A FUNCTIONAL ANALYSIS FOR INTEGRATING ECO-LEADERSHIP PERFORMANCES IN DEFENSE SECTOR

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Abstract: *A large part of military organizational research has adopted the sustainable perspective. Broadly speaking, this stream of exploration focuses on discrete, change-oriented leadership occurs at all hierarchical levels, with a great impact on professional outcomes of the employees. In contrast to current focus, sustainable features of work and collectives, has become increasingly prominent for an integrative review of this important domain, effort that has not yet been grasped. Authors exploited a wide range of theoretical and methodological perspectives, leading to a fragmented literature. In the need to obtain a more integrated view on this domain, we present a reviewed analysis of the military framework to enhance our understanding of the eco-leaders. With this synthesis, we highlight theoretical and methodological background for future research that will facilitate a comprehensive refined edition of a new type of leadership by highlighting opportunities for extensive performance. Additionally, there is a need for support to facilitate the adoption of this new paradigm, as a comprehensive overview on the key environmental challenges that must be addressed. Our paper provides valuable insights for other leaders and researchers seeking to understand the potential of eco-leaders.*

Keywords: *eco-leader, development planning, innovation, technological innovation, sustainable development, education*

JEL classification: O20, O30, Q01, I29.

Introduction

This perspective is useful for organizations which aim at a sustainable development in the future. Sustainable development is represented as a deep improvement in the utilization of natural resources, choose investment criterions, propose advanced technologies applied, and change administrative mechanism that accord with current and future needs. (Harris, 2000)

Resources need to be retained stably by preventing over-exploitation of renewable resource system and eliminating non-renewable materials and products. Biodiversity, and other eco-systemic functions must be respected so that adequate decisions concerning the supply, and accountability must be assured. More importantly, a harmonious combination of sustainable requirements should guide leaders towards a greener, clearer, and more equitable growth. (Roblek, V.; Meško, M.; Bach, M.P.; Bertoncelj, A.;, 2014)

Ritzen agrees that a product has positive and negative impacts on environment and society during its life cycle. Some of the major life-cycle steps imply activities such as energy or material consumption for production and delivery, emission to land, water or air, resource exploitation, and use and elimination of products. (Ritzen R., 2000)

Eco-innovative functions, aesthetics and operativity apply to military technique systems as a smart decision for a sustainable future, by using supporting tools and products that reduce the consumption or negative effects on the environment.

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In this paper, we focus on applying the functional framework to the military for enhancing the work-life balance of military leaders and to improve the decisional process upon the use of resources. Afterwards, a model for reusing the lessons learned by eco-innovation capability development will be proposed in the final section.

Many of the current technical systems present various risks in their functioning, which affect not only their operators, but also the beneficiary and other parties. Improvement tools for military field are difficult to implement in such a rigid organization, due to the specific hierarchical rules and regulation.

The Issue

In the current paper, we present the theory, method, and results of a functional analysis of the organizational, cultural, and individual leadership factors that theory and previous research suggest are central to the performance of eco-leaders, including in military organizations. The effort is mainly based on data collected before and after the pandemic period, which is being discussed, pertaining to their implications for military eco-leaders.

Usability

The conducted results are deemed useful for military decision makers and scientists in military field related research. Our prospect may improve the general understanding of individual and organizational performance issue. The used method is a step on the way towards collecting relevant data to improve our knowledge of eco-leaders related to the army.

This paper was established to identify and understand some theoretical issues which are critical to effective military eco-leaders. More precisely, our goals are:

- To identify critical issues for effective military eco-leaders (awareness to innovative workload, modern structures, eco-innovative coordination or coordination mechanisms, decisional visualization, eco-innovation sharing and management, leadership, and decision-making).
- Use a method to develop research methodology and understand our findings.
- To make recommendations regarding the use and implementation of an eco-innovative leadership research in military practices.

Methodology

We intend to explore the promises and challenges of a new type of leader who examines its innovative potential, with a great impact on the defense sector. This current overview of the concept and its characteristics is followed by a deepen analysis for improving efficiency and military productivity. By leveraging a functional matrix, we can optimize the view on the internal processes and enhanced flexibility, among a wider range of innovation consumption. We strongly believe that our work holds promise for improved military capability. With the integration of smart eco-leader analysis, we can monitor new tasks and rise their effectiveness throughout a more sustainable approach. Various challenges associated with this perspective disparate military technical system operativity. We address to leaders for the transition to eco-innovative requirements and investment. As a highly skilled personal capable of working with advanced technologies, eco-leaders require new potential job evaluation. In continuation of our approach, a case study on the defense sector will examine the key strategies and technologies implemented or discussed by eco-leaders.

Based on an extension of a military capability model, currently in development at tactical level, the scope of the paper is to identify and understand critical assignment of leading tasks related to eco-innovation. To do this, we decided to conduct this research on analytical effectiveness within military units of the Romanian Army.

Theoretical framework

In this section we provide a high-level theoretical framework on eco-leader functionality. Theoretical broadband was conceived for stating the relations among concepts within a boundary set of assumptions and constraints applied to delineate the concepts of interest. We provide theoretical framework by comprising key concepts.

- The military management functions.
- Various leadership variables; and
- Output functional practices.

It is how these concepts relate and what governs their relation broadly that is the concern of this section. The various components present detailed theory and analysis of the influence of leadership functions and their impact on leading effort. We expanded an in-depth presentation of the functional methodology relevant for eco-leaders.

Military organizations, including educational institutions are facing an increasingly wide spectrum of threats along with a rise in both sustainability volume and requirements. As the wealth and complexity of requirement increase, the awareness and understanding of leadership responsibility within an organization is increasingly essential for good decision making and organizational sustainability. (Bjørnstad A, 2021)

As Kozlowski and Ilgen suggested that organizational effectiveness is the key to organizational processes, operationalized as shared awareness of tasks and responsibilities, information sharing, and decision making. (Kozlowski W.J., Ilgen D., 2005)

The ability to avoid erroneous decision making has shown its impact on good decision making. Researchers concluded that decentralized leadership and subordinates' propensity to question their superiors' decisions and take responsibility for their own actions to be essential to avoid erroneous decision making. (Baran B., 2010)

A democratic manner of leading an organization involves decision-making process where there is less distance between the hierarchical levels of the organization, although in the military there are plenty of levels of authority. Democratic leaders make their subordinates more motivated in following and obeying their superiors. Hence, leaders may be seen as an organizational means to minimize erroneous decision making. (Bjørnstad A., 2019; NATO, 2022)

The employees admit that a strong understanding of leadership is essential to improve their work effectiveness on performance or the relationship between them and instruments that meet the military objectives. (Banko K., 2011) A great deal of military leaders focuses on improving current decision making concerning different contexts, just because improving decisions becomes increasingly important for the environment. Due to the technological development, the use of complex gadgets and systems distribute differently military operators. Till today, a great deal of scientific research has included cognition of specific variables that impact decision making but not a sustainable eco-innovative designing for the military systems and processes that meet the needs of a military unit.

Systems, processes, and technologies become a burden for modern leaders with little cognitive capacity concerning traditional method of maintenance or supply, but they are those who ensure that effective and efficient information facilitate fast and accurate decision making. (Savage-Knepshield P., et. al, 2016) In this way, a study related to innovative decision making consists of evaluation to an extent to which new systems, procedural and technological concepts are being accepted in the decisional workload of leaders.

Prior research has indicated that decentralization of the authority can be problematic for the coordination of tasks, which can affect overall performance. (Lanaj K., 2013) The same author indicates the team performance increases in a decentralized organization to be associated with more initiatives, but less alignments among goals. As a result, separating organizational units is not a response for coordination success, and this mechanism requires a better information sharing among the unit.

Taken together, ensuring performance through shared understanding signifies more modular organizational arrangements as well as through ongoing communication. Usually, system usability means that a set of multiple concepts, such as execution time, user satisfaction and ease of learning induce performance. Military standardization relates to usability through classified categories concerning system effect (output, effectiveness, and satisfaction at the time of use of the product); product attributes (interface and interaction); process used to develop the product; organization's capability (life cycle and capability of use in context). (Savage-Knepshield P., et. Al, 2016)

The main question is how we best implement a new analysis method and how do we guide the analysis with the purpose of identifying or designing recommended eco-innovative practices for end-to-end eco-leadership. A possible way forward to guide the users of the methodology is to divide it into main "phases and steps".

In the next section of the paper, we are formatting a new mapping of the eco-leadership functional dimensions, future base for a generic performance model for evaluation of leaders in any context. Next, we use a functional instrument for deeper analysis of performant eco-leaders in military units. Based on the relationship with organizational performance, today's leaders must be efficient and respond to the competing expectations of the organization in a sustainable manner, and it is necessary for leaders to adopt eco-innovative behaviors, because the competitiveness of organizations may depend on them.

Functional analysis - a method for integrating eco-leadership in defense sector

In 1916, Henry Fayol used five functions to explain the general theory of business administration (Fig no 1) (https://www.lemasky.com/managers/5-functions-of-management). According to the author, the manager's activities are diligently related to overseeing the organization, especially in top responsibilities of making long-term plans, establishing policies, and representing the personnel.

Fig. no. 1 The five management functions

Leaders worldwide do smaller versions of each function on every hierarchical level; thus, a function is particularly represented by different departments or roles. In the following section, we will discern how the management process is separated from other organizational duties. It is important to remember the complementary and relating properties between the five functions.

a.The first function, foresight, and planning, answers the questions: "What needs and what can be innovated within the military unit?", under conditions of dependency with the allocation of renewable resources. Exercising this function guarantees at least the identification of innovative opportunities on a technical level and aligns current scientific information, management practice and organizational objectives with future trends and the resources needed to implement them.

Daily activities regarding military technical systems are an opportunity for military leaders to foresee eco-innovation based on the accumulated functional experience, what are the new sustainable trends and what priorities can be established within the led organization.

If in the functional cycle of the unit there is many activities, applications, work visits, staff training calls, training activities, methods should be considered that target the entire range of professional manifestations, so that the results concern all categories of personnel and technique in achieving innovation.

More concretely, the function of forecasting is reflected, from an innovative point of view, by the following actions captured in Fig no 2.

Depending on the priority chosen, the forecasting function also depends on the integration of different work programs, which are initiated by the Annual Activity Plan within a military unit. Like other managerial charts, this tool represents a unique process break down of the activities in time and space, for a better coordination of the tasks that come back for the execution of the work programs.

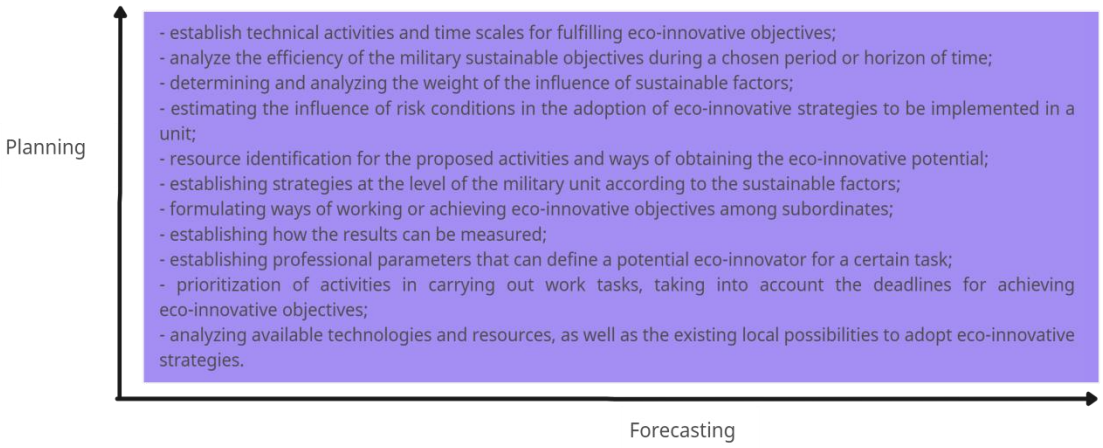

Fig. no. 2 Understanding the innovative aspects of forecasting and planning.

The main advantage in using this type of planning is the clear establishment of objectives, time frames and those responsible for the technical fulfillment.

b. The second function of management is organizing - which answers the questions: "Who and how contributes to the achievement of eco-innovative objectives?" Through a combination of all the resources available to the commander, the organization supports him to directly balance the potential of the staff with the desired targets, and indirectly all other categories of available resources, namely the material, informational, time and financial ones.

If the establishment of priorities through the Annual Activity Plan is the first step, then actions are taken to distribute the resources necessary for the main activities that contribute to the fulfillment of the eco-innovation objectives, in the chosen time interval.

Any innovative activity directly contributes to the realization of the organization stage, starting from small daily routine actions (which facilitate the planning of the day, the application of orders) to complex work structures, over long periods of time (for example, changing a certain type of technique or transition to a new type of conservation of military equipment).

Eco-leaders collaborate with subordinates and request feedback from technical or specialized personnel in the unit, to organize their activities by implementing eco-innovative objectives as best as possible, considering the highly involvement of all staff. A concrete example is when ecological proposals exceed the sphere of influence of a subunit and it is necessary to establish a link with the upper echelon for the exploitation of new ideas, and the leaders must organize specific convocations to understand the applicability of the proposals.

An eco-innovative leader understands that he must organize work according to individual criteria, which depend on appropriate ecological elements, so that everyone carries out the assigned tasks responsibly. Therefore, the planned eco-innovative actions consider the degree of resource provision and should, as seen in Fig no. 2.

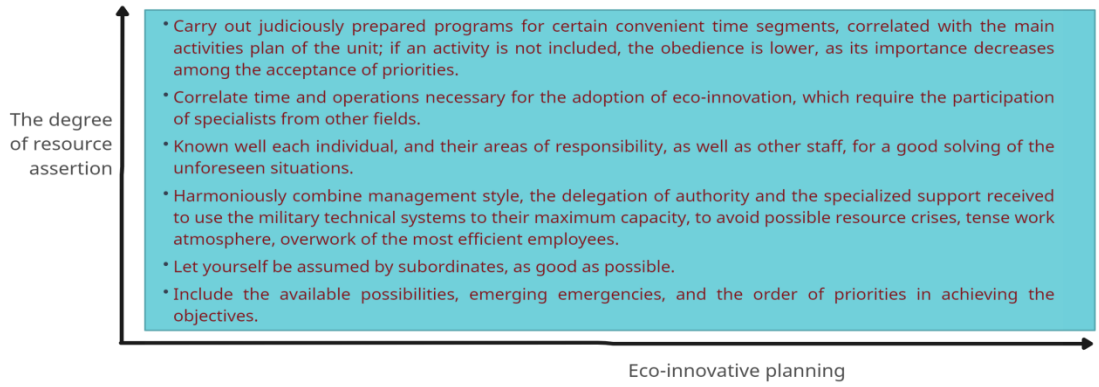

Fig. no. 2 Organizing activities by eco-leaders.

c. The third function of management is equally important, as it provides the answer to the question: "How should the activities of adopting eco-leadership be directed?". Of course, all these work processes are based on the ability of the commander to harmonize his decisions and the actions of those led, especially for directing the previously established resources, with the aim of conferring the certainty of their availability, at the right time, in the desired quantity and quality, and directing towards eco-innovative objectives. (Urechiatu G.: Virca I., 2000)

Of great interest for our approach is the eco-leader's ability to master human resources, materialized through the coordination function, being the least formal of the five management functions. Here we note the leadership potential, directed towards the unitary coordination of the staff in the fulfillment of eco-innovative objectives. With fewer dependencies on the external environment, coordinated eco-leaders produce effects as observed in Fig no. 3.

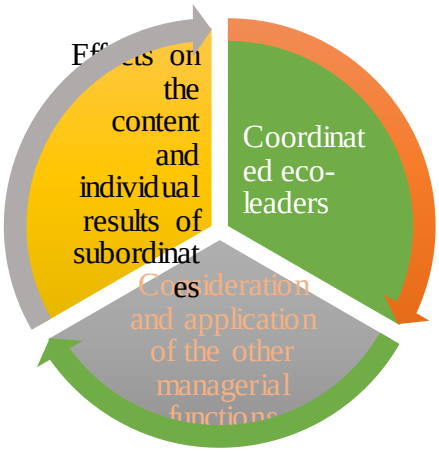

Fig. no. 3 Eco-leaders coordinating potential.

With certainty, the implementation of eco-innovative strategies requires the coordination of activities based on unitary ecological principles, for the synergy of individual actions at the level of a military unit.

Equally important, all the principles applied in the managerial sphere attract efficiency, but the priority of the objectives is more special, for choosing the long-term general objectives and fixing the short-term SMART ones, ranked according to optimal criteria. In addition, the command unit capitalizes on the entire spectrum of problems of the military unit and ensures a unitary approach in dealing with subordinates, so that no distinctions are made regarding the regulatory nature of the commander's orders and dispositions.

Finally, the principle of execution reflects the possibility of identifying possible irregularities during the execution of tasks, as well as improvements related to the commander's orders and dispositions. For a good coordination of eco-innovative activities, it is recommended that leaders focus on preliminary results and not on the significant risks that can disrupt the achievement of the proposed objectives.

d. Also known as commanding, the why of each performance is developed from the eco-leader' application of the fourth functions. This motivational step is a good opportunity to focus the united efforts of staff on establishing and achieving foreseen eco-innovative objectives, considering all interest factors to them.

We note the importance of staff role assuming within the unit, in the absence of which proper performance of the current function is affected. The military particularity is part of the series of factors that influence the training of personnel, in addition to practicing an adaptive leadership style that considers the feedback of subordinates related to the activities performed. Eco-leaders must consider at least the following aspects (Fig no. 4).

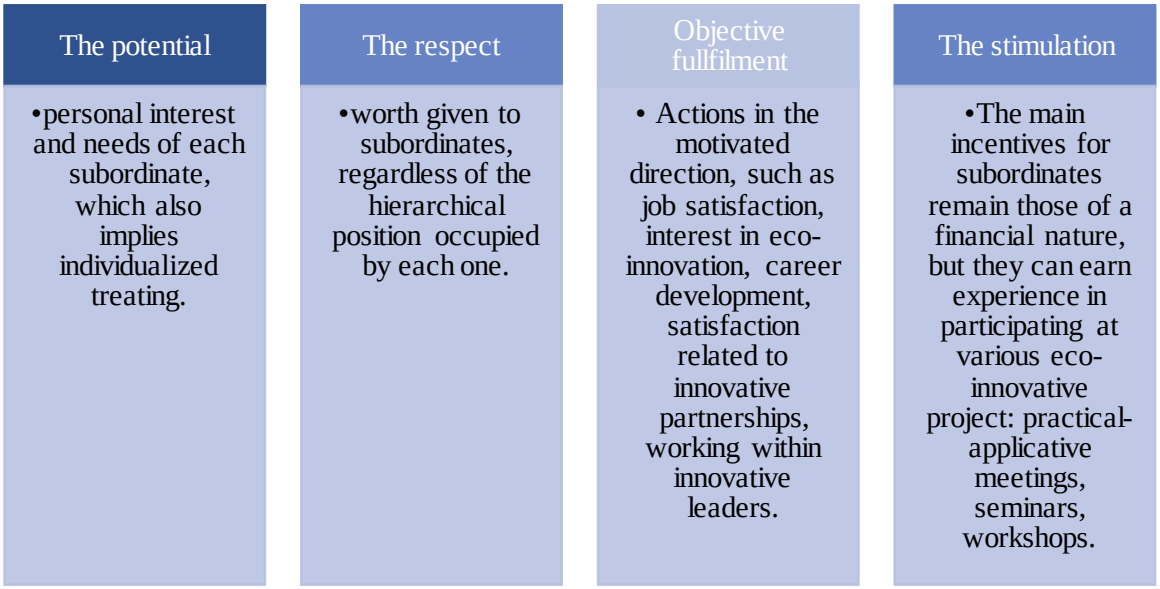

Fig. no. 4 Commanding factors for eco-leaders

e. The last in the managerial functions series represents the inquiry: "How or with what results was the activity completed?", which signifies the control. Seen as the process of measuring and comparing the obtained results by reporting to established objectives, this function is beneficial for reducing deficiencies and integrating positive eco-innovative results in the organization.

The leaders stand out for the control exercised over each work operation, over the state of operation of the military technique, over the way of work approached by the subordinates, over the lines of patrimonial management, or other additional forms of control, including those carried out by the higher echelons.

The most distinct forms of control must be recorded in the unit's single control register, the managerial tool that can determine the measures and remedies to identified problems or staged performance of tasks.

The first footprint provided by an eco-leader is a difficult one, since in the sphere of public services, the work quality is established by certain centralized criteria, approved hierarchically, and not by personal considerations of regional or local leaders. Instead, how can any type of military eco-leader act on internal managerial control?

Firstly, the results obtained by the managed subunit indicate a certain degree of fulfillment of the set objectives, and the control task of the leader allows confronting them with the objectives initiated through the forecasting and planning phase for the respective subunit.

Secondly, moving on to a broader check of the organization, the leader checks elements that reflect organizational efficiency, being able to indicate a certain level of quality of planning and organizing activities and their correlation with time scales established.

Thirdly, the control from the leader also affects the organizational dynamics, forms, methods, procedures, planned resources, so that the efficiency of the management and execution bodies can be distinguished.

The post-action analysis is the next step in the performance of the control function, focusing on the verification of eco-leaders. More specifically, the monitorization is represented in Fig no. 5.

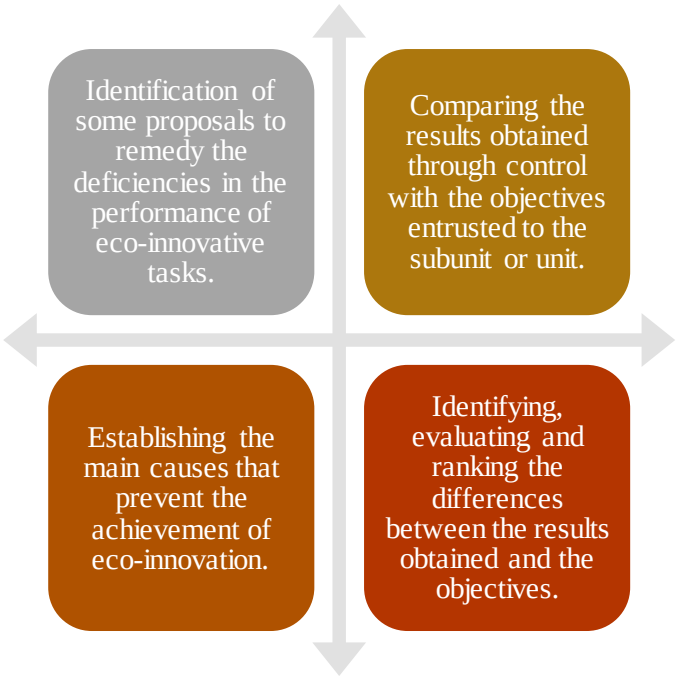

Fig no. 5 Directing eco-leaders' attention to the findings.

The last phase of achieving control is symbolized by the leader's coaching or guidance of his subordinates, corresponding to the analysis of the conclusions of the verification and the verification activity itself. As a rule, this activity has an indicative character for the unit's staff, because it is desired to mobilize the power to anticipate the execution. Otherwise, the guidance becomes corrective, in the special situations where the leader proposes to adjust the systemic functionality to different parameters.

Results, Significance to Army, and Practical Implications

All previous phases require rigor and exigency on the part of military leaders, so that the resulting situation is consistent with organizational reality. Evoking the real state of the subunit / unit ensures a formative nature of the work environment, where people understand professional shortcomings and are in acceptance with their own potential to educate themselves to have eco-innovative achievements individually or in a team.

The strategic alternatives in the adoption of eco-innovation have multiple implications on the military organization, implementing an ecological conduct at the management level. The specific contexts in which a leader can find himself at a given moment highlight the options he has in the exercise of managerial functions. In a strategic vision, the eco-leader aims to:

Fig. no. 6 Eco-leader' strategic vision

A strategic approach to eco-leadership will direct the military organization to a training and education corresponding to the current sustainability requirements, which any entity must consider in its own activity. Being one of the most innovative management strategies in the modern world, eco-leadership involves consulting the staff regarding the situations in which alternative, sustainable, work methods can be resorted to. Even the purchase of military equipment of the "second-hand" type has been accepted for generations, especially because in the short term it presents advantages from the point of view of investment expenses.

Undoubtedly, this new kind of mentality suits the medium and long-term managerial thinking, which is most affected by the decision-making process and the pressure to fulfill the command dispositions of the upper echelon. The survival instinct of the organization in an ever-changing environment is the mobile for those decisions that are inappropriate or with serious consequences on the way resources are used. It is proposed, in this way, to accumulate new special experiences for the military environment, which aims at high efficiency, but, most importantly, creates the premise for the stabilization of resources.

Capitalizing on the untapped potential of leaders who choose the transition to sustainability can improve work methods, by accumulating know-how and transferring it from one field to another, in our case from the corporate environment to the military environment. In addition, substantial contributions to the institutional image, so important to the military organization, can be made from one's own in-house research and scientific results without too much cost.

We believe that the promotion of a change is done because of influences to the organization, and simple competition between military units also means the permanent adoption of performance improvement measures. The evolution of the technological field highlights adaptable management methods, in which knowledge is transferred from one field to another. Highlighting the new valences formulates a general current of increasing demands on what the quality of a service means, related to the continuous desire to protect the environment. In the series of favoring factors, related to the military organization, we can list:

- Military eco-leaders will improve individual and organizational performance.
- The existence of new resources to implement eco-innovative programs.
- The desire for optimal and efficient exploitation of current technical systems.
- The existence of a coherent program for the implementation of an eco-innovative strategy.
- The dynamism of the management team, which can constantly adapt to changes.

Conclusions

Concerns for increasing performance are manifested according to the action of each military technical system, determined by the technology and practical solutions proposed for operability. Diversified services and products currently require an improvement in management methods, solidified from other sectors of activity.

Given the topic addressed, we appreciate the following:

- the integration of eco-leaders combines the training of skills, methods, and monitoring tools specific to the military field with means specific to the social, economic environment and sustainable management.
- integrating parameters induce performance on military technical systems by developing various elements in modern working conditions.
- the high-performing eco-leader must broaden his horizons of knowledge through ongoing sustainable professional education.
- these conditions and the organization's development are valuable research that can have immediate applicability in the professional environment.
- interpreting the approach to organizational functions at the expense of resources is natural for outlining the technical side of performance but does not exclude the umbrella of the organizational resource package.

Over time, the performance of leaders has a technical foundation, and science comes in to explain it by designing an integrated system composed of employees, resources, and equipment. The analysis method for designing eco-leader outcomes illustrates a new way of addressing eco-leadership issues, where military leaders are responsible for introducing new product innovation. The technological sophistication based on the computerization of the system leads to the efficiency of the supply chain and specific logistics management functions, where the goal is to satisfy the needs of the beneficiaries under conditions of efficiency and effectiveness for the supplying organization.

The managerial involvement in the management process through sustainable strategic actions, which changes the flow of planning and control of material and informational flows, is noted.

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