any intentionality or regularity. It is important to mention the E1 (BRASFEMES) and E2 (OLIVEIRA DO HOSPITAL):

“This is a very delicate and touchy case. For many reasons. We understand that each fire department has its own command and I am telling others how things are to be done was to meddle in the work of others, which is not within my competence, and therefore it is best to stand by here in our backyard. If you ask us for information, we will give it to you, of course, but having the vehemence of the initiative to do so is putting the car in front of the oxen. Who could promote this would be the District Federation to which we belong or the ANPC, but it does not happen.” E1 (BRASFEMES)

“No. These are internal issues ... what has been learned and changed is our own.” E2 (OLIVEIRA DO HOSPITAL)

5. CONCLUSIONS AND RECOMMENDATIONS

It is possible to conclude that the commanders of the FBs, as the maximum responsible for the hierarchical structure of the organization to which they belong, tend to demonstrate intention and availability for the sharing of tacit knowledge. However, this intention and availability does not find a practical sequence, since according to past learning, in particular, what happens to the knowledge that may result from past learning following major operational events, it is possible to realize that it is rarely done any kind of analysis or shared their conclusions of that analysis within the FB itself, only on an ad hoc basis are operational changes incorporated or incorporated in the context of instruction, and there is never a case of sharing this knowledge with the national civil protection structure or other FBs.

In short, despite the intention and willingness of the FB's commanders to share tacit knowledge in order to increase organizational learning, there is a clear need to change their attitude towards the new knowledge acquired in past learning, as a result of significant operational events.

Finally, it is recommended to carry out other studies that analyse the sharing of tacit knowledge in other NPOs, such as cooperatives, mercy, private social solidarity

institutions, mutual associations, foundations, among others increasingly important in the Portuguese society.

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