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Formation of Strategy and Organizational Learning in a Complex Organization: A Case Study at the Military Fire Brigade of Espírito Santo in Brazil

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ABSTRACT

This study aims to investigate how the implications of learning, in an environment of high unpredictability, impact on the formation of the strategy of the Military Fire Brigade of Espírito Santo. For this, it analyzed the transition of the Strategic Planning (SP) cycle from 2011-2014 to 2015-2019, delimiting this analysis in senior management. As a theoretical foundation, the concepts of strategy formation, emerging strategies and elements of complexity are addressed, especially the role of learning in strategic management. This is a qualitative study, which adopted the single case study method. In data collection, document analysis and semi-structured interviews were carried out. In the data analysis, through the technique of qualitative data analysis, categories of results were established. Through the results, it was evidenced that strategies not carried out in a SP, were formed as emerging strategies in another, including preponderant characteristics of the elements of complexity; it was found that the 2015-2019 strategic planning was formulated with less prescriptive objectives than the previous one, which allowed

for greater flexibility in implementation. Finally, in the relationship: learning, dynamism of environmental changes and strategy formation, the cyclical nature of this process was verified.

Keywords: Strategy formation, Organizational learning, Complex adaptive systems, Fire Brigade.

INTRODUCTION

In Brazil, the regimental and administrative structuring of military firefighter corporations was based on the Federal Constitution, enacted in 1988, where the autonomy of military firefighter corporations in Brazil was defined and explained. In this scenario, several states of the federation began to carry out the process of emancipation of firefighters, detaching them from the organizational structure of the military police [1].

In the Military Fire Brigade of Espírito Santo (MFBES), this emancipation takes place from the constitutional amendment Nº 12 of August 25, 1997, after this emancipation, due to the rigidity of the military structure previously defined in the legislation, firefighters not only from State of Espírito Santo, but throughout the country, are faced with limiting conditions to promote their organizational restructuring and also to develop strategies, since in this scenario, firefighters now depend directly on greater government support. Thus, it is necessary for officers to join forces to implement a modern, efficient management focused on quality in the provision of services to society [1].

In 2004, based on the initiative of the National Secretariat for Public Security - SENASP, MFBES then began to receive institutional support, where discussions began to formulate what would become the first Strategic Planning (SP) at MFBES, which came to fruition in SP 2006-2010, with a four-year cycle, this same cycle is repeated in SP 2011-2014. However, in PE 2015-2019, the cycle becomes five years, due to the fact that from that moment on, the SP of MFBES should also align with the guidelines and cycle of the SP of the Secretariat of Public Security and Social Defense, a secretariat to which the security institutions of the State of Espirito Santo are linked: MFBES, Military Police and Civil Police [2].

Military fire brigades need a high degree of organization of their processes. “Firefighters must minimize the risks they take. Therefore, they extensively formalize their procedures to ensure that they are taken to the letter” [3]. Therefore, to carry out operational activities in the work context of these institutions, it is necessary to constitute a body of professionals who have knowledge and, above all, skills in developing processes, methods, controls and, above all, strategies.

In addition, the formation of strategy in MFBES takes place during a context of high uncertainty, where the explicit presence of elements of complexity is observed, such as: unpredictability, non-linearity, and interaction between agents [4]. That said, when analyzing the transition of the SP from the 2011-2014 cycle to the 2015-2019 cycle, delimiting this analysis in senior management, the present study seeks to investigate how the implications of learning, in an environment of high unpredictability, impact on the formation of MFBES strategy.

THEORETICAL FRAMEWORK

Formation of Strategy and Strategic Planning

Strategy formation is a concept that comprises both the implementation of strategies that are formed implicitly and involuntarily and those that follow a deliberate pattern of action, described in the formulation as planned intentions [5, 6, 3]. Simply put, strategy formation encompasses formulation and implementation.

The link between formulation and implementation is not simple, as there is an interrelationship between these two elements in a cyclical sense, unlike a conventional process that is basically linear. This process is conceptualized as the "strategy process", which can only be understood through the perception that there is a larger context, through which this process of formulation and implementation emerges [7].

Thus, it is understood that the strategy process is a course of action, where deliberate and emergent strategies are present, the deliberate strategy is associated with intentions and the emerging strategy with perceptions [8]. In the deliberate strategy there is a pattern of decisions and in the emergent one a pattern of behavior returning to actions [9].

The top management of an organization is responsible for formulating the strategy, that is, these are the actors who get involved in the processes and dynamics of interpretation to formulate plans that must be disseminated for their implementation at the levels of execution of a company [10]. It should be noted that the strategy formation process is involved in a series of interdependencies, both in terms of communication in development and updates that must be evidenced from the planning conception. Thus, it is understood that these elements have significant impacts and understanding them well is essential for implementing the strategy [11].

However, although the NP is always conceived as a rational, formal process based on programming objectives and actions, these characteristics define the NP as a means of formulating the strategy only and not as a means of dealing with the dynamics of the strategy, i.e., does not deal with strategies that emerge during the SP cycle. SP will always be associated with a context of stable conditions and, on the other hand, strategy formation will always be involved by periods of change and, most of the time, changes that do not follow a linear flow [6].

Strategy in a Military Context

Currently, strategy can be considered a highly relevant topic in organizational discussions, both in public and private institutions. It is noticed that the application of the strategy has become an "essential" element for organizations to organize their objectives and goals.

Thus, for better or worse, strategy has also become an academic discipline and since the 1980s, this theme has been growing amazingly in number of publications, thus constituting a vast literature. In addition, although the subject of strategy was not explored in such an explosive way before the 1980s, there were still studies on this theme in the 1960s, especially referring to the 1951 study by William Newman, which has been classified by many authors of this field as a precursor of the literature on strategic management [12].

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That said, of the various concepts of this great theoretical "umbrella", currently, the one that best fits strategy in the context of a military organization is the concept of Clausewitz, which considers that strategists guide operations to ensure victory and to shape the course of events in order to achieve the government's political objectives [13].

It is noteworthy that in the military environment, historically, stereotypes classified as: formal authority, use of physical force, rigidity and control remain [18]. Thus, when relating such characteristics to the way a military organization manages its processes, it is denoted that such organizations formulate their strategies in a formal, programmed and prescriptive way. Resonating the thought of military strategy that has traditionally been described based on the organizational hierarchy, types of decision, formal positions of authority and the certainty imposed by means of previously determined procedural standards [20-21].

However, currently, both in a civil and military environment, the perception that both contexts are surrounded by complexities and uncertainties is notorious. In this sense, it is classified as necessary for strategic decision-making, the combination of experience, creativity, adaptability and intuition [20] [21]. When discussing the combination of these characteristics mentioned above, it is perceived to be opportune to make the connection between the fact that people need to learn the nuances and implications of this learning in the strategy formation process.

A classic study on strategy in the context of military organization, when dealing with the participation of the American army in the Vietnam War (1950-1973), identified how the process of identifying the pattern of strategy formation occurred in a context of war, where, for example, learning moments during the implementation of the strategy [5].

In this sense, when addressing the process of learning about strategy for the military context, strategic ideas must be created not only by the high command but by the entire corporation, these ideas must be translated into plans and transformed into actions on the "battlefield", being conducted and adapted by the command [13]. Thus, it is noted that the implication of the participation of those who act in the formation of the strategy results in the conception that effective strategies depend not only on the number of voices, but also on the connections between these voices [14].

Learning in Strategy Formation

Before delving into the concepts on this topic, it is important to emphasize that the term learning and learning, both represent a verb of realization (learn) and can mean both a cyclical, tautological and obscure process as the natural result [15-16]. Thus, when portraying them, such terms must be understood appropriately to their context.

The role of learning in strategy formation has been the subject of studies both in Brazil and abroad. Thus, effectiveness in strategy formation is directly related to adherence to a model that transcends the limits of a rationalized, mechanical or programmed strategy. Thus, it is clear that for an effective strategy to occur, it is necessary to consider the role of learning performed in the practice of making a strategy [17].

The practice of making a strategy can be explained as a process in which skills, learning and creativity act actively in the execution of strategic actions, that is, the elaboration of the strategy occurs simultaneously with its application. In other words, formulation and implementation merge and generate the strategy formation process. Thus, strategy in practice means visualizing results beyond those foreseen in an explicit plan, that is, it is a non- mechanized process that has as one of its main characteristics the emerging perspective, where facts and events that occur in a dynamic context are considered [19].

In this sense, it is important to understand the role of strategic learning in the context of an emergent strategy, which, unlike a purely deliberate strategy, where there are obstacles to the application of the strategic learning, in the emergent one occurs the its promotion, where people carry out all actions and take responsibility for responding to them, in such a way that standards are formed [3].

Seeking knowledge and innovation through learning in the development of new practices in strategy can also be illustrated through the metaphor of the clay vessel, in which the manager is considered both the potter and the clay it is the strategy molded in an artisanal way, where new insights emerge unexpectedly and the vase is made considering the potter's knowledge and the new practices that are emerging during the process as the learning that makes it possible to form a new strategy, especially emerging strategies [3].

Thus, the knowledge generated by means of the learning processes during the formation of the strategy, are imminent factors and must be strongly valued when analyzing the relationship between organizational learning and emerging strategies [22]. With this, it can be stated that effective strategies must be developed with knowledge assets built through learning, which enables the ability to explore knowledge through processes in an adaptive way. Therefore, by recognizing the role of learning and the generation of knowledge resulting from this process, it is possible to identify the conception of a highly beneficial process for strategy formation [4]. Also reinforcing that the point that differentiates an emergent strategy from a deliberate one is the learning that is made possible with greater relevance in emerging strategies [3].

Therefore, due to the fact that the organizational environment is becoming increasingly complex, this phenomenon requires greater interaction between organizations, the context in which they operate and the public to whom the strategies are aimed. Thus, this interaction can be made possible through the ability to form strategies that consider the role of learning in the midst of a dynamic and changing environment [22].

Strategy Formation in a Complex Organization

Organizations can be considered as extremely complex systems, as they consist of a set of diversified human activities and many levels of analysis [23]. Organizations can also be defined as human groupings constituted as social units, which are built and/or rebuilt with the purpose of achieving specific objectives, among these organizations are: corporations, armies, schools, hospitals, churches and prisons [24].

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Thus, it is clear that organizations find support, in the context of a modern and complex society, to seek to achieve results and gains in efficiency through planning and control processes, processes that originate from management studies [24].

Strategic planning is constituted as an instrument by which many organizations with characteristics of complex organizations materialize their objectives when formulating and implementing their strategies (strategy formation is gia). That said, it should be noted that a military firefighter corporation is constituted as a complex organization.

There are studies in hospital organizations, which are also organizations involved in complex, unstable and unpredictable contexts. The authors claim that in these organizations there is no distinction between strategic formulation and implementation [25-26] Thus, adequate planning for an organization involved in these contexts should not be confused with a formal plan, as the strategy must be adapted, as it is inserted in an environment where adjustments are continuous and strategic adaptation becomes inseparable from decision-making [27].

When relating the elements of complexity present in the organizational context, the importance of understanding the science of complexity is observed. Such science studies the properties and fundamentals of the concepts of non-linearity, unpredictability, self-organization, interaction between agents, in short, the network of complex adaptive systems [4].

Regarding Complex Adaptive Systems (CAS 's), the conceptual definitions that constitute this theory, denote a dynamic that enables the emergence of a spontaneous self - organization, where agents, through actions non-linear, unpredictable and recursive actions constitute, therefore, an interaction pattern [28]. This same author also shows that SAC 's are made up of agents who interact with each other, following rules and guidelines, which these rules oblige agents to evaluate and respond to the behavior of their peers, this evaluation process between agents enables a learning process, in short, it generates a learning system [4].

Thus, when interacting with changes, organization members start to act as learning agents, through the single-loop learning process, where these agents, by identifying and correcting errors, learn. Through this, it is possible to carry out continuous change with a focus on performance and on conducting the strategy. On the other hand, when the responses to these errors occur at a collective level, the organization then goes through the double-loop learning process [29].

Changes are made during a strategy formation process through single-loop learning and double -loop learning processes can be related to the reflection-in-action approach (reflection in action), that is, when the professional (practitioner) makes judgments and decisions, these are made based on skills and experiences, because the practitioner is always thinking about what is doing, so there is a stimulus for the unexpected where there is also a transforming cycle between thought, reflection during action and learning [30].

In this sense, both public and private organizations have recognized the importance of establishing departments and sectors responsible for learning processes, processes that are conceptualized as deutero-learning, which means a set of practices and ways to develop

learning. This process has also been recognized by managers, with great importance to enable organizations to respond to changes not only in the internal environment of the organization, but also makes it possible to develop skills and a body of knowledge to deal with changes, predictable and unpredictable, present in a complex and changing environment [29].

Thus, it is possible to make a link between the learning approaches, changes involved and the elements of complexity, especially unpredictability and non-linearity, present in the strategy formation process. It is noted that the importance of approaching the SAC's theory is to show how the concepts (elements) of this theory are directly related to a complex organization, such as a military fire brigade, which will be addressed in the topic of data analysis, more specifically.

METHODOLOGY

This qualitative study was adopted as a research method, the single case study that allows the background in a specific situation in order to perceive the nuances and answer questions such as "how" or "why" of the phenomenon under study and that the researcher has no control over [31]. Thus, the present research adopts the suggestions for a single case study, of segregation of work in three stages, described by the author as: data collection analysis plan, discrimination of the nature of the collected information (descriptive/explanatory); extract evidence (document analysis and interviews); and seek the categorization and classification of data, considering the theoretical propositions of the main authors on the subject.

Data collection was performed using two techniques: document analysis and interviews. For analysis of the collected information, a qualitative data analysis was used that allows the deepening of the analysis by presenting the data organized in codes (a way of indexing a set of ideas) and categorization, which follow the codes and separate the themes at a more analytical level [32].

Data Collection

For the documental analysis, the documents referring to the strategic maps (planning) of the MFBES were searched, mainly, analyzing the transition from the planning cycle 2011-2014 to the 2015-2019, delimiting this organizational analysis of transversal character, in the senior administration of the MFBES.

Linked to the document analysis, unstructured interviews were also carried out, or also known as in-depth interviews, in which the researcher seeks to obtain answers about "what", "how" and "why" something happens, thus aligning with the objectives of a single case study, as already mentioned. In addition, through the in-depth interview, it is possible to obtain a very rich material for analysis, an analysis that can only be understood through phenomena, through which research subjects are involved and the qualitative study seeks to understand [33]. In the interviews, the main source of data were the reports of MFBES officials, who participated in seminars and meetings on the formulation of the SPs. Officials who acted directly in conducting these meetings were also interviewed, who were the coordinators of the work that involved the entire strategy formation process. Thus, the identification of the interviewees is represented by the abbreviations E1 to E6, according to Table 1.

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Table 1 - interviewees, academic background, rank and function performed

interviewee	Formation _ _ academic _ _	Patent	Current and Previous Function (returned to the elaboration of SP 's)	Service Time _
E1	CFO PM-ES*	Lieutenant Colonel	Strategic Advisor (Current)	25 years
E2	CFO BM** and Specialization in Public Management	Major	Head of the Institutional Projects Department (Current) and Coordinator of the preparation of the SP 2015-2019	16 years
E3	CFO PM-ES* and Graduate in Business Administration	Lieutenant Colonel	Deputy Director of People Management (Current) and Coordinator of the preparation of the PE 2011-2014	23 years
E4	CFO PM-ES*, Graduate and Master in Business Administration	Lieutenant Colonel	Director of Operations (Current), Strategic Advisor and Coordinator of the preparation of the SP 2015-2019 (Previous Functions)	25 years
E5	CFO BM **, Degree in Law and Specialization in Public Management	Major	Head of the Doctrine Department	18 years
E6	CFO PM-ES*, Superior Course in Police and Strategic Intelligence and Specialization in Public Management	Lieutenant Colonel	Deputy Operations Law	24 years

Source: Research Data.

Notes: * - Training Course for Officers conducted by the Military Police of Espírito Santo, equivalent to a Law Degree; ** - Training Course for Officers carried out by the Fire Department, equivalent to the Graduation in Fire and Panic Safety Engineering.

Regarding strategy formation, as mentioned before, it should be noted that this analysis was limited to senior management, that is, it is focused more on understanding and interpreting the aspects related to the "whats", "whys" and "hows" involved in the formulation processes, strategic management, implementation of SP's and the implications of organizational learning throughout this process, specifically when analyzing the transition of SP's from the 2011-2014 cycle to the 2015-2019. That said, Chart 2 presents the codes and thematic categories, which will guide the qualitative analysis of the data.

Table 2: Codes and Thematic Categories _

Codes _ _	Categories
What	Definition of Strategy
	Importance of the Previous SP for the Current
	Importance of Scenario Analysis
Why	Reduction of Strategic Objectives
As	Strategy Management in Implementation
	Changes and AO in Strategy Formation

Source: Survey data.

The period of data analysis is between 2011 and 2016, that is, the last year of analysis refers to the moment this research was carried out, although the cycles of the SP's involved in this study are between 2011 and 2019.

DATA ANALYSIS AND DISCUSSION

Analysis of "What" Aspects

In the analysis of the results, we sought to capture the definition of strategy through the answers of the interviewees. The vast majority of responses pointed out that strategy is the means of achieving the objectives of an organization in a predetermined period of time. Thus, confirming that if you ask people what strategy is, most responses will define it as a plan for the future [3].

It is important to highlight the response of respondent E4, for him, strategy can be defined as an "important management process, important because it allows problem analysis, formulation and implementation attempts to be carried out of goals and objectives, that is, the very execution and correction of these objectives". Thus, the response of respondent E4 also leads to the understanding that the strategy must be flexible, adapted and not a rigid plan.

Planning, very often, results in results that were not planned. This author also states that organizations constantly see their results as unattainable [27]. Thus, the adaptation of a strategy in the course of its course would be, in fact, a coherent alternative to enable the formation of an effective strategy and not just consider the implementation of what was planned, where what is not foreseen is discarded, the plan that does not consider the adaptation of the strategy also does not consider the emerging issues that occur during this process, that is, it does not consider strategic learning [5, 3].

On the other hand, the same people who define strategy only as a vision of the future, when asked which strategies they have already adopted, would certainly recall past facts to define a current strategy. Thus, it is clear that strategy is that term that people define in a way and use in a different way [3].

Thus, when asking the interviewees about the importance of the 2011-2014 SP for the formulation of the current one (2015-2019), in general, the interviewees pointed it as fundamental and necessary, including adding the importance of the 2006-2010 SP, which was the first to be implemented in MFBES. Still on this issue, interviewee E2 presented an important caveat, which he states that

One of the phases was also the validation of our values, business and mission (corporate identity of the institution), we took advantage of the construction of the current SP (2015-2019) to revalidate the corporate identity, if you look at the previous one you will notice the difference. You will see that there was no "security" item, oddly enough, and ended up entering the current one (E2).

Thus, these visions of the organization's future (business, vision and mission) should not be institutionalized as irrefutable norms that can only be changed at the end of the SP cycle (WILDAVSKY, 1973). That is, in the same way that a SP can be adapted along the way, why

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shouldn't the corporate identity be too? Since organizations are involved in a context of uncertainties and unpredictability, as in the explicit case of ESMB, the "security" aspect of the institution's corporate identity was inappropriately forgotten.

In this way, it is also possible to perceive the symbolic aspect that both the corporate identity and the NP exert, that is, it goes against the idea that strategy is in fact what strategists do. In this sense, among several other criticisms, there is also an aggravating factor in the fact that an organization that follows it as a formal and mechanized process, has the objectives only as vain hopes that seek to predict behavior during the implementation of a strategy [19].

Therefore, it is clear that this method is incomplete because it does not contemplate a pattern of action in this behavior. Different from a process based on strategy practices, where strategists are constantly perceiving, improving and executing their practices. This is an important foundation of strategic management, since professionals are constantly sharing their experiences with their peers and thus creating a shared pattern of behavior.

SWOT analysis (strengths, weaknesses, opportunities and threats), which represents the survey of strengths, weaknesses, opportunities for scenario analysis. Thus, the interviewees were asked about "what" would be the importance of this analysis of scenarios, mainly in relation to the external environment, for the formation of the strategy? Asked this, in general, the interviewees listed several threats, which in fact make perfect sense to be considered, as an example, the questions exposed in the response of the interviewee E3, for him

One must first stop and literally do an analysis of the external environment. So, we have our constitutional missions already carved into the legislation and that is sometimes hurt. For example: do we have civil or volunteer firefighters, who sometimes play our role and this can be a threat? Could it be! There is now a private rescue service, pre-hospital care, there are civilian lifeguards who have already joined unions and this is our constitutional mission. So, there are indeed external threats that, in a way, directly or indirectly, can affect our SP and our existence. The threat can also be a conjuncture, for example the critical moment we are living in our state, we had a significant cut in funding [...] (E3).

That said, it is clear that when approaching the analysis of scenarios, mainly in the external context, the MFBES seeks to predict that its NP will be implemented with some caution and avoiding risks. However, an important fact is to view the organization as a political arena. That is, to perceive the presence of conflicts that involve the context of MFBES, through political power games.

Thus, one can observe the different perspectives in which these political games take place and, when describing them, it is possible to classify them as a "political arena" in which conflicts are more intense, that is, they seek at all times to form coalitions that can, through of political games to gain strength and thus propose strategies. On the other hand, there are also more partial political arenas, in which conflicts are moderate and the objective is viable proposals, this type of arena is more common [35].

Thus, regarding the threats involving possible competitors of MFBES that could compromise its existence, it is noted that these are moderate conflicts, given the force of law that regulates the existence of MFBES. However, when dealing with conflicts involving issues of cutting financial resources, there is the existence of a political arena with issues that penetrate into different contexts, including decision-making and definition of more energetic strategies [35].

Analysis of the "Why" Aspects

In this regard, the big question was to try to understand why there was a reduction in the strategic objectives of one SP for the other. There were 31 objectives in the SP 2011-2014 and were reduced to 19 in the SP 2015-2019. In this way, the interviewees pointed out issues such as the need for a leaner NP and that, in addition to having reduced the objectives, they were also adequate for a greater service to society. Thus, in a comprehensive manner, respondent E4 points out that

Objectives fell and with them the initiatives, from the previous to the current one there was a reduction of approximately 130 actions to 80. It turns out that some objectives and initiatives, which we understand should be at the tactical level, we removed, therefore, we came to understand that the SP it shouldn't be so dense and detailed, because this is already an unfolding of the current command, which argues that it shouldn't be such a rigorous and rigid SP. It should give direction, because the previous SP's were very detailed, very prescriptive and from there we have already begun to understand that the SP should be less prescriptive and should give more freedom to sectors and units, to make the necessary decisions in a concrete case (E4).

It was also asked whether there were any implications of the learning regarding changes in strategic objectives. For interviewee E2, he states that "seeing the SP process working gives the feeling that it really sets a direction and I think the biggest difficulty is making it follow the same direction without so many external influences". That said, it is possible to observe, as exposed in the previous topic, political issues. Thus, learning about the political game that involves the MFBES context is an important aspect.

Analysis of the "as" Aspects

In order to better understand the strategy implementation process, the interviewees were asked how they saw strategic management, involved in a context of changes, unpredictability and uncertainties. The responses point to the need for effective participation by all. In this sense, interviewee E3 states that "he sees strategic management as necessary and important, but without the participation of every institution this is not worth it. It is necessary [...] to sell this SP to every institution and that all understand its value".

Thus, you can relate strategic management, as discussed by interviewee E3, with issues of strategic practice and the concept of improvisation. That is, the strategy in practice being understood as a set of actions aimed at good organizational performance.

As for improvisation, this concept is important in this process as it contributes to maintaining the organization's objectives where past, present and future are interrelated at all times. The dynamics of the context of unpredictability and uncertainty must be interpreted, considering

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past circumstances and this requires the ability to strategically improvise to achieve results in the future [34]. That said, it notes that strategic management is related to improvising, by improvising the individual learns, referring, therefore, to the concept of reflexion-in-action proposed by reflection in action of strategic management practice [30]. When questioned to the interviewees if the planned strategies are necessarily the same ones that are implemented. The answers pointed out that, mainly with the adaptation of a more open SP, such as the 2015-2019, it has enabled a greater scope and consequently a more active implementation and consistent with what was planned. Thus, when analyzing the documents referring to the specific strategic actions of the "internal environment" objective of the SP 2015-2019, the detailing of several operational units that MFBES planned to build or renovate in several cities throughout the state of Espírito Santo was evidenced.

However, a fact that drew attention and reinforces the concept of what strategy formation is, was the fact that in these planned actions, the construction of a specific unit of "city x" was not visualized and that in the same week that the interviews were carried out, was being reported on the MFBES website about its inauguration. Thus, when questioning respondent E2 about this fact, he states

Here's the thing, there's something that entered the previous SP and is now in the current one in a way, which is the issue, for example, of the MFBES expansion plan. This plan provides for the construction of units in municipalities that do not have one, the unit in "city x" was one of the next ones. However, it is not in the current PE to "proceed with the expansion plan", but I think there is an initiative to reanalyze, because it is always important to do that. To find out what the next step is, a study was established and carried out some time ago. But anyway, this opportunity arose there in "city x". There was a space that belonged to another public agency and it was stopped and it is a place that is around 40 minutes from our nearest unit in that city, so our response time was that. And there was this rush on the part of politicians in the region to install this unit there, so this unit was conceived as an outpost, it is small, but there is already a presence of firefighters in this municipality (E2). In this way, it is clearly perceived that this action is an emerging issue, it is noted that in addition to this characteristic it is also possible to perceive the political aspects that are involved, in addition to the clear interaction between the agents.

Finally, when questioning how the aspects of the changes influence the formation of the strategy, especially if it is the changes in the environment that generate learning or it is the learning process itself that generates changes. In general, everyone responded that there was a balance between these two phenomena. Thus, relating to the perspective that effective strategies should be developed having knowledge assets built through learning, where the ability to explore knowledge through processes in an adaptive way is considered [28].

FINAL CONSIDERATIONS

When reviewing the literature, we observed few studies that specifically focus on strategy in organizations such as military fire brigades. Therefore, the present study seeks to contribute to this discussion and add to the field a perspective of the aspects that influence the strategy formation process, relating its formulation and implementation with the implications of organizational learning.

The concept of strategy formation, proposed by Mintzberg [5], also shows us that among the various stages of implementing a strategy, the organization must have the ability to adapt. When studying these characteristics in MFBES, it is noticed that in the current context, the corporation has experienced this dynamic in practice.

About SAC's, the unpredictability, non-linearity and interaction between agents are intrinsic elements of the actions in MFBES. In addition, it is observed that interaction is essential for information to be relayed between all levels of the organization regarding the implementation of the strategy, this even corroborates to establish a learning system [28], since new information is included, discussed, reassessed for inclusion or removal from SPs during the formulation process.

Regarding the role of learning in strategy formation actions at MFBES, it is noted that not only in the transition from the 2011-2014 SP to the 2015-2019 that there was this learning leap, but since the conception of the first SP in 2016. Or that is, the MFBES has been improving and increasingly seeking to understand that strategy, in fact, is more than strategic planning. Therefore, it is observed that learning and environmental changes act and interrelate in the formation of strategy in a cyclical way, as shown in Figure 1.

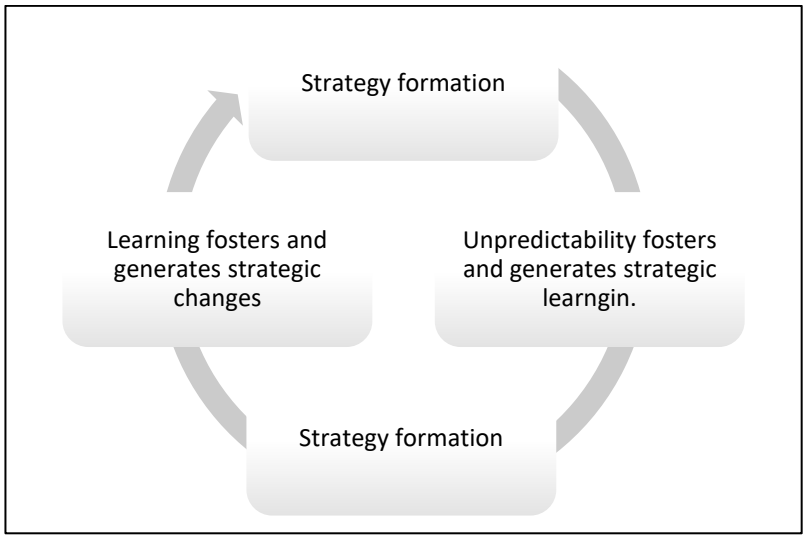


Figure 1: Cycle of changes, learning and formation of the strategy
Source: Prepared by the authors.

Therefore, this study makes it possible to understand in depth how the processes of strategy formation and learning relationships occur in the context of a military firefighter organization, adopting as an argument the fact that thinking about strategy must be much more than looking at a rational, formal and programming plan. In addition, it is clear that organizational learning is fundamental for the improvement of the SP during its implementation.

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