



Work motivation as a strategic development tool for the Greek forest service departments: Evidence from the region of Macedonia and Thrace

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Abstract

Attaining objectives might be difficult for the Greek Public Administration, which makes it essential to use for effective motivational tactics to raise staff performance and for realization of the organization's mission. It is considered that the public sector's human resources are its most valuable asset, it is deemed essential to motivate employees based on their unique qualities. Hence, the purpose of this work is to justify the factors that contribute to the commitment and improvement of the employees' performance occupied in the Greek Forest Services of Macedonia-Thrace Region. All employees of the aforementioned services were asked to complete a questionnaire with the intention of learning more about what drives them, which is crucial information for academics and policymakers alike. From the results of the research emerged, that the most important motivational factor is the employees' need to work for the common good and be part of an important vision. The ability to take initiative and participate in decision-making, the recognition of employee's contributions and feedback on the results of their work, the recognition of their needs as parents and as individuals, and the fact that their department's management and their co-workers value them as people are all significant motivating factors. The aforementioned findings provide Greek policymakers with an effective instrument for enhancing the performance of public services.

1. Introduction

Employee motivation is a competitive advantage and a tool for strategic development for public administration. Successful motivation of employees is affected by human behavior, the attitude of employees toward work and their dedication to the Organization. As a result, it is essential for each Organization to evaluate the factors that influence the will of their employ both to become more efficient, and be committed to the goals of the Organization. The latter must engage its staff in its vision in a way that motivate them to actively contribute to its realization. (Hytyris, 2001).

The greatest challenge for public sector executives is to combine effectively on one hand, the organization's goals for efficiency and productivity, and on the other hand, the employees' needs for motivation, payment and satisfaction. It is the gravitas of this finding that leads to the emphasis given on employee motivation, satisfactory working conditions, human resources management with specific leadership styles, the assessment of employees' performance and their involvement in the vision and the objectives of the Organization (Kanelopoulou, 2018). In this paper, it is studied whether working conditions are a factor that contributes significantly to employee motivation and their need for greater effectiveness and efficiency at work. This paper examines the effectiveness of leadership style as a motivating element at work, how public

sector employees view their own evaluations, and how such evaluations affect their motivation at work. Finally, the novelty of this study lies in its attempt to link motivation with the satisfaction and inspiration that workers experience from knowing that their work helps to protect the "forest" and "environment" while advancing the organization's mission. There is no previous study in the Greek Public Services and more specifically in the Forest Service Department, studying the contribution of working for the common good to the employee's motivation. The results of this study may become a useful tool for both academics and policy makers and they contribute to a more effective motivation of the employees.

This paper starts with a literature review of the concept of motivation and the factors that affect it. The, it moves on, to present the research methods that are used and the results derived from the statistical analysis of the research participants' answers. The conclusion is followed by a brief summary of the entire body of research that was done.

2. Literature Review

The motivation is the lever for improving employee performance and consequently the performance and welfare of organizations and businesses has led to the thorough study of its meaning, its operation and the processes that ensure it. Being the subject of study for many researchers, resulted in the many definitions that were given to the term motivation.

According to [Pinder \(1984\)](#), the set of active forces that determines the attitude of employees towards their work may come either from the individual him/herself or from their environment and is defined as motivation. [Higgins \(1991\)](#) defines motivation as an internal drive, which urges a person to satisfy an unsatisfied need. While [Kreitner \(1995\)](#) defines it as a psychological process, which gives meaning to human behavior and determines its direction.

All people, whether they behave rationally or not, consciously or not, behave in such a way as to fulfil the needs arising from the motivational forces ([Hytiris, 2001](#)). Further, according to [Hytiris \(2001\)](#), motivation is "the set of actions on the part of management to cause and maintain the employee's will to behave in a certain way".

According to [Montana and Patrick \(2002\)](#), motivation stems from the tension created by the individual's unfulfilled needs, which then leads to specific behaviors aimed at reducing this tension. The process of motivation is a dynamic process where the individual intentionally adopts a specific behavior that he/she believes will lead him/her to achieve his/her predetermined goals.

As a management function, motivation is the process of activating the abilities of employees, in order to achieve the organization's goals ([Dunham & Pierce, 1989](#)).

According to D.Cirnu, as cited by [Achim, Dragolea, and Balan \(2013\)](#) in any endeavour, it is noted that weak human motivation results in the usage of just 20–30% of an individual's potential, but great motivation recovers 80–90% of their ability.

From the review of the literature related to the factors studied in this research, several conclusions emerged that were used to interpret the results.

[Thomas, Hardy, Cutcher, and Ainsworth \(2014\)](#) state that age is an organizing principle and an embodied identity as well as an indicator of the wealth and stability of a workforce in modern society. They point out that the functioning of an organization is decisively affected by the age distribution of its workforce, which has an impact on the productivity of both employees and the organization itself. Age balance is necessary to guarantee a flexible, active, dependable, and sustainable workforce transition; in the absence of it, there may be hazards related to the transfer of duties and experiences.

According to [Brienza and Bobocel \(2017\)](#) fairness is relevant for workers according to their age. Employees of different age groups consider different types of justice important. Fair wages and fair procedures may not be perceived as satisfying for older employees when provided in an organizational climate that fails to priorities respect. Conversely, for younger employees, a respectful workplace environment with relatively low salary may not be satisfactory.

According to Herzberg's two-factor theory, hygiene or maintenance factors do not act as motivational factors although they contribute to maintain performance. Their absence, however, has a negative effect on motivation. In order to ensure improved and maintained performance, every employee must prioritize healthy working conditions, which are not simply a concern of the workforce. ([Johnny & Eluka, 2014](#)). Improving convenience facilities can help employees stay on duty and reduce absenteeism, employee turnover, sick days, occupational injuries, and possibly, stress conditions among employees. Employees who believe their working conditions are not good, have less motivation, which leads to subpar performance. ([Priyono, Ariana, Putra, & Soesatyo, 2018](#)). Accordingly, [Etemesi, Sirmah, and Chepkwony \(2018\)](#) proved that physical conditions increase employee performance to a great extent. Organizations should consider improving physical conditions in the workplace and especially technology that greatly affects employee performance.

[Özkeser \(2019\)](#) notes that managers should pay proper attention in training activities. The continuous training of the employees and their development in the context of work are very important for the employees themselves with an impact on their performance.

The key to motivate employees are managers with a clear understanding of their employees' expectations and motivation on an individual as well as a collective environment (Varma, 2017). According to the research conclusions of Dartey-Baah (2010) management must try in every way to integrate the individual needs and aspirations of employees into its organizational goals.

Family support provides a powerful source of motivation that can enhance workplace performance. Family motivation increases work performance by enhancing energy and reducing stress and thus it is important when intrinsic motivation is lacking (Menges, Tussing, Wihler, & Grant, 2017). Following this narrative Varma (2017) concludes that employees are motivated by work-life balance.

According to Pancasila et al. (2020), as cited by Ali and Anwar (2021), employees not only want to be compensated, but also to be respected by their employers. Employees would be more excited at work if their bosses recognize their contributions.

Prilleltensky Isaac (2022) defines that people need to feel important, they need to give back to others—including their family, friends, coworkers, and other community members—and they need to feel respected.

Dartey-Baah (2010) considers that job design and enrichment, level of empowerment, training, performance appraisal, motivation and flexible working hours are related to job satisfaction and willingness to work. According to Pananrangi et al. (2020) as cited by Ali and Anwar (2021) the concepts of motivation and job satisfaction are confusing. The principle of existence of any organization is the relationship between motivation and job satisfaction.

Initiatives and innovation are criteria for leadership roles. Delegating initiative helps build leadership at different levels and is a powerful motivator. When given the chance, workers at all levels who choose to take on leadership roles have the potential to further inspire and sway other workers. (Herman, 2011).

Varma (2017) concludes that organizations should involve employees in goal setting and decision making. This will increase employee participation and give a sense of responsibility for achieving organizational goals. According to Šimonová (2017) companies that respect their employees by recognizing their qualifications and their freedom and enabling them to participate in decision-making, can in return expect interest in their work, a higher level of loyalty from what is expected from selfless staff, willingness to spend more time at work on special occasions, creative ideas, innovations and dedication to both the work and the company. However, if working conditions change, loyalty and commitment can be lost extremely quickly. Following that, a study by Guinot and Barghouti (2019) confirms that the amount of motivation increases with employee's participation. Therefore, it is important for management to involve members of the organization in decision-making, changes, and projects in order to motivate employees.

Okello and Gilson (2015), highlight the value of trusting relationships in the workplace that influence employees' intrinsic motivation and consider trust as a critical and positive influence on their performance. The results of Guinot and Barghouti (2019) research show that managers' trust in subordinates is positively related to both participation and motivation.

Kozłowski (2012) noted that employee engagement is stimulated by encouraging teamwork. The shift from individuality to collectivity results in mutual commitment and responsibility. Achim et al. (2013), came to the same conclusion, noting that supporting teamwork drives collaborative effort for greater results whereas encouraging individual work breeds jealousy. Promoting team spirit, knowledge sharing and employee engagement gives employees a sense of identification with the organization (Varma, 2017).

Opportunities for professional development increase an individual's job satisfaction, as promotion is a consequence of the employee's recognition and reward. Internal mobility in the organization urges the employees to work more, boosts self-confidence and, consequently, increases their productivity (Abuhashesh, 2019). As Tsounis and Sarafis (2016) point out, the professional growth of the personnel is a benefit of their improved performance, and in this case, this leads to job satisfaction as an intermediary link between productivity and benefits.

Purohit and Bandyopadhyay (2014) concluded that recognition of work-contribution along with respect and interest in work, are the most important motivating factors. The importance of recognition is also emphasized in the research of Varma (2017) according to which, organizations must develop a performance management system that rewards effectively, and appreciate positively and consistently.

Zeb, Rehman, Saeed, and Ullah (2014) concluded that most of the studies support those rewards and recognition such as salary, promotions, appraisal in improving employee job satisfaction. Effective reward and recognition systems in organizations produce a favorable work environment that ultimately leads to employee motivation and job satisfaction. According to research by Aruna (2018) improving reward and recognition can have a positive effect on motivation and satisfaction. Recognition is comprised of recognition feedback and performance feedback. An effective motivating factor is the employer's recognition of the employees' effort that results in cumulative productivity (Etemesi et al., 2018). Regardless of their position or line of work, most employees value being recognized by their bosses, clients, and coworkers. (Chandrawaty & Widodo, 2020). Accordingly, a UK survey of construction industry professionals found that the most important organizational activity is the recognition of employee efforts (da Cruz Carvalho, Riana, & Soares, 2020). Finally, an organization that values the abilities and efforts of its employees is more likely to retain its human resources (Febrianti, Suharto, & Wachyudi, 2020). Organizations should design strategies in alignment with corporate goals, communicate employees and inform them about their contribution in their achievement (Varma, 2017).

According to Varma (2017), the organization must build and frame the organizational structure with procedures that support and enable work, such as training and development, performance management, remuneration and rewards, etc., in order to create a work environment where employees are motivated and committed to the organization. From a survey by Lazarou (2016) argued employees in Cyprus' public sector are dissatisfied with the current evaluation system, which they view as inefficient. The Athens Municipality of Metamorfofi's employees' performance evaluation system was subjected to a comparable survey. Employees perceive the evaluation system as unfair and inadequate (Papathomopoulou, 2018). Furthermore, in a study by Boachie-Mensah and Seidu (2012) participants appear particularly different from the evaluation process because they are afraid that the results are not error-free. On the contrary, research conducted in Tanzania showed that performance appraisal is really beneficial and can motivate employees to put more effort and better-quality work when it can be used to design a fair promotion system. The importance of employee's objective performance appraisal system is also highlighted by Hadija (2018).

Kirkpatrick (2009) emphasizes the utility of different material and non-material rewards and benefits at work. Employees may respond favorably to rewards like security, monetary compensation, power and decision-making, prestige, gaining more responsibility, better working conditions, a sense of accomplishment and challenge, better one-on-one interactions with influential people, and an increase in operational efficiency.

In a study conducted by Weberova, Hitka, and Lizbetinova (2017) it was concluded that many research respondents' sole goal was not only making money. Instead, they want to belong somewhere, they want to feel good about their achievements and they are willing to make changes. Factors such as corporate culture, workplace atmosphere, contribution to culture and sports, use of advanced services and others are more important to many employees than financial factors.

3. Research Methods

The present paper was based on the design of a structured questionnaire with the aim to collect primary data. The sampling method chosen is convenient sampling. The selection of participants was based on their status as civil servants and employees of the Forest Services of Macedonia-Thrace. The population, i.e., the broad set of subjects for which conclusions are drawn in the context of this research, are all the employees of the Forest Services of Macedonia-Thrace Region, Greece (768 people). The sample size in this research is $n=156$ people.

The questionnaire was designed to assess the demographics of the study population (gender, age, marital status, number of children, education, job position, position in the hierarchy), working conditions, leadership style, evaluation and involvement in the Forest Service's vision as motivators for employees to perform better. The aim was to assess the extent to which employees' need to work harder and perform better, is influenced by drawing strength and inspiration from the sense that they are contributing to something important that has a positive impact on the whole society.

The statistical analysis of the survey results was performed using the JASP (JASP stands for Jeffreys's Amazing Statistics Program) opensource software (Version 0.14.1.0). To perform the hypothesis testing, the following tools were used: one sample t-test (student's test), uncorrelated t-test (Independent t-test) or test of equality of means (t-test), analysis of variance (ANOVA), and control χ^2 .

The analysis of the demographic data aims to examine the characteristics of the sample that are likely to influence the opinion of the respondents about the subject of the research, contributing to a more complete interpretation of its results. Men participate in the survey at a rate of approximately 52% while women at a rate of 48%. The majority of participants belong to the 51-60 age group (48.1%), while younger employees under 40 make up just 3.2% of the total. Age is one of the determinants of job diversity. As can be seen from the results of statistical analysis, that the age distribution of the employees of the Forest Services of Macedonia-Thrace is not in balance in terms of the distribution of employees in the age groups. It turns out that the Macedonia-Thrace Forest Services are dominated by workforce that is growing old without enough young people entering it. In the future, a problem may arise both in the operation of the Forest Services and in succession planning, that is the transfer of the experience and knowledge acquired due to the retirement of a large number of employees in the same period of time. The operation of Forest Services may experience issues due to the accumulation of knowledge over time that is not transferred and is at risk of being lost due to retirement, the overloading of older employees with tasks due to a lack of younger staff, the inability of older employees to perform fieldwork due to age-related issues, as well as a lack of fresh ideas and a non-renewal of human resources mentality.

4. Results

From the results of the statistical analysis, it is obvious that employees are quite satisfied with their working conditions, however they tend not to be motivated by them. Employees are more motivated by the fact that the management and their colleagues respect them as individuals, while on the contrary, the least motivating force is appropriate, sufficient and continuous training. The participants appear quite satisfied with the cleanliness and hygiene conditions at work and with the provision of appropriate means and logistical equipment (Personal Computers, measuring instruments, etc.). However, they feel that the means of

transportation they use daily to carry out Forest Service work are not safe. According to [Onyango \(2013\)](#) means of transportation is critical as an emergency response strategy because it is a prerequisite for employees (rangers) to reach impermeable areas at any time due to emergency. Employees consider that the personnel of Forest Services are not sufficient and even they are not provided with appropriate, adequate and continuous training. Employees possessing a high school diploma are the least satisfied with the provision of appropriate and adequate training.

Participants are quite motivated by the fact that the management of the Forest Service Department considers their personal needs, more because the management of their work place considers (facilitates/supports) their needs as parents. The average of the answers to this question is almost the same for both genders as it is presented in [Table 1](#). Every table is utilized exactly as it was taken out of the JASP programme. Since they shouldn't, the empty cells don't have any data in them. There are no data gaps.

Table 1. Descriptive statistics for A7/ gender.

	A7	
	Man	Woman
Valid	73	71
Missing	7	4
Mean	3.411	3.394
Std. deviation	0.847	1.152
Minimum	1.000	1.000
Maximum	5.000	5.000

Note: A7: How much motivates employees the fact the management considers (Facilitates/supports) their needs as parents.

According to [Menges et al. \(2017\)](#) management may perceive employees' family concerns as inhibiting factors in completing tasks, meeting deadlines and enhancing productivity. On the other hand, providing opportunity to employees strengthen family bonds, offers flexible work options will result in employees' better results.

It is notable that employees are even more motivated if management and their colleagues respect them as individuals. Men's attitude to this question is greatly influenced by their gender. They are not particularly motivated by the opportunity they are given to learn and develop themselves.

According to the results of the statistical analysis of the responses, the leadership style used by the Forest Service's tends to have a beneficial impact on worker performance. A positive motivating factor is the fact that they are asked for their opinion on issues related to decisions concerning their work and their department in general, as well as the fact that they can take initiative on issues related to their work. The ability to take initiative motivates more the employees holding the position of Head of Section, less those holding the position of Director (both of these have more freedom to take initiative and decisions), when compared to the employees that do not hold a position of responsibility who hold the least levels of motivation.

Employees' moods are positively impacted by knowing and helping to realize the department's aims and objectives, which helps them perform better at work. The majority of participants answered "a lot" to this question. The potential to participate in decision-making about improvements made on their work does not affect the performance of employees. Participation in decision-making affects more employees holding the position of Head of Department, less the Directors and even less the other employees who do not hold a position of responsibility. Because "a little" is the most frequently given response, it is clear that management of the Forest Services of Macedonia-Thrace's human resources has to be more comprehensive and systematic. Additionally, the staff do not appear to be sufficiently motivated by management. Employees need to feel that they may openly voice their opinions on work-related issues, even when those opinions differ from those of their supervisor. This can be done by showing them that management has faith in them. Team spirit is also an important motivating factor. Only 3.2% of participants are not motivated at all when they feel they are working as a team with their colleagues [Table 2](#). For the execution and success of their work (patrol to stop illegal logging, poaching, etc.), forest officials must work together effectively. According to [Onyango \(2013\)](#) teamwork affects the performance of Kenya Forest Service rangers and cooperation among them is critical to their success.

Significant variations emerged from participants' opinion regarding equal treatment by the management and equal opportunities for professional development in terms of their motivational power, which appears low. Equally 30.323%, "quite a bit" and "a lot" of participants want to become even more efficient at work because management recognizes and appreciates their performance. According to [Aruna \(2018\)](#) the better the rewards and recognition, the higher the levels of motivation and satisfaction, and therefore, the higher the levels of performance and productivity.

Table 2. Frequencies table for B8.

B8	Frequency	Percent	Valid percent	Cumulative percent
1	5	3.205	3.247	3.247
2	25	16.026	16.234	19.481
3	53	33.974	34.416	53.896
4	46	29.487	29.870	83.766
5	25	16.026	16.234	100.000
Missing	2	1.282		
Total	156	100.000		

Note: B8: If and how much do participants feel they want to become even more efficient at work because they feel they are working as a team with their colleagues.

Employee motivation is positively impacted by feedback as well. When participants are informed of the results of their work, they are "fairly" to "very" motivated. However, in terms of management style, the Forest Services of Macedonia-Thrace staff are least motivated by rewards. Only 3.846% of participants answered "not at all" in the question if they are motivated because they feel a strong commitment to the Forest Service Department they work for, while only 7.692% answered "a little". However, it is interesting to further investigate whether employees feel a high commitment to their Service because of the way they are managed or because of the object of their work.

The average opinion of the survey participants regarding the evaluation of their work as it is carried out today and whether they believe that it can assess the work of the employees, is negative. Only 1.282% answered very positively (very much) while 32.051% answered negatively (not at all). The negative attitude and skepticism of the employees towards the evaluation as it is carried out today and their wariness about whether it can assess their work is highlighted. The opinion of the participants regarding whether the evaluation is a motivation for improving their performance is also negative Table 3. The average value (Mean) is equal to 2.117 (α little). Only 2 out of 156 respondents who answered that evaluation is an important motivating factor for improving their performance (very much), 15 of them answered (a lot). Employees do not believe the evaluation to be trustworthy, and as a result, it does not serve as a motivating force for them to perform better. Opposite results emerge from a survey that took place in Croatia according to which the high level of awareness of employees about the importance of job evaluation as an element of motivation and work performance was confirmed (Hainš, 2018).

Table 1. Frequencies table for C2.

C2	Frequency	Percent	Valid percent	Cumulative percent
1	52	33.333	33.766	33.766
2	51	32.692	33.117	66.883
3	34	21.795	22.078	88.961
4	15	9.615	9.740	98.701
5	2	1.282	1.299	100.000
Missing	2	1.282		
Total	156	100.000		

Note: C2: Opinion on whether the evaluation is a motivator to improve the performance of the participants.

As it can be seen in Table 3 the participants desire to exist a link between work evaluation and a specific reward (monetary/material/ethical), they. Employee motivation through rewards becomes necessary in order for them to be more productive at work. The participants' opinion is positive about the inclusion of more objective criteria in the evaluation of employees. Only 1.282% answer this question completely negatively. Employees' readiness to be judged fairly, using more objective standards, and to get rewards for their excellent work is stressed. The majority of participants are supportive of the link between evaluation and programme design for education. The most optimistic workers are those with doctoral degrees, followed by graduates of compulsory education and then those with master's degrees. Additionally, when employees get older, they answer this question more favorably. Table 4.

Concerning engagement in the service vision, it seems that employees are driven to work more because they feel that they are making a difference in society. Employees are more driven by their sense of making a difference for the greater good than by their efforts to slow down climate change and avert extreme weather disasters. Most participants answered that they are "a lot" or "very much" motivated by the fact that they contribute to the protection of the environment and its preservation for future generations. The assessment of the results must be done in the light of the fact that the protection of the environment is the mission of the Forest Service. Employees who are higher up in the hierarchy, and therefore make decisions and manage, are more motivated by the sense that they are contributing to the protection of the environment, which reflects a strong commitment to the Forest Services' mission and vision.

Table 2. Descriptive Statistics for C5/age.

	C5			
	40>	41-50	51-60	>60
Valid	5	62	75	11
Missing	0	2	0	0
Mean	3.200	3.419	3.720	4.000
Std. deviation	0.837	1.262	0.909	1.183
Minimum	2.000	1.000	2.000	1.000
Maximum	4.000	5.000	5.000	5.000

Note: C5/age: Should evaluation be linked to the planning of educational programs/age.

The participants' perception of how stopping unlawful activities that harm the forest affects their intention to work more effectively ranges from neutral to positive. It has been discovered that employees are more motivated the further up in the hierarchy they are. Preventing these actions is essential for the task, goal and vision of the Forest Services. Therefore, the leadership should focus on conveying a clear vision to all employees with the aim of achieving better service performance in order to accomplish its overall goals and vision. The most powerful motivator for the participants is the belief that they are working for the common good. In the frequency table extracted from the statistical analysis of the responses, it emerged that 33.974% of the respondents answered, "very much" while only 4.487% answered "a little" and none answered, "not at all" Table 5. This result may contribute to a more effective motivation of the employees if it is used properly by both academics and policy makers.

Table 5. Frequencies table for D4.

D4	Frequency	Percent	Valid percent	Cumulative percent
2	7	4.487	4.516	4.516
3	33	21.154	21.290	25.806
4	62	39.744	40.000	65.806
5	53	33.974	34.194	100.000
Missing	1	0.641		
Total	156	100.000		

Note: D4: Is the belief that they feel they are working for the common good affects participants' willingness to perform better at work?

Finally, the contribution to the prevention of natural disasters such as fires, floods, etc. greatly influences the mood of Forest Services' employees to perform better in their work. The sense of the Forest Services of Macedonia-Thrace employees that they contribute to the realization of the Service's vision motivates them to perform better. It is important to investigate further whether this is a result of people's innate desire for what is right and desirable, whether the Forest Services' vision was clearly communicated to and motivated its staff, whether contact with nature and its beauty works positively in this direction, or, finally, whether it is a result of the instinct for self-preservation.

The performance of the hypothesis testing reveals that there is a statistically significant effect of working conditions on motivation, which is negative. Leadership style has no statistically significant effect on employee motivation while participation in the Forest Service's vision has a positive effect. Working conditions, leadership style and participation in the vision affect motivation in the same way for both women and men, since there is no statistically significant difference between the mean values of the two populations for these three dimensions. Figure 1 presents A_mean/gender independence test.

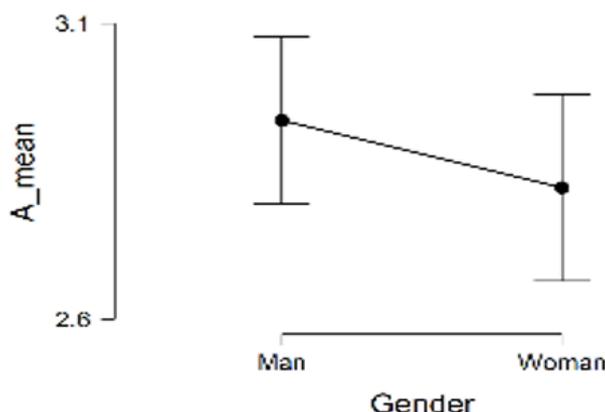


Figure 1. A_mean/gender independence test.

Figure 2 exhibits B_mean/gender independence test.

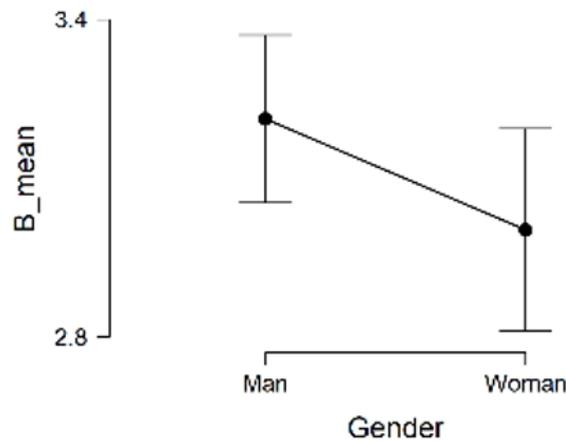


Figure 2. B_mean/gender independence test.

Figure 3 displays D_mean/gender independence test.

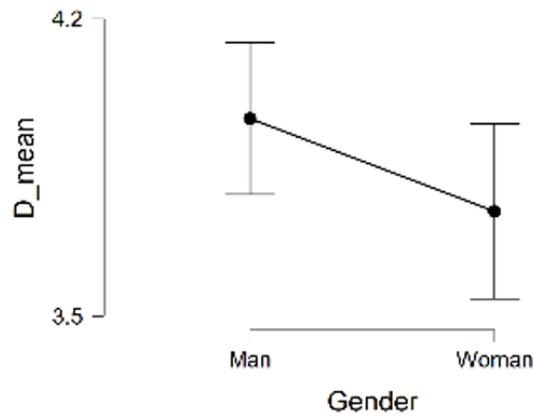


Figure 3. B_mean/gender independence test.

The working circumstances, leadership style, and vision involvement of employees of Forest Services of Macedonia-Thrace are not influenced by their age or position. Employee specialty does not differentiate the effect of work conditions and leadership style on employee motivation, but it has a statistically significant effect on motivation when employees feel they participate in the Service's vision. According to the results of the hypothesis testing, the specialties that are directly related to the scientific field of the Forest Services (Forest Engineers/Foresters/Forest Rangers) are most inspired by their participation in the vision [Figure 4](#).

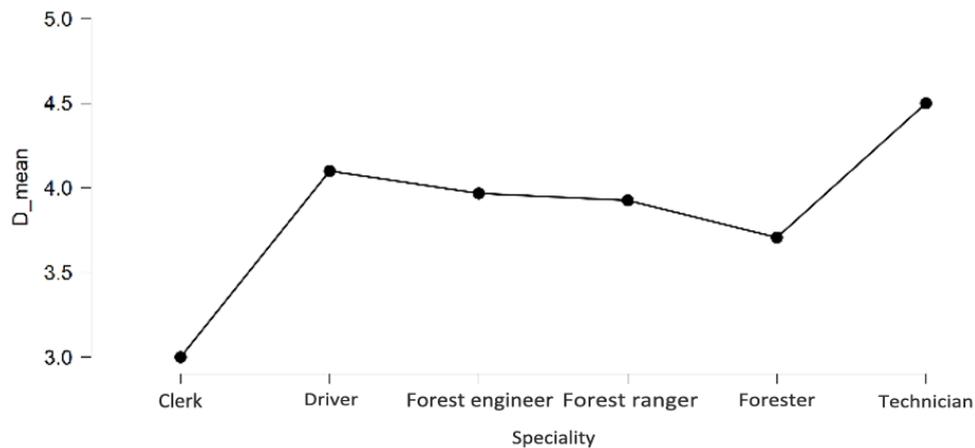


Figure 4. Descriptive plot for D_mean (Vision involvement) /Specialty.

A statistically significant difference was found between the subjective perception of men and women regarding the connection of the evaluation with some kind of reward (monetary/material/moral) (Table 6 & 7). Men appear more positive than women. Accordingly, DeMartino and Barbato (2003) find that women are more influenced and motivated by family needs and men by financial motivations Figure 5.

Table 6. Independent samples t-test for C3/gender.

	t	df	P
C3	2.950	151	0.004

Note: Student's t-test.

Table 7. Group descriptives table C3/gender.

	Group	N	Mean	SD	SE
C3	Man	79	3.544	1.259	0.142
	Woman	74	2.946	1.248	0.145

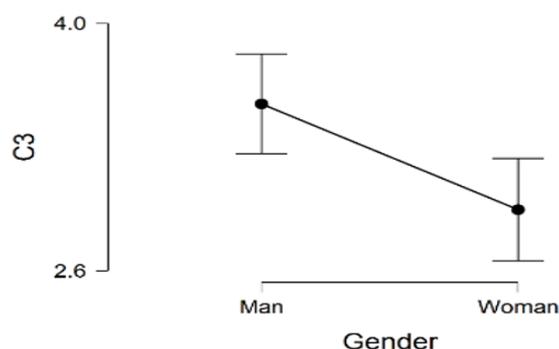


Figure 5. Descriptives plot for C3/gender independence test.

It has been demonstrated that age can make a difference in how the independent variables of the "leadership style" dimension affect participants' motivation. Depending on their age, employees are motivated to a different degree when a) they are asked for their opinion on issues concerning decisions in the scope of their work and their Department in general, b) they know the goals and vision of their Department and contribute to their realization, c) the management itself motivates them to achieve its goals and vision, d) they feel that the management treats them equally and gives them equal opportunities for advancement with the rest of their colleagues and finally e) they are rewarded for the results of their work. The effect of management's motivation to achieve its goals and vision and of rewarding employees for their work's results on motivation increases with age up to the age of 60 and then begins to decline above the age of 61. Other factors that have an impact on motivation including the knowledge of the goals and vision of the service and the contribution made to their realization. However, the fact that management treats employees equally and gives them equal opportunities for advancement with the rest of their colleagues, seems to affect more employees under the age of 40. On the other hand, there is no statistically significant dependence of age with the effect on the motivation of employees of a) the potentiality to take initiative on matters concerning their work and to participate in decision-making regarding the areas that need improvement, b) the management's trust in them, c) the feeling that they can freely express their opinion on the issues of their work even when it is contrary to their supervisor's, d) the feeling that they work as a team with their colleagues, e) the recognition and appreciation of their performance by the management, f) the feedback on the results of their work and g) the great commitment they feel to their Service. Accordingly, Özkeser (2019) concluded that staff motivation varies according to their age. A similar conclusion was reached by Martin (2005) according to which people's motivation and attitude is affected or may change to some extent with age, time, accumulation of work experience and type of work among others.

5. Conclusions

The findings of this study led to conclusions that can help scholars and policymakers better understand the driving forces behind employee motivation at the Forest Services of Macedonia-Thrace. The satisfaction of an employee's need to be valued as a person by management and their coworkers has a highly good impact on motivation, whereas the provision of relevant, adequate, and continuing training does not sufficiently encourage them. The reward they receive for their work results, seems to have very little effect on the motivation of Forest Service employees. Instead, their sense of connection to their Service Department, the way in which the Department considers their individual requirements and, even more, the way in which the Department considers (facilitates/supports) their needs as parents, all have a significant impact on motivation. An important motivator is the fact that they are asked for their opinion on matters concerning decisions in the scope of their work and their Service in general, as well as the potentiality of taking initiative on matters

concerning their work. Employees are cautious of the evaluation process as it is now carried out and don't think it can accurately evaluate their performance. They expect a more objective way of evaluation, which will be linked to training, where there is of course a need to improve their performance. Paphomopoulou (2018) reached similar conclusions. They also appear moderately positive in linking the evaluation with some kind of reward. The participants are tremendously motivated by the idea that they are preventing disasters like fires, floods, and other calamities, protecting the environment, and preserving it for future generations. They seem to draw inspiration from the subject of their work and their contribution through their work for the society. Furthermore, as research by Prilleltensky Isaac (2022) has also demonstrated, the ability to add value or contribute to society is crucial. Age has an impact on employees' need for consultation and participation in decisions affecting the nature of their work and general level of service, as well as their knowledge of the department's goals and vision and feedback regarding their contribution to those goals' realization. Depending on their age, employees see management's motivation to fulfil its objectives and vision in varying degrees. Furthermore, age plays a key role in motivating employees when they feel that management treats them as equals and gives them equal opportunities for advancement with their colleagues, and that they feel rewarded for their work results. Studies show that employees may react differently to the same work environment factors depending on age (Brienza & Bobocel, 2017; Truxillo, Cadiz, Rineer, Zaniboni, & Fraccaroli, 2012).

A limitation of this research is the fact that its sample consists exclusively of employees of the Forest Services of Macedonia-Thrace. The sample number however constitutes a large percentage of all employees of the country's Forest Services, and therefore it is safe to say that drawing conclusions can be applied to all forestry employees. A limiting factor of the research is also the use of only one research method. Combinational research may however be the subject of future research for the researchers.

6. Discussion

The results of this research can be used as a strategic development tool and for creating a competitive advantage in the Forest Services. The ability for employees to take initiative in work-related matters and their participation in decision-making all have a positive impact on their motivation. These factors also satisfy the employees' need to be valued as individuals by management and their coworkers. These results are in accordance with the researches of Varma (2017); Šimonová (2017) and Guinot and Barghouti (2019). The motivation for employees to feel necessary and an integral part of their Service, to consider their opinion on important matters, to recognize the results of their work and to be treated equally with their colleagues, depends on their age. According to Thomas et al. (2014), the age distribution has a huge impact on how well an organization runs, impacting both its productivity and that of its employees. Employees are not motivated by the results of the evaluation of their work; however, men are more positive than women regarding the possibility of linking the evaluation with some kind of reward (monetary/material/moral). Finally, a particularly positive effect on the motivation of the employees of the Forest Services of Macedonia-Thrace derives from the belief that they can participate through their work in the fulfillment of its vision, specifically in the protection of the natural environment, thus contributing to the common good. This is a particularly useful element for both policy makers and academics and can form a basis for further research by researchers.

References

- Abuhashesh, M. A.-D. R. (2019). Factors that affect employees job satisfaction and performance to increase customers' satisfactions. *Journal of Human Resources Management Research*, 2019(2019), 1-23.
- Achim, I. M., Dragolea, L., & Balan, G. (2013). The importance of employee motivation to increase organizational performance. *Annales Universitatis Apulensis Series Oeconomica*, 15(2), 685-691.
- Ali, B. J., & Anwar, G. (2021). An empirical study of employees' motivation and its influence job satisfaction. *International Journal of Engineering, Business and Management*, 5(2), 21-30.
- Aruna, G. (2018). Impact of rewards and recognition on employee motivation. *International Journal of Creative Research Thoughts*, 6(1), 82-90.
- Boachie-Mensah, F., & Seidu, P. A. (2012). Employees' perception of performance appraisal system: A case study. *International Journal of Business and Management*, 7(2), 73-88.
- Brienza, J. P., & Bobocel, D. R. (2017). Employee age alters the effects of justice on emotional exhaustion and organizational deviance. *Frontiers in Psychology*, 8, 1-15. <https://doi.org/10.3389/fpsyg.2017.00479>
- Chandrawaty, C., & Widodo, W. (2020). The mediation mechanism effect of self-efficacy and achievement motivation on job satisfaction: The personality perspective. *Journal of Xi'an University of Architecture & Technology*, 12(5), 258-266.
- da Cruz Carvalho, A., Riana, I. G., & Soares, A. D. C. (2020). Motivation on job satisfaction and employee. *International Research Journal of Management, IT and Social Sciences*, 7(5), 13-23.
- Dartey-Baah, K. (2010). Job satisfaction and motivation: Understanding its impact on employee commitment and organisational performance. *Academic Leadership*, 8(4), 1-19.
- DeMartino, R., & Barbato, R. (2003). Differences between women and men MBA entrepreneurs: Exploring family flexibility and wealth creation as career motivators. *Journal of Business Venturing*, 18(6), 815-832. [https://doi.org/10.1016/S0883-9026\(03\)00003-X](https://doi.org/10.1016/S0883-9026(03)00003-X)
- Dunham, R. B., & Pierce, J. L. (1989). Managing. *Leadership Process Model. Taking an Intelligent, Long-Term Approach to Leadership*. Retrieved from <https://www.mindtools.com/a/wgosz/dunham-and-pierces-leadership-process-model>

- Etemesi, N. I., Sirmah, P. K., & Chepkwony, J. (2018). Work environment and the performance of forest rangers in South West Mau Forest, Kenya. *Asian Journal of Forestry*, 2(2), 46-53. <https://doi.org/10.13057/asianjfor/r020202>
- Febrianti, N. T., Suharto, S. S., & Wachyudi, W. (2020). The effect of career development and motivation on employee performance through job satisfaction in Pt West Java Mighty. *International Journal of Business and Social Science Research*, 1(2), 1-12.
- Guinot, J., & Barghouti, Z. (2019). The value of trust in employees: Discovering its effects on participation and motivation. *Universia Business Review*. <http://hdl.handle.net/10234/185472>
- Hadija, M. M., Mwasimba. (2018). Perceived benefits of the open performance review and appraisal system in Kilolo district Council, Tanzania. *International Journal of Innovation and Research in Educational Sciences*, 5(6), 2349–5219.
- Hainš, V. B. J. (2018). Employee perception of financial and non-financial reward as elements of job performance evaluation. *International Journal of Business and Administrative Studies*, 4(2), 53–59. <https://dx.doi.org/10.20469/ijbas.4.10002-2>
- Herman, L. J. (2011). *Motivated by the organization's mission or their career? Implications for leaders in turbulent times*. Retrieved from <https://cclinnovation.org/wp-content/uploads/2020/03/motivated-by-the-organizations-mission-or-their-career.pdf>
- Higgins, J. M. (1991). *The management challenge*. New York, Toronto: Macmillan Publishing Company Collier Macmillan.
- Hytiris, L. (2001). *Human resource management*. Greece, Athens. Interbooks Publications.
- Johnny, C., & Eluka, N. C. O. (2014). *A critical review of the effect of working conditions on employee performance: Evidence from Nigeria*. Retrieved from <https://www.researchgate.net/scientific-contributions/C-Eluka-2213191329>
- Kanelopoulou, G. (2018). *The contribution of evaluation to the job satisfaction and motivation of employees in the civil aviation service*. Piraeus: University of Piraeus.
- Kirkpatrick, D. L. (2009). *Managing change effectively*. Boston, MA: Routledge.
- Kozlowski, S. B. B. (2012). *Workgroups and teams in organizations*. In: *Weiner IB, Schmitt NW, Highhouse S.. Handbook of Psychology, Industrial and Organizational Psychology* (2nd ed.). United States of America: John Wiley and Son Publications.
- Kreitner, R. (1995). *Management* (6th ed.). Boston: Houghton Mifflin Publications.
- Lazarou, N. (2016). *The evaluation of civil servants attitudes and opinions of the public officials of the paphos district administration towards the evaluation*. Retrieved from <http://hephaestus.nup.ac.cy/handle/11728/8788>
- Martin, J. (2005). *Organizational behaviour and management* (3rd ed.). London: Thomson Learning.
- Menges, J. I., Tussing, D. V., Wihler, A., & Grant, A. M. (2017). When job performance is all relative: How family motivation energizes effort and compensates for intrinsic motivation. *Academy of Management Journal*, 60(2), 695-719. <https://doi.org/10.5465/amj.2014.0898>
- Montana, J., & Patrick, C. H. B. (2002). *Management* (3rd ed.). Greek: Kleidaritmos Publications.
- Okello, D. R., & Gilson, L. (2015). Exploring the influence of trust relationships on motivation in the health sector: A systematic review. *Human Resources for Health*, 13(1), 1-18.
- Onyango, N. I. (2013). *Factors influencing performance of forest rangers in Kenya forest service: A case of Embu county*. Kenya Doctoral Dissertation, University of Nairobi.
- Özkeser, B. (2019). Impact of training on employee motivation in human resources management. *Procedia Computer Science*, 158, 802-810. <https://doi.org/10.1016/j.procs.2019.09.117>
- Papathomopoulou, E. (2018). *Attitudes and perceptions of municipal employees about their performance evaluation system: The case of the municipality of metamorfosi*. Retrieved from <http://okeanis.lib2.uniwa.gr/xmlui/handle/123456789/4492>
- Pinder, C. (1984). *Work motivation; theory, issues, and applications*. Glenview: Foresman and Company.
- Prilleltensky Isaac, S. D. M. O. N. (2022). Psychology for the common good: The interdependence of citizenship, justice, and well-being across the globe. *Frontiers in Psychology*, 13, 5821.
- Priyono, P., Ariana, S., Putra, L. C., & Soesatyo, Y. (2018). Effect of motivation of employee, safety and health on employee performance. *Option: Journal of Human and Social Sciences*, 34(14), 356-379.
- Purohit, B., & Bandyopadhyay, T. (2014). Beyond job security and money: Driving factors of motivation for government doctors in India. *Hum Resour Health*, 12, 13. <https://doi.org/10.1186/1478-4491-12-12>
- Šimonová, K. (2017). *Working conditions in regions as important motivation factor*. Retrieved from http://www.regionalnirozvoj.eu/sites/regionalnirozvoj.eu/files/clanek_06.pdf
- Thomas, R., Hardy, C., Cutcher, L., & Ainsworth, S. (2014). What's age got to do with it? On the critical analysis of age and organizations. *Organization Studies*, 35(11), 1569-1584. <https://doi.org/10.1177/0170840614554363>
- Truxillo, D. M., Cadiz, D. M., Rineer, J. R., Zaniboni, S., & Fraccaroli, F. (2012). A lifespan perspective on job design: Fitting the job and the worker to promote job satisfaction, engagement, and performance. *Organizational Psychology Review*, 2(4), 340-360. <https://doi.org/10.1177/2041386612454043>
- Tsounis, A., & Sarafis, P. (2016). The concept of job satisfaction theoretical approaches and results in work performance. *Interdisciplinary Health Care*, 8(2), 36-47.
- Varma, C. (2017). Importance of employee motivation & job satisfaction for organizational performance. *International Journal of Social Science & Interdisciplinary Research*, 6(2), 1-11.
- Weberova, D., Hitka, M., & Lizbetinova, L. (2017). Age and gender motivating differences of slovak workers. *International Review of Management and Marketing*, 7(1), 505-513.
- Zeb, A., Rehman, S., Saeed, G., & Ullah, H. (2014). A study of the relationship between reward and recognition and employees job satisfaction: A literature review. *Abasyn Journal of Social Sciences*, 7(2), 278-291.