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The Role of Military Leadership in Shaping Innovative Personnel Behaviour: The Case of the Lithuanian Armed Forces

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Abstract: Innovation is important for the achievement of the UN Sustainable Development Goals, including those related to peace and justice, as well as strengthening defence and security institutions. In view of innovation and the creation of an innovative environment, the influence of leaders not only on the innovativeness of employees, but also of the organization as a whole, is considered one of the most prospective areas of future research. This article explores the influence of leadership behaviour (support for innovation, delegating, intellectual stimulation, and rewards) of top (sample size N = 275) and middle (sample size N = 891) management on the innovative behaviour of military officers. The empirical validation of the selected four leadership behaviours is based on the methodology of quantitative sociological research—a questionnaire. Research results show that strong and statistically significant correlation relationships were established at the level of top managers (commanders) between such factors as Intellectual Stimulation and Delegating, Rewards and Delegating, Delegating and Support for Innovation, as well as Support for Innovation and Rewards. Meanwhile, for middle-level managers (military officers) two strong relationships were found between such factors as Rewards and Delegating, and Delegating and Support for Innovation. Analysis of the compatibility of opinions showed that although commanders and military officers both appreciate the leadership behaviours of the top and middle management of the Lithuanian Armed Forces, it was also found that commanders are more positive about the opportunity to offer new ideas at their military unit. Furthermore, they are more positive about the statement that leadership grants them the right to take decisions and implement them, and they are also more positive about taking the initiative, when they feel support for innovation. The identified difference in the leadership behaviours of top and middle management leads to the conclusion that, at different hierarchical levels of leadership, innovative behaviour of subordinates is influenced differently in the innovation promotion process in the Lithuanian Armed Forces.

Keywords: innovative institutions; defence; security; innovation; leadership; support for innovation; delegating; intellectual stimulation; rewards

Citation: Šimanauskienė, V.; Giedraitytė, V.; Navickienė, O. The Role of Military Leadership in Shaping Innovative Personnel Behaviour: The Case of the Lithuanian Armed Forces. *Sustainability* **2021**, *13*, 9283. https://doi.org/10.3390/su13169283

Academic Editor: Christian Vandenberghe

Received: 30 June 2021
Accepted: 15 August 2021
Published: 18 August 2021

1. Introduction

In the dynamic, global reality, which is affected not only by new technologies, but also by the pandemic, adaptation to the VUCA (volatility, uncertainty, complexity, and ambiguity) environment is becoming a necessity for both public and private sectors, leaders, organizations, and the environment [1]. The armed forces are no exception. It is not only the ability of individual units of the armed forces to adapt and operate, but also the ability of the entire armed forces to change with the changing environment, i.e., to change operations in line with the change of operating conditions, which is becoming extremely important [2,3]. This context emphasizes the need for not only the ability of management and leaders to build new opportunities for the organization and the importance of promoting and supporting innovation [4], but also the need to promote individual innovations of personnel [5] in order to survive and combat threats. According to Sağnak

et al. [6] it is too much change that becomes one of the essential characteristics which unites modern organizations, so innovation and the ability of both management and personnel to accept and implement innovative decisions becomes an essential component of the innovative activities of organizations. Leadership is identified as one of the key factors in an innovation-friendly organizational environment [7]. "The demand of organizations to fulfil objectives within dynamic environmental aspects has required strong leadership." [6] (p. 149). It is emphasized that innovation may become an essential feature of an organization only with the approval and support of management [8]. In view of this, the aim of this article is to reveal the role of the leadership (top and middle level) of the Lithuanian Armed Forces with regard to the innovative behaviour of military officers in promoting innovation in the Lithuanian Army. The key focus of this research is to validate the relationships between leadership behaviours (support for innovation, delegating, intellectual stimulation and rewards) as extracted from De Jong and Den Hartog's [5] conceptual framework for stimulating innovation. Four types of leadership behaviours which are considered among the most important behaviours in idea generation and idea application processes were selected for research. These behaviours directly influence the promotion of individual innovation and individual innovative behaviour of employees, which consequently directly affects the collective skills and innovation in organizations.

1.1. Innovations and Innovative Behaviour

We cannot imagine modern organizations without the implementation of innovations that are defined by researchers [9–11] as value-added innovations. The need for innovation is linked to the capacity to absorb the latest technologies, to increase efficiency and effectiveness, to modernize the organization management methods, to respond to the expectations of stakeholders, and to respond to the rapidly changing and often difficult to predict political, economic, and other environmental conditions [12]. In current organizational studies, innovation is realized as a panacea for organizational survival [13]. For the private sector, innovation is a prerequisite for their survival in a fiercely competitive environment. Meanwhile, the need of public sector organizations for innovation, especially in recent decades, has been determined not only by the challenges of globalization but also by the growing expectations of society, which forces organizations to look for new methods of governance, improve the quality of public services, increase the efficiency of the public sector, etc. [14].

The development of methodological trajectories of innovation management started at the beginning of the 20th century and was based on Joseph A. Schumpeter's [15] statements on the change-oriented and innovation-based economy and the importance of technological innovation and entrepreneurship for an organization's innovativeness. Subsequently, Rogers [16] formulated the so-called diffusion of innovations theory, which not only expanded the concept of innovation, but also focused on the individual elements of the diffusion of new ideas and technologies, phases of the innovation process, and individual and organizational factors for managing innovation processes.

In the second half of the 20th century, more attention was paid to the specific areas of change and innovation management in the public sector [17–21]. Meanwhile, at the beginning of the 21st century, researchers identified innovation as one of the key factors of new public governance [9,22–29] with greater focus on managing the innovation process, identifying and removing obstacles [12,14,30–34], and on developing innovation-friendly environments [12,14,25,26,35–40].

In terms of the innovation-friendly environment, research on the development of an innovative organizational climate and innovation culture [12,32,39] is particularly relevant. According to Mumford et al. [40], an innovative climate and innovation culture have a powerful effect on the innovative and creative behaviours of members. An innovative climate and innovation culture encourage the taking of risks, does not punish failures, and allows autonomy for its members [41]. From an organizational theory standpoint, an organization's innovation is greatly influenced by two factors: organizational system and

climate, and employee behaviour [42]. Innovative employee behaviour means activities that aim to initiate and implement new ideas that improve the organization's performance. Innovative behaviour of an individual, as well as the innovation process itself are divided in different ways in the literature. For example, Carmeli et al. [43] offers a three-step process (problem identification, idea support (promotion of the individual's ideas), and idea realization). Meanwhile other innovation theorists often describe the innovation process and innovative behaviours as being composed of two main phases: initiation/idea generation [40,44] and implementation/application [45,46]. This study follows the division into two phases.

According to Muchiri et al. [47], researchers analysing innovative employee behaviour explored such important factors as organization resources [12,31,36], type of work, trust, expectations of activities and image creation [14,25,30,38], strategy [12,31], organization structure [32,37], climate [12,30,32,36] and individual and group skills [12,30,38,48]. However, lately more and more research [49–51] focuses on the role of effective leadership in shaping innovative employee behaviour, which will be discussed in the next subsection.

1.2. Leadership and Leadership Behaviour

Leadership is one of the most chameleonic and dynamic concepts with a wide range of descriptions and definitions. There is no finite and unified concept of leadership, and recently there has been an increase in new leadership terminology and definitions in the academic literature:

- Entrepreneurial leadership "deals with concepts and ideas, and these are often related to problems that are not of an organizational nature . . . (these) include vision, problem solving, decision-making, risk taking, and strategic initiatives" [52] (p. 3). It is capable of preserving the viability of the organization and helping it survive through renewal and growth [53].
- Collaborative leadership is based on the assumption that better communication leads to collaboration which determines innovation, and community leaders prefer to implement altruistic collaboration concepts [54] instead of competition.
- Chameleon leadership consists of several components: (1) the ability of a leader to recognize that a new situation requires another leadership style; (2) the perception of what specific leadership style would suit best the specific situation; (3) adapting their behaviour to the new leadership approach [55].
- Complex leadership basically reverts to teamwork and brings the role of collaboration-shared or distributed leadership to the fore [56–59].

Despite the diversity that is recapitulated by Antonakis et al. [60] stating that "in fact, there seem to be as many theories of leadership as researchers", the transformational leadership theory is one of the most dominant in recent decades [61]. Transformational leadership (like participative leadership), among other elements, aims to identify how leadership affects employee creativity, innovation, and innovative culture in organizations. Models and structures provided in the context of leadership research are characterized by versatility and consistency. Attempts are being made to apply them indiscriminately to various organization types, excluding the possibility that management approaches may and must differ in the context of change depending on the hierarchical level, situation, or context. This is fundamentally in contrast with the modern change environment, which according to Schoemaker et al. [1], requires dynamic capabilities that include an understanding of external change, the seizing of new opportunities, and organizational restructuring [1].

Within the framework of this article, the focus is on leadership behaviours, on which innovative behaviour of subordinates (in this case military officers) depends. Leadership behaviours are seen as a key factor in the motivation and performance of subordinates [5,62]. In the long term, leadership behaviours are linked to the implementation of the mission of the organization and are treated as vital for organizational innovation, adaptation, and performance [5].

As noted by De Jong and Den Hartog [5], after the analysis of scholarly literature: "most studies on the connection between leadership and individual innovation have explored the role of theory-based leadership styles, originally developed for other purposes such as the assessment of leaders' impact on performance or effectiveness rather than innovation-related outcomes". Considering the potential of this type of research, we have opted to contribute to empirical validation of the theoretical model by De Jong and Den Hartog [5]. Individual innovation helps to attain organizational success [5], therefore it is particularly important to clarify whether leadership plays a role and if so, what kind of role, in enabling and enhancing innovative behaviour in the Lithuanian Army. Woods [63] maintains that leadership is responsible for training employees to be leaders. To this end, and seeking to increase the efficiency of both individual employees and organizations in general, leadership innovative behaviour becomes particularly important in supporting and promoting innovative activity of employees in the innovation process from idea generation to implementation [64–66]. According to Collins [67], innovations are usually born not in the heads of top management, but in the heads of middle management and employees; therefore, the leadership behaviour of the formal management (those in leading positions who have subordinates (top and middle management)) of the Lithuanian Armed Forces was surveyed within the framework of this research.

1.3. Leadership Role in Shaping the Innovative Behaviour of Employees

The innovation process is a long, dynamic, and intensive phenomenon that brings different individuals with different experiences, knowledge, skills, or personal traits together. The implementation of the innovation process is more complex than the realization of other activities of an organization due to an unfavourable, even hostile, environment for innovation [48]. One of the most common obstacles in the innovation processes identified in the scholarly literature is the lack of initiative of personnel in the organization and their sceptical attitude and response to any changes. Personnel resistance can be determined by personal reasons such as established habits, attitudes and experience, lack of motivation for change, fear of uncertainty, and the need for security and stability. It also may be related to organizational factors, such as the lack of information about the actual benefits of innovation, prevailing organizational culture, lack of leadership support, risk intolerance, red tape, lack of resources, etc. [12,14,68]. According to Schein [46], in any case greater or lesser resistance to change occurs at all times, therefore, organizations planning innovation must be active in reducing the resistance of employees to ensure their innovative behaviour [69].

According to Muchiri et al. [47], support of the leadership, in particular the top management, and involvement in the innovation processes is vital for promoting an organization's innovations and innovative behaviour of employees. Sinlaparatanaporn et al. [70] emphasize that the personal innovative attitude and behaviour of managers are equally important, "in particular, leaders must behave in a more innovative way, in which workflows are created that inspires an atmosphere that fosters interoperability within the organization" [70] (p. 128).

Scholarly literature shows that strong leadership helps to formulate ambitious and decisive innovation visions and goals, to identify innovative activity directions, to promote and provide the appropriate conditions for the innovation process, to create a strategic innovation space allowing individuals to adopt and implement innovative approaches and practices, and to strengthen personnel motivation, innovation capacity, and innovative behaviour [12].

According to Muchiri et al. [47], a leader not only performs the function of an innovation process supporter, but also those of supervision/control (supervisory encouragement) and the building of a common working environment. For example, an individual problem-solving style of a manager or specific characteristics of team (group) work, and also ethical, change-oriented behaviour of a manager, are important for the innovative behaviour of employees.

The transformational leadership theory distinguishes (it should be emphasized that one of the pioneers was B. M. Bass [71]) four essential characteristics that help leaders shape innovative employee behaviour [27]:

- idealized influence, where leaders set their personal innovation example and earn the trust and respect of employees.
- inspirational motivation, with the help of which leaders help employees to understand the need, meaning and goals of innovation, and thus strengthen team spirit and clarify the future vision of innovation activities.
- intellectual stimulation manifests itself in a leaderships ability to promote innovation and creativity by raising debatable issues and encouraging solving old problems in new ways.
- finally, through the individualized consideration approach leaders seek to consider the specific needs of employees and act as mentors, thus empowering employees to grow, improve, and innovate. Transformational leadership behaviours, particularly intellectual stimulation, have been widely analysed [72–74] in the context of organizational change, implementation of innovations, and forming of employee innovative behaviour. It should be noted that the scientific literature provides less analysis of the issues of management of defence institutions (armed forces, and other military organizations) [75]. Less attention from researchers may be due to greater restrictions on the acquisition and use of sensitive data [76], the unique nature of military activities, or other exceptional features [75]. Nevertheless, research on the role of leadership in military organizations is gradually emerging [77–79]; there is also a greater focus on military transformation [2,3], defence innovation [80,81], as well as on the creation of an innovation-friendly environment [76,82,83]. The link between leadership and innovation is mainly analysed in the context of public policy and decision-making [84] or innovation strategy formulation [8,85]. However, there is a lack of focus on the role of military organization leaders in shaping the innovation environment and the innovative behaviour of subordinates [86]. Thus, this study is one of the few studies [87,88] in this direction. Given that the leadership in the Lithuanian Armed Forces at a strategic level is mainly based on the theory of transformational leadership [89], this article further analyses four leadership behaviours (support for innovation, delegating, intellectual stimulation and rewards) described in the background section by De Jong and Den Hartog [5] and their influence on the innovative behaviour of military officers.

2. Background

Based on the analysis of scholarly literature, a hypothetical model for testing the influence of the top and middle management of the Lithuanian Armed Forces on the innovative behaviour of military officers has been developed (see Figure 1).

Hypothesis 1 (H1). *Intellectual Stimulation is correlated with Support for Innovation.*

Hypothesis 2 (H2). *Intellectual Stimulation is correlated with Delegating.*

Hypothesis 3 (H3). *Rewards is correlated with Delegating.*

Hypothesis 4 (H4). *Rewards is correlated with Intellectual Stimulation.*

Hypothesis 5 (H5). *Delegating is correlated with Support for Innovation.*

Hypothesis 6 (H6). *Support for Innovation is correlated with Rewards.*

Figure 1. A hypothetical model for testing the influence of the management of the Lithuanian Armed Forces on the innovative behaviour of military officers. (Source: prepared by the authors on the basis of De Jong and Den Hartog [5]).

As a result of the research conducted by De Jong and Den Hartog [5], 13 leader behaviours (innovative role modelling, leadership vision, consulting, delegating, support for innovation, recognition, monitoring, task assignment, intellectual stimulation, knowledge diffusion, rewards, resources, and organising feedback) were identified which encourage innovative behaviour of employees when generating and applying ideas. As has already been mentioned, for the current research leader behaviours were selected that best comply with the strategic provisions of the Lithuanian Armed Forces (Support for Innovation, Delegating, Intellectual Stimulation, and Rewards). Given that the researchers themselves (on the basis of De Jong and Den Hartog [5] model) identified the limitations of the research and the need for more detailed quantitative analysis the innovative behaviour of military officers was chosen intentionally in order to contribute to the empirical validation of the model. For their detailed analysis the researchers have opted to study relationships among four leadership behaviours of two different stakeholder groups (top and middle-level managers) (Table 1). The researchers also decided to perform a compatibility assessment, which, according to the authors, is the novelty of the research and will contribute to its objectivity, because it will reveal whether there is any difference in behaviours at different hierarchical levels of leadership. The four leadership behaviours in the Lithuanian Armed Forces (according to De Jong and Den Hartog's [5] conceptual framework for leadership behaviour) are provided in Table 1. Subsequently, each hypothesis formulated from the hypothetical model is discussed.

Intellectual stimulation is identified in scholarly literature as one of the transformational leadership behaviours based on employee support, encouraging them to seek effective work solutions in order to improve existing organizational structures, processes, and practices [74]. Employees are encouraged to rethink old problems and solve them by generating new and innovative ideas (H1 Intellectual Stimulation is correlated with Support for Innovation). Intellectual stimulation promotes employee brainstorming, creativity, and critical thinking in solving problems [73]. The task of the leader applying intellectual stimulation (H2 Intellectual Stimulation is correlated with Delegating) is to challenge the status quo, encourage risk taking and thinking outside of the box, inspire entrepreneurial behaviour, etc. [72,74]. Rewards are perceived as personnel motivation tools, usually in financial terms, that show recognition and gratitude to employees for innovative behaviour (H3 Rewards is correlated with Delegating). Rewards are essential for innovative behaviour, because compared to other forms of support for innovation, rewards are more tangible [90].

There is a debate regarding the disadvantages of extrinsic rewards (usually in monetary form) (e.g., reduction of internal motivation or lack of creativity), but it is emphasized that the setting of reward criteria would solve the problem [91] (H4 Rewards is correlated with Intellectual Stimulation). The criteria depend on the organization's innovative objectives, e.g., on how radical or complex the innovation is, what its added value is, etc. Management (leaders) of the organization have an important task in building an effective rewards programme that sets criteria, ensures the principle of fair remuneration [90,92], and also offers balance between extrinsic rewards and other factors that form innovative behaviour of employees.

Table 1. The compliance of the researched leadership behaviours in the Lithuanian Armed Forces to De Jong and Den Hartog's [5] conceptual framework for stimulating in-novation.

Statements for the Respondents	**De Jong and Den Hartog's [5] Conceptual Framework for Stimulating Innovation**	
	Leader behaviours	Consists of
At the military unit each person has an opportunity to offer new ideas	Intellectual stimulation	Teasing subordinates directly to come up with ideas and to evaluate current practices
The personnel are rewarded for initiative and new ideas (appreciation, recognition by leadership, publicity, etc.)	Rewards	Providing financial/material rewards for innovative performances
Leadership grants me the right to take decisions and implement them	Delegating	Giving subordinates sufficient autonomy to determine relatively independently how to complete a task
By taking an initiative, you feel personal support and approval from your direct commander	Support for innovation	Acting friendly with innovative employees, being patient and helpful, listening, looking out for someone's interests if problems arise.

Delegating is the granting of relative autonomy to employees in performing certain tasks. At the organizational level, personal power is based on the person's ability to act independently, therefore the extension of powers is identified as one of the significant means to encourage employees to accept innovation processes and to take initiative in innovation implementation [32] (H5 Delegating is correlated with Support for Innovation). Authorized and independent individuals have greater motivation to achieve desired results [48]. Motivation and energy to act in an innovative way increase when employees feel their influence in achieving goals and solving problems. They gain self-confidence, expand and develop their competencies, etc. [93]. The delegation process begins when the manager/leader shares his powers with employees, for example, grants them legal power to plan operational measures, decentralizes decision-making and implementation [39], provides consultancy, allows them to distribute and control organizational resources, etc. [48].

Support for innovation is perceived as a positive attitude towards creative, innovative employees, patience, tolerance of smart errors, attention, listening and helping to solve problems related to innovation, etc. Support for innovation is directly linked to the results of the organization's innovative activities. While innovation is usually suggested by employees, management provides critical support, motivation, and guidance during the innovation process [67]. According to Mathisen [94], support for innovation is also linked to management's objective to develop leadership qualities of individual employees, to provide an opportunity to improve operational efficiency, to provide resources important for the innovation process, such as money and time, and to promote optimism and autonomy in the search and practice of innovative activities (H6 Support for Innovation is correlated with Rewards).

Sample and Data Collection

According to Naidoo et al. [64], innovation is rarely performed by higher leadership directly. It generally originates from lower and middle-level managers and employees. In view of this, two different target groups were selected for an interview:

1. Interview of the commanders of companies, squads, and units of the Lithuanian Armed Forces in order to study the influence of the top leadership of the Lithuanian Armed Forces on the innovative behaviour of military officers (hereinafter commanders). The general set was established on the basis of 2018 official data provided by the Ministry of National Defence of the Republic of Lithuania (hereinafter MoD) on the commanders of companies, squads, and units of the Lithuanian Armed Forces. The general set consisted of 969 commanders of companies, squads, and units. The formula suggested by Schwarz [95] was used to determine the sample size. The recommended level of tolerance of 5% [96] was used to determine the sample size. The identified sample size was N = 275. A total of 275 respondents were interviewed. Study duration: the electronic questionnaire was completed between 17 December 2019 and 30 January 2020. Profile of the respondents: the average age of the interviewed commanders was 32 years and the average length of service in the Lithuanian Armed Forces was 10 years, of which 4 years on average was in leadership positions; 28% completed secondary education, 15% vocational education, 14% non-university higher (college) education, 37% university education (Bachelor's Degree), and 6% university education (Master's Degree).
2. The target group of professional servicemen of the Lithuanian Armed Forces was interviewed in order to identify the role of the middle-level leadership (hereinafter military officers). Based on the statistics provided by MoD, the general population consisted of 2543 non-commissioned officers serving in the Lithuanian Armed Forces. In order to determine the sample size, a multi-level random selection method was used: first, the battalions and then the non-commissioned officers were selected. The identified sample size was N = 891. Due to the specifics of the organization of the survey (surveys were carried out directly at the place of service where officers completed the questionnaire), some of the questionnaires were completed by both privates and non-commissioned officers. In this way, a total of 891 officers took part in the survey, 581 of whom were non-commissioned officers. They accounted for 23% of all non-commissioned officers in the Lithuanian Army and represented the opinions of the non-commissioned officers of the Lithuanian Armed Forces with 95% reliability. The quantitative survey of the professional servicemen of the Lithuanian Armed Forces was conducted between December 2019 and January 2020. Profile of the respondents: the average age of the interviewed officers was 31 years and the average length of service in the Lithuanian Armed Forces was 9 years; 1% completed basic education, 39% secondary education, 29% vocational education, 7% higher education, 12% non-university higher (college) education, 11% university education (Bachelor's Degree), and 1% university education (Master's Degree).

SPSS 23.0 for Windows statistical package was used for data analysis. Likert scale was used for answers with five response options, ranging from strongly disagree to strongly agree.

3. Results

3.1. Analysis of the Relationship between Different Hierarchical Levels of Leadership

When examining the opinions of commanders and military officers about different leadership behaviours in promoting innovative behaviours of subordinates, it is very important to establish their relationships so that the most important factors influencing fundamental differences can be identified. To achieve this objective, a correlation analysis was selected using Spearmen's rank correlation coefficient, because questionnaire variables are ranked. The relationship of dependency was verified both between the responses of two respondents and among the responses of all questionnaire respondents. The results

of the Spearmen's rank correlation coefficient analysis are provided based on the correlation coefficient interpretation table by Corder and Foreman [97]. Since the aim of this study is to identify only the most important factors affecting the fundamental behaviour differences between the top management of the Lithuanian Armed Forces (commanders) and middle-level management (military officers) of the Lithuanian Armed Forces, only strong correlation relationships are examined. Any non-existent relationships and their reasons are outside the scope of this study. Thus, only strong relationships have been identified with coefficients ranging from 0.5 to 1 and from −1 to −0.5, which are statistically significant with statistical reliability of 0.01 ($\alpha = 0.01$).

Given that, according to Spearmen's rank correlation, only strong relationships between the leadership behaviours of top managers (commanders) are provided (see Figure 2), it may be stated that:

- Hypothesis 2 (H2). Intellectual Stimulation is correlated with Delegating was confirmed. The more the respondents agree with the statement that "Leadership grants me the right to take decisions and implement them" (Delegating), the more the respondents agree with the statement that "At the military unit each person has an opportunity to offer new ideas" (Intellectual Stimulation) (r = 0.549).
- Hypothesis 3 (H3). Rewards is correlated with Delegating was confirmed. The more the respondents agree with the statement that "Leadership grants me the right to take decisions and implement them" (Delegating), the more the respondents agree with the statement that "The personnel are rewarded for initiative and new ideas" (Rewards) (r = 0.512).
- Hypothesis 5 (H5). Delegating is correlated with Support for Innovation was confirmed. The more the respondents agree with the statement that "Leadership grants me the right to take decisions and implement them" (Delegating), the more the respondents agree with the statement that "By taking an initiative, you feel personal support and approval from your direct commander" (Support for innovation) (r = 0.647).
- Hypothesis 6 (H6). Support for Innovation is correlated with Rewards was confirmed. The more the respondents agree with the statement that "By taking an initiative, you feel personal support and approval from your direct commander" (Support for Innovation)," the more the respondents agree with the statement that "The personnel are rewarded for initiative and new ideas" (Rewards) (r = 0.527).

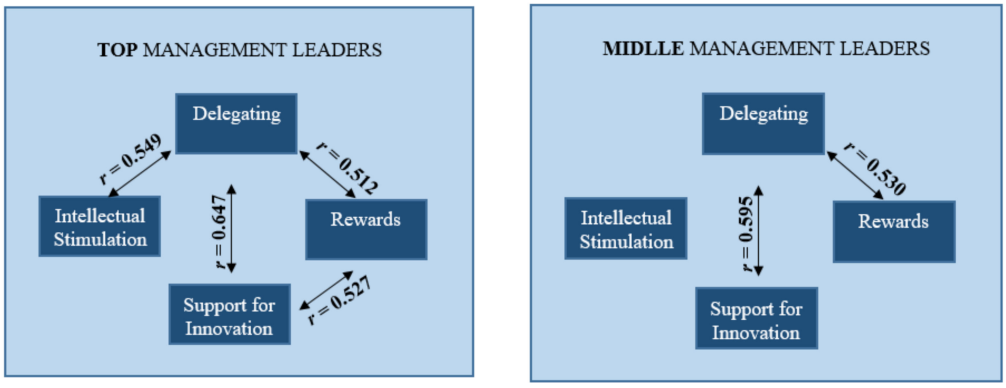

Figure 2. Strong relationships between the leadership behaviours of different hierarchical management level. (Source: prepared by the authors).

There are only two strong relationships between the leadership behaviours of middle-level managers (military officers) according to Spearmen's rank correlation:

- Hypothesis 3 (H3). Rewards is correlated with Delegating was confirmed. The more the respondents agree with the statement that "Leadership grants me the right to take decisions and implement them" (Delegating), the more the respondents agree with the statement that "The personnel are rewarded for initiative and new ideas" (Rewards) (r = 0.530).
- Hypothesis 5 (H5). Delegating is correlated with Support for Innovation was confirmed. The more the respondents agree with the statement that "Leadership grants me the right to take decisions and implement them" (Delegating), the more the respondents agree with the statement that "By taking an initiative, you feel personal support and approval from your direct commander" (Support for Innovation) (r = 0.595).

3.2. Analysis of the Compatibility of Opinions

In order to compare the opinions of commanders and military officers regarding leadership behaviours of the top and middle management of the Lithuanian Armed Forces, Kendall's coefficient of concordance and chi-square test were used to identify the compatibility of opinions (including opinions of the respondents of the same group). The coefficient of concordance was assessed based on Sheskin's [98] interpretation of coefficients. This approach helped to establish a moderate degree of compatibility between commanders' assessments (W = 0.486), so it may be stated that the commanders' opinions (about the top management) are similar. The same conclusions were obtained by applying the chi-square test to verify the null hypothesis: the opinions of the respondents do not correspond if p-value = 0.000 < 0.01, which is rejected in this case (see Table 2). In the case of military officers' opinions, a moderate degree of compatibility was established (W = 0.437) and the probability is less than the chosen significance level (p-value = 0.000 < 0.01). It may therefore be concluded that military officers' opinions about the leadership behaviours of middle-level managers that promote innovation are similar.

Table 2. Kendall's coefficient of concordance and chi-square test results.

N	8
Kendall's W	0.437
Chi Square	3,090,566
df	884
Asymp. Sig	0.000

The next step was to compare the opinions of commanders and military officers (regarding the behaviours of the top and middle-level management of the Lithuanian Armed Forces influencing innovative behaviour of their subordinates) in order to determine whether there are differences in opinions, and if so, to identify which group has a more favourable opinion about the leadership behaviours.

Since the variables in both samples have at least five different ranks, the Mann–Whitney U-test was used to verify the null zero hypothesis: the variable differences are the same. The null hypothesis was rejected, i.e., the two samples are statistically significantly different, where the probability value is smaller than the significance level (p-value < 0.01). In view of this and based on the data provided in Table 3, it can be argued that the statements made by the commanders and military officers constitute a statistically different assessment of the conditions for proposing new ideas, the right to take and implement decisions granted by the leadership, personal support and approval by the direct commander in taking initiative, and the possibility to contact the commander if there are problems in activities. Thus, the following statements are possible:

Table 3. The Mann–Whitney U-test results on commanders' opinions about the statements.

	Support for Innovation	**Delegating**	**Intellectual Stimulation**	**Rewards**
	By taking initiative, you feel personal support and approval from your direct commander	Leadership grants me the right to take decisions and implement them	At the military unit each person has an opportunity to offer new ideas	Personnel are rewarded for initiative and new ideas
Mann–Whitney U	103,343.500	92,868.000	108,309.500	113,531.500
Wilcoxon W	491,864.500	482,271.000	497,712.500	502,934.500
Z	−3.990	−6.258	−2.861	−1.709
Asymp. Sig. (2-tailed)	0.000	0.000	0.004	0.087

Commanders are statistically significantly more positive about the opportunity to offer new ideas at their military unit (p-value = 0.004 < 0.01) (Intellectual Stimulation).

Commanders are statistically significantly more positive about the statement that leadership grants them the right to take decisions and implement them (p-value = 0.000 < 0.01) (Delegating).

Commanders are statistically significantly more positive about the statement that by taking an initiative, they feel personal support and approval from their direct commander (p-value = 0.000 < 0.01) (Support for Innovation).

In the meantime, commanders and military officers statistically similarly assess the statement that personnel are rewarded for initiative and new ideas (p-value = 0.0817 > 0.01) (Rewards).

4. Discussion

In scholarly literature, innovative behaviour of employees is examined in a wide variety of ways. More and more attention [49–51,64] is devoted to research of the effective leadership role in the formation of innovative employee behaviour. The one-sided approach of the research carried out on the role of leadership on innovative behaviour of subordinates from the perspective of subordinates is not considered to be a limitation of the research, because it reveals important insights into the influence of management on different levels in the same organizational structure. The research results reveal four strong and statistically significant correlation relationships at the level of top managers (commanders) (H2 Intellectual Stimulation is correlated with Delegating, H3 Rewards is correlated with Delegating, H5 Delegating is correlated with Support for Innovation, and H6 Support for Innovation is correlated with Rewards). Meanwhile at the level of middle-level managers (military officers) only two strong relationships were found (H3 Rewards is correlated with Delegating and H5 Delegating is correlated with Support for Innovation). This is the uniqueness of the research and reveals another namely different hierarchical level aspect to be explored (see the Table 4).

Table 4. Summary of the research results.

Hypotheses	Theoretical Basis	Empirical Results	
		TOP Management Leaders (Commanders)	**Middle Management Leaders (Military Officers)**
H1 Intellectual Stimulation is correlated with Support for Innovation	[5,27,47,70,73,74]	H1 is not confirmed (r = 0.465)	H1 is not confirmed (r = 0.445)
H2 Intellectual Stimulation is correlated with Delegating.	[5,27,47,72,74]	H2 is confirmed (r = 0.549)	H2 is not confirmed (r = 0.464)
H3 Rewards is correlated with Delegating	[5,90]	H3 is confirmed (r = 0.512)	H3 is confirmed (r = 0.530)
H4 Rewards is correlated with Intellectual Stimulation	[5,91]	H4 is not confirmed (r = 0.455)	H4 is not confirmed (r = 0.434)
H5 Delegating is correlated with Support for Innovation	[5,27,32,39,48,93]	H5 is confirmed (r = 0.647)	H5 is confirmed (r = 0.595)
H6 Support for Innovation is correlated with Rewards.	[5,90,92,94]	H6 is confirmed (r = 0.527)	H6 is not confirmed (r = 0.479)

Based on Sinlaparatanaporn et al. [70], the personal attitude and behaviour of managers are particularly significant and innovative, therefore it is considered appropriate to conduct a parallel study of management in the future for the sake of depth of study and to identify whether there is any difference between assessments by subordinates and self-assessment. Another research alternative to be considered is the influence of management not only on the individual innovation of employees, but also on group innovation or even organization innovation, i.e., to determine how a leader's innovative behaviour correlates with innovation of individual employees, the team, and the organization as a whole. Following Subramaniam and Moslehi's idea [99], it is possible to research how management support for innovation and training of personnel innovation is linked to the organisation's performance.

As a result of the research, another important aspect is raised: the need for a more detailed analysis of individual innovation manifestations. Individual innovation helps to attain organizational success [100], therefore, analysis may be carried out as to whether there are proper opportunities and conditions for individual innovation, what the role of management in innovation manifestation is, etc. Links between the manifestation of individual innovation and influence of management are seldom studied. Hypothetically, a paradoxically opposite situation may exist: in the absence of leadership support and the presence of relative discomfort, the degree of innovation may be high, although the level of innovation of personnel who are supported may radically differ from that of personnel who are not supported by management, so that the balance or imbalance of this relationship is undoubtedly an aspect of interest for researchers. According to Muchiri et al. [47], support and involvement of management (especially top management), in innovation processes is vital to promoting innovation and innovative behaviour. However, the question arises what kind of support should be offered to bring an obvious change that would provide for an innovation-friendly environment which would then allow for the adoption and implementation of innovative approaches and practices, the strengthening of staff motivation, innovative capacity, and innovative behaviour, etc. [48]. These and other aspects for discussion reveal the relevance of the chosen topic and the range of research opportunities. Although a number of studies have been carried out in both the innovation management and leadership areas, the multidimensional aspect of the topics and the context lead to the discovery of new aspects and the need for new research.

5. Conclusions

Main findings. Most innovations occur not at the top management level, but at the middle management level. It is only with proper support from management both at the stages of idea generation and implementation, that innovation is enabled. Within the framework of this research, it was identified that middle management is of the opinion that the top management offers critical support, motivation, and guidance in the innovation process. Meanwhile, the behaviour of middle management does not significantly affect the innovative behaviour of military officers.

This research reveals that the behaviour of top and middle management is changing in the interaction with the studied leadership behaviours (Support for Innovation, Delegating, Intellectual Stimulation, and Rewards). The strongest links were identified between Delegating and Rewards and Delegating and Support for Innovation. The link between Delegating and Rewards essentially testifies to the need to allow personnel to make decisions and implement them, but not to forget to evaluate and encourage personnel for innovative behaviour.

This research has established that both target groups surveyed evaluated rewards in leadership behaviour that were statistically equal. The particularly strong link between Delegating and Rewards, regardless of the hierarchical management level, revealed by the research is considered as an important outcome of the research.

Theoretical implications. During the research, different influences of management on innovative behaviour of military officers were identified at different hierarchical levels. This presupposes that there cannot be unified research of all chains of the organization in order to promote innovation, because the results of the research may be, and are, likely to distort the research data.

Also identified was the need to continue research on the influence of management not only on the individual innovation of employees but also on group innovation or even the organization, i.e., to determine how a leader's innovative behaviour correlates with the innovation of an individual employee, the team, and the organization as a whole. Practical implications. Given that bottom-up innovation development in organizations is the most effective and faces less resistance [4], focus should be on the role of middle management in strengthening the innovative behaviour of military officers in the Lithuanian Armed Forces. The need of the Lithuanian Armed Forces for innovations has been determined not only by the challenges of globalization but also by the growing expectations of society [14]. Innovation may become an essential feature of the Lithuanian Armed Forces with the approval and support of the top and middle management, however, the promotion of individual innovations of the personnel should be reinforced, seeking to facilitate the ability of personnel to accept and implement innovative decisions.

Limitations. The limitation of the study is that 4 of the 13 leadership behaviours singled out by De Jong and Den Hartong [5] were selected, and therefore only partially contribute to the empirical validation of the quantitative model. The innovative behaviour of subordinates from the perspective of subordinates on the role of leadership is a one-sided approach to the research and as such can also be considered a limitation to the research.

Future work. The positive importance of rewards (especially financial) to innovative behaviour of employees is not contested in scholarly literature [90], but there is a lack of research on the relationship between innovative behaviour and other means of promoting innovative behaviour.

Author Contributions: Contribution by co-authors: V.Š. conceived the study and was responsible for the design and development of the data analysis. Literature review and methodological parts were prepared in collaboration with: V.G. (Sections 1.1 and 1.3), V.Š. (Section 1.2): O.N. was responsible for data processing and their interpretation. The first draft was prepared by V.Š. The final version of the paper was prepared with the cooperation of the co-authors, according to the areas of competence and responsibility. All authors have read and agreed to the published version of the manuscript.

Funding: Data were collected within the framework of the project Leadership Research in the Lithuanian Armed Forces 2019–2020 funded by the Ministry of National Defence of the Republic of Lithuania. The current work was funded by General Jonas Žemaitis, Military Academy of Lithuania Study Support Projects (2021–2024), General Jonas Žemaitis, Military Academy of Lithuania, Vilnius, Lithuania.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: Not applicable.

Conflicts of Interest: The authors declare no conflict of interest.

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