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## **Factors Affecting Motivation in the Public Sector under the Context of Self-Determination Theory and Public Service Motivation: The Case of the Hellenic Agricultural Insurance Organization (H.A.I.O.)**

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**Abstract:**

**Purpose:** The main aim of this study is to develop and test a conceptual framework that explores the factors that motivate employees in public services. The study is based on two theories, the Self-Determination Theory (SDT), and the Public Service Motivation (PSM).

**Design/methodology/approach:** The empirical testing of the proposed conceptual framework was conducted using a structured questionnaire that was distributed to 390 employees of a Greek public sector organization, namely the Hellenic Agricultural Insurance Organization (H.A.I.O.). The population of the study consists of 489 public servants. Exploratory factor analysis, confirmatory factor analysis and the structural equation modeling (SEM) technique were used to test the research hypotheses.

**Findings:** Results highlight, among others, the importance of work autonomy and job satisfaction and their impact on employees' intrinsic motivation. Moreover, empirical results emphasize the need for building a supportive work environment that contributes on employee satisfaction, autonomy and relatedness. Results also confirm the existence of a positive relationship among intrinsic motivation, public service motivation and job performance.

**Practical implications:** The findings suggest that in cases where external incentives are significantly limited (e.g., in the public sector), it is crucial to consider the importance of promoting and supporting intrinsic motivation and support public service incentives.

**Originality/value:** Self-determination theory seems to be poorly explored in the Greek public sector, and moreover, in economies and countries with similar characteristics. Therefore, it seems crucial to increase the knowledge about the real value of self-determination theory as a work motivation approach, especially in the public sector. Finally, research results may help supervisors and business leaders to implement appropriate systems and practices that promote a supportive environment in the workplace.

**Keywords:** Self-determination theory, public service motivation, intrinsic motivation.

**JEL Codes:** C12, J24, J28. **Article Type:** Research study.

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## **1. Introduction**

In the context of a country in recession, efforts are underway to reform public administration, with the aim of ensuring a well-managed workforce capable of delivering public services cost-effectively, efficiently and effectively. Several initiatives have been taken to reform the public sector, to minimize the negative impact on employees' motivation in the new conditions that have been created. In addition, another development related to the financial and economic crisis is the public loss of public confidence in the various public service governance institutions, long-standing cultural issues that affect the prestige and social status of civil servants. The effort to ensure cost savings in public services has led to the introduction of what are often referred to as 'private sector practices'. In cases where external incentives, including remuneration, job security, etc., are significantly constrained, or even reduced, as is the case currently in the Greek public sector, it is extremely important to identify ways in which they can strengthen the intrinsic motivation of civil servants and find appropriate approaches that help public services to develop 'a culture based' on the promotion of intrinsic motivations of civil servants. The lack of such empirical studies in the Greek public sector as emerged from the literature review assisted to decision and choice of this research.

This study contributes to research in four different ways. Firstly, it supports the growing body of international literature and empirical studies that contain claims on the impact of intrinsic motivation and public service motivation, not only on performance but also on job satisfaction. Secondly, it makes a substantial contribution to the current situation in Greece by providing relevant empirical data, as research in this field is at a relatively early stage in the country. Thirdly, it provides a research framework for employee motivation which created using a methodological approach that combines two theories that are related to intrinsic motivation. Finally, from a practical point of view, results can in turn help supervisors and leadership to implement and support appropriate systems and practices that promote the emergence of a supportive workplace environment by enhancing efficiency and productivity. The rest of the paper is structured as follows: The second section presents the theoretical background while in the third section the proposed conceptual framework along with the research hypotheses are developed. The fourth section deals with methodological issues. The fifth section presents the empirical findings from the analysis of the research data and the research hypotheses are tested. The last section concludes the study.

## **2. Theoretical background**

### **2.1 Motivation**

The concept of employee motivation has been one of the most important research subjects in both the science of psychology and that of human resource management, as it is directly related to human behaviour and organizational performance. Kelly

(1974) believes that motivation is related to those forces that change the direction, quality and intensity of behaviour. Barron (1983) defines motivation by stating that 'motivation is a set of processes that relate to a type of force that activates behaviour and directs it to achieve specific goals'. Brewer and Selden (1998) describe motivation in the public sector as the driving force that drives individuals to perform their public tasks properly. According to Erven and Milligan (2001) motivation is an internal force that drives employee behaviour. Berman *et al.* (2010) argue that employee motivation is the key to increase productivity and efficiency, so it is easy to understand the important role of 'excellence at work'. Motivation is a set of processes that '*accounts for an individual's intensity, direction, and persistence of effort towards attaining a goal*' (Robbins and Judge, 2011, p. 202).

## **2.2 Self Determination Theory (SDT)**

SDT founded by Eduard L. Deci and Richard M. Ryan, is one of the leading motivational theories in the field of social psychology that has been successfully applied in all fields including education, sports, health as well as motivation and job management (Deci and Ryan, 1985; Ryan and Deci, 2017). It is a theory of approach to human motivation and personality and emphasizes the importance of both internal sources of personality development and regulation of individual behaviour (Ryan *et al.*, 1997; Ryan and Deci, 2000). SDT is used to understand work motivation (Gagné and Deci, 2005; Deci *et al.*, 2017). According to this theory human behaviour is triggered by three types of motivation (a) intrinsic motivation, (b) extrinsic motivation and (c) lack of motivation (Amotivation) (Deci and Ryan, 1985; Deci *et al.*, 2017).

Deci and Ryan (1985) state that there are three basic and universal psychological needs, namely: (a) autonomy, (b) relatedness and (c) competence, which must be satisfied to promote intrinsic motivation. According to Rigby and Ryan (2018, pp. 138-139) '*Autonomy is the basic need to be the author of one's life—to have a sense of choice and self-endorsement of one's actions, Relatedness is our basic need to feel we belong and "matter" to others, while Competence is our basic need to feel effective, to be successful, and to grow*'. Especially when these three needs are supported and fulfilled in a social context, people experience more vitality, self-motivation and well-being. Discouraging or frustrating these basic needs leads to diminished self-motivation and greater loss (Ryan and Deci, 2017).

## **2.3 Public Service Motivation (PSM)**

According to Perry and Hondeghem (2008) the public sector has traditionally provided some powerful extrinsic incentives that could attract people, such as tenure security, career prospects, growth opportunities and the pension system. Vandenaabeele (2008) also identifies 'quality of life' as an attraction to work in the public sector, while people are under the impression that the public sector offers better flexibility to those who combine work with family or other commitments.

PSM concerns public-based incentives and actions designed to benefit others, society at large, and to shape people's well-being (Perry and Hondeghem, 2008; Perry *et al.*, 2010).

Although the term 'PSM' was first used by Rainey in 1982 to express the specific incentives associated with public service, Perry and Wise (1990) were the ones who offered the first conceptual definition where public service motivation "*represents an individual's predisposition to respond to motives grounded primarily or uniquely in public institutions*" (Perry and Wise, 1990). Moreover, they consider that PSM encompasses thinking around related concepts such as altruism and prosocial behavior. Perry (1996) and Kim *et al.* (2012) state that PSM is consisted of four dimensions: 1. Attraction to public service (APS), 2. Commitment to public values (CPV), 3. Compassion (COM), 4. Self-sacrifice (SS).

PSM is a significant topic since it considers that the public service can attract, retain and motivate people who are able of delivering on the objectives of the public service. Scholars hypothesize that public service motivation is a form of work motivation that leads to increased commitment, obligation, and performance (Brewer and Selden 1998; Moynihan and Pandey 2007; Ritz 2009; Bellé and Cantarelli 2012; Ritz *et al.*, 2016).

## 2.4 Previous Studies

Intrinsic motivation as a predictor of performance is strongly supported by research in sports and educational settings (Kuvaas, 2008). In addition, Deci *et al.* (2017) cite several studies that have found a positive relationship between intrinsic or autonomous motivation and work/job performance in work environments. However, despite the importance of incentives among public sector employees in a time of transformation towards a more business-oriented approach, empirical research on public sector employee motivation is not extensive in Greece. Manolopoulos (2008) investigated the relationships between the motivating factors of employees and their performance in the public sector in Greece. The results have shown that external incentives, such as payment and job security, are powerful drivers and that internal incentives such as creative work, recognition and autonomy in the workplace appear to contribute to increased employee performance. Another study by Kalliga (2011) aimed at investigating motivational factors in the public sector in Greece. Results proved that the majority of respondents (83,3%) consider, as far as exploring the question of linking workers' motivation with financial incentives, that these are not the only incentives. They consider hierarchically that interpersonal relationships that are developed in the workplace, the development of new skills and new knowledge, and the development of independent thinking, play a key role in motivation.

Kuvaas (2008) aimed to test the relationship between intrinsic motivation and job performance among individuals across a wide range of public service employees in Norway. Results showed that the relationship between autonomy at work and job

performance as well as the relationship between work interdependence and job performance are partly mediated by intrinsic motivation, whereas the relationship between management support for development, competence and autonomy, with work performance are fully mediated by intrinsic motivation. The aim of the study by Fernet *et al.* (2015) in Canada was to study and deepening of the understanding of the motivational mechanisms involved in the relationship between transformational leadership and employee functioning. They concluded that through their actions, transformational leaders can influence perceptions of work resources and create an environment conducive to communication and exchange, autonomy, and individual recognition. Several studies have been published debating on the role of SDT in job satisfaction and job performance (see among others: Bono and Judge, 2003; Piccolo and Colquitt, 2006; Moran *et al.*, 2012; Park and Rainey, 2012; Van den Broeck *et al.*, 2013; Wilkesmann and Schmid, 2014; Graves *et al.*, 2015; Howard *et al.*, 2016).

Research on public service motivation has grown significantly over the last 25 years and while it has been primarily focused in the United States and firmly in the public administration sector, it has become increasingly international and multidisciplinary in recent years, but not fully integrated with human resource management practices in public organizations. In a review article, Vandenberghe *et al.* (2014) examined the evolution of the perception of public service motivation and noted that the majority of articles indicate that the influence of the concept of public service motivation has significantly accelerated. Several studies have documented a positive relationship between public service motivation and job performance, and public service motivation and job satisfaction, at both the individual and organizational level. Starting from the US, Naff and Grum (1999) found significant positive correlations between the level of public service motivation, federal employees' job satisfaction, their performance, and their willingness to remain in public employment. Brewer and Selden (2000) have shown that public service motivation plays an important role in determining the effectiveness of their service and can therefore influence the organizational performance of public organizations in the US. Results of Kim (2005) in Korea are consistent to those of Brewer and Selden (2000). Moreover, Kim (2012) not only found the direct relationship between PSM and job satisfaction but also mediated this relationship by confirming the person-organization theory (P-O fit).

A broad body of studies have been conducted for the US environment with mixed results (Alonso and Lewis, 2001; Bright, 2007; Wright and Pandey, 2008). Several studies are coming from Europe conveying interesting results advocating that PSM influences the outcome of ordinary and daily public service provision (Ritz, 2009; Vandenberghe, 2009; Leisink and Steijn, 2009; Andersen and Serritzlew, 2012; Belle, 2013; Vandenberghe, 2014; Andersen *et al.*, 2014). Taylor's (2008) results from Australia showed a direct and significant relationship between public service motivation and job satisfaction and organizational commitment. In addition, the results showed that external organizational rewards and relationships with management and colleagues were not found to be significantly related to PSM

confirming the studies of Naff and Grum (1999) and Camilleri (2007). Moreover, Liu *et al.* (2008) showed that PSM in the West also exist in China.

Finally, Vandenabeele (2014) found that there is a positive relationship between PSM and leadership promotion of public values, moderated by the basic psychological needs satisfaction, while Bright (2007) revealed that SDT motivation is strongly related to job satisfaction than PSM.

### **3. The Proposed Conceptual Framework (Research Hypotheses)**

#### **3.1 Intrinsic Motivation and Job Performance**

SDT suggests that the social environment influences intrinsic motivation through its effects on satisfying the needs of individuals' autonomy, relatedness and competence (Deci and Ryan, 1985). Motivation is an important factor for the proper functioning of employees and the productivity of Organizations (Pinder, 2008). In this respect, intrinsic motivation concentrates on the highest levels of effort (Meyer *et al.*, 2004), as it is associated with high levels of energy (Ryan and Deci, 2008) and persistence (Vallerand and Bissonnette, 1992). In addition, the intrinsic motivation according to Van den Broeck *et al.* (2013) is positively associated with excitement and commitment, as well as well-being (Nix *et al.*, 1999).

All of these positive effects indicate that employees can energize and focus their interest in performing their work in a more integrated and efficient way (Kuvaas *et al.*, 2017) ,while Gagné and Deci (2005) cite evidence of a positive relationship between intrinsic motivation and job performance. Thus, it is hypothesized:

*H1: Intrinsic motivation is positively related with job performance.*

#### **3.2 Satisfaction of the Basic Psychological Needs**

According to Eisenberger *et al.* (2002) and Gagné and Deci (2005) supervisory authorities are at the centre of motivation. They influence work assignments, rewards and penalties for employees and provide the necessary and critical resources to perform a job. SDT researchers who have examined the role of autonomy in work and the support of supervisors being the most well-studied factor of intrinsic motivation (Black and Deci, 2000; Pelletier *et al.*, 2001; Muraven *et al.*, 2008; Gillet *et al.*, 2013) found that employees' perceptions of autonomy support were positively associated with autonomous work motivation. Deci *et al.* (1989) as well as Hardré and Reeve (2009) consider that in order supervisory authorities to function supportively and to enhance employee autonomy, should emphasize the choice rather than controlling their duties and recognize their feelings and perspectives.

Kelly (1992) and Hardré and Reeve (2009) proved that performance enhancement is more likely to occur when autonomous work planning improves intrinsic motivation.

Previous research has indicated that support for autonomy leads to intrinsic and autonomous motivation, which in turn is associated with positive outcomes in the workplace (Gagné *et al.*, 1997; Gagné *et al.*, 2000; Deci *et al.*, 2001; Slemp *et al.*, 2018). Graves *et al.* (2015) claim that employees must experience high levels of safety, self-esteem and the ability to deal with 'stressful' situations from their managers, which enhances their ability to act on their values, goals and interests in order to increase the likelihood of acting with a more self-determined profile dominated by internal rather than external motivation.

Overall, research has supported that autonomy, supportive work environments, and supervisory management methods promote basic needs for satisfaction of autonomy, competence and relatedness (Bono and Judge, 2003; Piccolo and Colquitt, 2006; Kuvaas, 2008). Therefore, intrinsic motivations in turn lead to persistence, effective performance, job satisfaction, positive work attitudes in general, organizational commitment and psychological well-being (Gagné and Deci, 2005). Based on the above the second and third hypotheses are formed as below:

*H2: The relationship between supervisor support (development for autonomy and competence) and job performance is mediated by intrinsic motivation.*

*H3: The relationship between job autonomy and job performance is mediated by intrinsic motivation.*

SDT states that intrinsic motivation can be developed in environments characterized by feelings of security and relatedness (Ryan and Deci, 2000). Tasks characterized by high levels of duties' interdependence and mutual dependence, require spontaneous offering and receiving, collaboration and compromise among employees, and therefore, interdependence of tasks can contribute to meeting the needs of relatedness (Organ, 1988; Podsakoff *et al.*, 2000). The interdependence of work reflects the degree to which a job depends on others and others on it, in order to this to be performed (Morgeson and Humphrey, 2006). Bachrach *et al.* (2006) suggest that interdependence of work can satisfy the needs of relatedness, and thus, reinforce intrinsic motivation, as it promotes communication, assistance and information exchange, organizational behaviour, expectations for help and rules of cooperation. Moreover, Kuvaas (2008) found that the relationship between task interdependence and job performance are partly mediated by intrinsic motivation. The following hypothesis may therefore be formulated as:

*H4: The relationship between task interdependence and job performance is mediated by intrinsic motivation.*

### **3.3 Job Satisfaction and Job Performance**

In a meta-analysis Judge *et al.* (2001) confirmed the moderately positive relationship between job performance and job satisfaction. They noted, however, that significant variability in the magnitude of this relationship was found in all studies, and that this

variability appeared to be due to the way that concepts of performance and satisfaction were assessed with respect to other factors such as job complexity. Intrinsic motivation has been found to be superior for promoting job performance at workplaces, that include both complex and personally important tasks, tasks that require disciplined commitment and has been linked to job satisfaction (Baard *et al.*, 2004). In contrast, external or controlled incentives have been found to provide comparable or superior short-term performance in boring tasks (Grolnick and Rayan, 1987), although they have been associated with less satisfaction and adaptation to these workplaces (Ilardi *et al.*, 1993).

According to Gagné and Deci (2005) intrinsic-autonomous versus extrinsic-controlled incentives as well as the content of the work that drives these incentives can mitigate the relationship between job satisfaction and job performance. They found that autonomous versus controlled motivation at work incorporates many important elements of job content, work context, factors that generally determine the environment of the work, as well as individual differences in the general causality guidelines, which are factors that can coordinate this relationship between performance and job satisfaction. As a result, employees perform effectively in these jobs, leading to the satisfaction of their basic psychological needs (for autonomy, competence and relatedness) resulting in satisfaction and generally positive attitudes towards their work.

In summary, the various aspects of the work, including complexity, challenge, importance, choice and participation, as well as the enhancement of autonomy and a supportive climate, can lead employees to give autonomous and intrinsic motivation to their work, which in turn results in work being performed efficiently and employees receiving high levels of job satisfaction (Gagné and Deci, 2005). Therefore, the hypothesis formulated as follow:

*H5: The relationship between job satisfaction and job performance is mediated by intrinsic motivation.*

### **3.4 Public Service Motivation and Job Performance**

Job performance is perhaps the most central concept in public administration research (Andersen *et al.*, 2016). There are many incentives that drive people to perform public services, but it is important to identify what incentives need to be addressed to make people more effective (Brewer *et al.*, 2000; Brewer 2008; Ritz *et al.*, 2016). According to Perry and Wise (1990), highly motivated public service employees seek employment in public services because they provide them with sufficient opportunities to engage with the public service and are highly performing in their service because they believe their work makes sense. Wright and Pandey (2008) further argue that public sector employees who have high public service incentives are expected to work harder, perform better in their duties precisely



because the Organizations they work for, have the opportunity to offer services that they consider important and inherently satisfactory.

According to Brewer (2008) and Dilulio (1994) a high commitment to public service can lead employees to work beyond their own interests and to do more than they are asked to do. In general, many studies (see: Naff and Grum, 1999; Brewer and Selden, 2000; Kim, 2005; Bright, 2007; Leisink and Steijn, 2009; Ritz, 2009; Vandenaabeele, 2009; Andersen and Serritzlew, 2012; Bellé, 2013; Gould-Williams *et al.*, 2015) claim that Organizations that are able to attract, socialize, and retain employees with higher levels of motivation for public service are expected to have higher levels of performance, precisely because their employees perform better, work harder and help each other. Thus, the sixth hypothesis is stated as follow:

*H6: Public service motivation is positively related with job performance.*

### **3.5 Public Service Motivation and Job Satisfaction**

A significant number of empirical research supports the view that the motivation for public service is closely linked to job satisfaction (Weiss 2002; Bright 2008; Steijn 2008; Wright and Pandey 2008). Job satisfaction can be seen as a consequence of the public service motivation in the public sector, as the situation of public sector job appears to be capable of meeting the needs of individuals willing to help others (Perry and Wise 1990; Pandey and Stazyk, 2008). The direct relationship between PSM and job satisfaction has been supported by, among others, in Australia by Taylor (2008), in Belgium by Vandenaabeele (2009), in China by Liu *et al.* (2008), in Korea by Kim (2011) and in United States by Naff and Crum (1999). Perry and Wise (1990), Taylor (2008), as well as Kim (2012) and Breaugh *et al.* (2017) argue that people with high public service motivation are more satisfied with their work in the public sector and more committed to the organizations they serve, precisely because they work in roles that satisfy their social orientation. Thus, the seventh hypothesis is formed as follow:

*H7: Public service motivation is positively related with job satisfaction.*

### **3.6 Self Determination Theory and Public Service Motivation**

Both SDT and PSM have been used alternatively in public sector incentive research, where on a fundamental level, the first concerns a universal motivation theory that is applied in many contexts (Ryan and Deci, 2002), PSM relates to a theory of motivation that explains the incentives associated with service delivery in society (Perry *et al.*, 2010). Those theories differ because PSM does not require the presence of pleasant emotions that are characteristic of intrinsic motivation (Perry *et al.*, 2010). Breaugh *et al.* (2017) have shown that SDT is more related to job satisfaction and that employees with high levels of PSM have more stable job satisfaction than their lower-level counterparts. Andrews (2016) demonstrates that PSM and SDT are

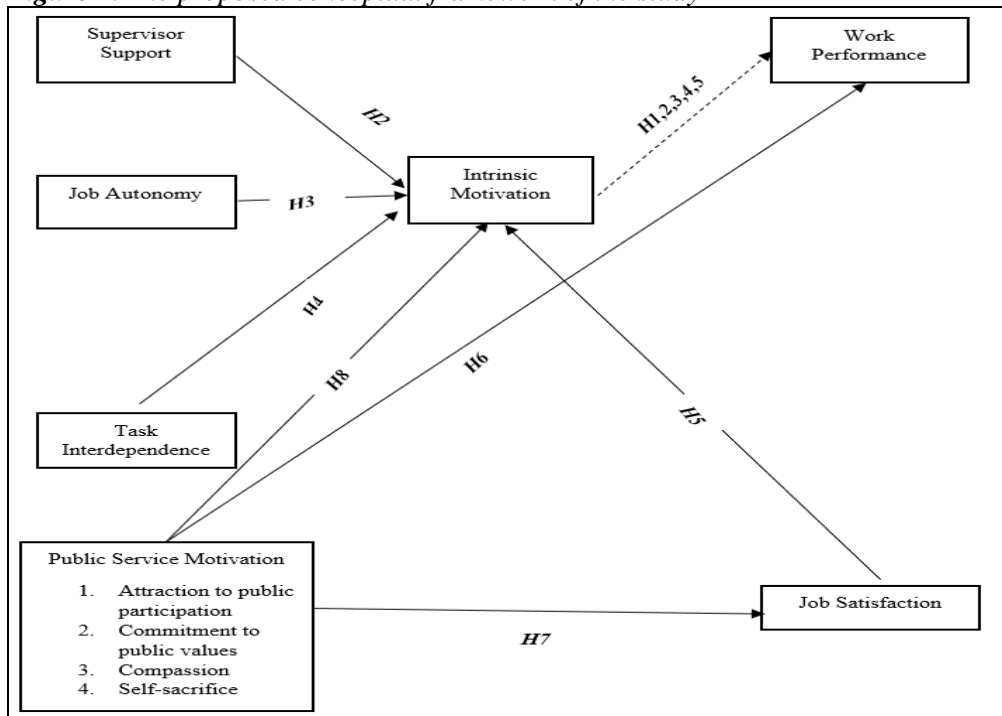
complementary theoretical approaches and that this complementarity can provide clearer guidance to supervisors and broaden their understanding of incentives in public services.

Perry and Vandenberg (2015) recognize the SDT as a necessary basis for understanding the dynamics associated with motivation in public services. Vandenberg (2007) argues that in order to allow PSM to emerge, public Organizations must meet the three psychological needs, allowing a more autonomous motivation and moreover, he claims that the PSM concerns a dynamic trait mediated by the degree to which the three basic psychological needs of the theory of SDT are met. Grant (2008), Vandenberg (2014), Schott and Pronk (2014) and Andrews *et al.* (2015) are in line to the previous studies. Thus, the last hypothesis could be formed as follow:

*H8: Public service motivation is positively related with intrinsic motivation and particularly with satisfaction of the three basic psychological needs for autonomy, competence and relatedness.*

The synthesis of the research hypotheses presented above leads to the formation of the proposed conceptual framework of the present study (Figure 1), which focuses on the relationships among the research factors examined.

**Figure 1.** The proposed conceptual framework of the study



## 4. Research Methodology

### 4.1 The Study Population

An empirical survey, with the use of a newly-developed structured questionnaire, was conducted on a sample of employees working in the public sector (public servants). More specifically, the sampling frame included all the employees of the Hellenic Agricultural Insurance Organization (H.A.I.O.). H.A.I.O. was founded in 1988. It is the principal insurance fund for farmers and provides a full range of insurance protection services. According to the most recent available official data (01-01-2018), 489 employees are currently occupied in H.A.I.O. These employees constitute the sample of this study.

### 4.2 Measurement

The present empirical study includes seven factors, one of which, namely Public Service Motivation (PSM), is measured via four sub-factors (see Figure 1 for more details). As such, ten different constructs (factors) were included in the questionnaire of the empirical survey. All these factors were measured with the use of multiple items (questions) that were adopted from the international literature (see Table 1). A five-point Likert scale was used for the measurement of all factors. All items were translated to Greek and then back to English by another person, in order to detect and consequently eliminate any possible discrepancies.

The structured questionnaire consisted of eleven sections. The first ten were used for measuring the ten factors of the study, while the eleventh included demographic questions about the employee answering the questionnaire.

**Table 1.** Factor measurement

Dimensions	No of items	Sources
<i>Basic physiological needs</i>		
1. Supervisor support	10	Kim (2005); Martinsen (2005); Kuvaas (2008)
2. Job autonomy	8	Morgeson and Humphrey (2006); Kuvaas (2008); Dysvik and Kuvaas (2011)
3. Task interdependence	5	Morgeson and Humphrey (2006); Kuvaas (2008)
4. Intrinsic motivation	5	Cameron and Pierce (1994); Kuvaas (2006, 2008); Dysvik <i>et al.</i> (2013); Belle (2014)
<i>Public Service Motivation</i>		
5. Attraction to public participation	4	Kim <i>et al.</i> (2012); Breaugh <i>et al.</i> (2017)
6. Commitment to public values	4	
7. Compassion	4	

8. Self-sacrifice	4	
<i>Job effects</i>		
9. Job performance	6	Pettit <i>et al.</i> (1997); Fang Liu <i>et al.</i> (2017); Yun and Lee (2017)
10. Job satisfaction	6	Mason (1995); Kim (2005)

### 4.3 Data Collection

As mentioned earlier, primary data were collected from a sample of public servants (employees of the Hellenic Agricultural Insurance Organization, H.A.I.O.). Contact information concerning the 489 employees of the H.A.I.O. (email addressees and company telephone numbers) was officially obtained from the management of the Organization. Totally, 390 employees were approached and informed to participate in the survey.

The questionnaire was uploaded online (using Google drive) and the link sent electronically to the 390 employees. The survey lasted two months (December 2018 and January 2019). After the completion of this process, 178 questionnaires were returned and after conducting all necessary controls, 174 usable questionnaires were finally remained and used for data analysis. The response rate is 44,6%, consistent with previous studies of the same research field.

### 4.4 Validity and Reliability

The research instrument was tested for its content and construct validity. The test for the content validity was conducted prior to the empirical survey. More specifically, the instrument was discussed in a series of in-depth interviews with experienced academics and professionals. All proposed modifications were fully incorporated and the research instrument was crystallized.

For the examination of the construct validity, each of the appropriate ten research factors was evaluated for its unidimensionality and reliability. The estimation of the unidimensionality was conducted using Exploratory Factor Analysis (EFA) with Principal Component Analysis (Hair *et al.*, 1995; Straub, 1989). Moreover, cronbach alpha was used to measure the reliability of the measurement scales (Nunnally, 1978). All tests concluded that the scales used are valid and reliable (see Table 2 for the main results).

Furthermore, the evaluation of the goodness of fit of each of the research factors was conducted using Confirmatory Factor Analysis (CFA). All tests conducted produced satisfactory results (see Table 3 above for the main results). More specifically, the following measures have been examined (Schumacker and Lomax, 2010):

- $\chi^2$ : It should be statistically insignificant ( $p > 0,05$ ).
- Normed  $\chi^2$  ( $\chi^2/df$ ): Values between 1 and 3 are desirable, while values between 1 and 5 are acceptable.

- Construct Reliability (C.R.): It should higher than 0,7.
- Variance Extracted (V.E.): It should higher than 50%.
- RMSEA: It should be less than 0,1.
- CFI / GFI: They both should be higher than 0,9.

**Table 2. Estimation of unidimensionality and reliability**

Factors	KMO	Bartlett's Test of Sphericity	Eigen-value	Total Variance Explained	Cronbach Alpha
1. Supervisor support	0,786	89,5*	2,564	79,9%	0,77
2. Job autonomy	0,852	91,9*	2,154	81,6%	0,79
3. Task interdependence	0,763	66,2*	2,941	74,3%	0,81
4. Intrinsic motivation	0,713	79,4*	1,751	84,1%	0,88
5. Attraction to public participation	0,911	69,3*	2,811	79,6%	0,77
6. Commitment to public values	0,861	73,8*	2,739	72,6%	0,91
7. Compassion	0,761	67,9*	1,971	69,4%	0,84
8. Self-sacrifice	0,889	71,2*	2,947	75,9%	0,75
(5-8) Second-order EFA	0,811	67,5*	3,511	74,3	0,81
9. Job performance	0,716	76,3*	1,637	82,1%	0,76
10. Job satisfaction	0,863	39,9*	3,245	81,9%	0,81

\* $p < 0,01$

**Table 3. Estimation of the goodness of fit**

Factors	Normed $\chi^2$	C.R.	V.E.	RMSEA	CFI	GFI
1. Supervisor support	3,74	0,87	66,6%	0,075	0,91	0,99
2. Job autonomy	2,66	0,79	69,5%	0,051	0,97	0,99
3. Task interdependence	1,95	0,82	73,0%	0,063	0,99	0,98
4. Intrinsic motivation	2,38	0,82	71,6%	0,057	0,94	0,95
5. Attraction to public participation	3,59	0,76	66,2%	0,044	0,96	0,96
6. Commitment to public values	3,76	0,79	61,3%	0,034	0,99	0,97
7. Compassion	2,11	0,82	58,9%	0,058	0,94	0,91
8. Self-sacrifice	3,49	0,88	61,3%	0,081	0,91	0,93
(5-8) Second-order CFA	3,58	0,76	67,3%	0,056	0,97	0,97
9. Job performance	1,81	0,84	77,8%	0,071	0,97	0,98
10. Job satisfaction	2,66	0,77	59,6%	0,066	0,99	0,99

It should be also mentioned that concerning the four sub-factors measuring Public Service Motivation (PSM), namely (a) Attraction to public participation, (b) Commitment to public values, (c) Compassion, (d) Self-sacrifice, a second-order Factor Analysis (second order EFA and CFA) was additionally performed, since the development of a hyper-construct (PSM) was necessary for testing Hypotheses 6, 7 and 8.

## 5. Empirical Findings

The examination of the proposed conceptual framework (empirical test of research hypotheses) was conducted with the use of the Structural Equation Modeling (SEM) technique. More specifically, the Maximum Likelihood Estimation method was employed, the Covariance Matrix was used as the table of entry, and the extraction of the Standardized Completely Solution was requested (Kelloway, 1998; Hair *et al.*, 1995).

In more detail, the (modified) structural model fitted the data well, while the factors that were included could sufficiently explain the variance of the dependent factors. It must be noted that new paths were added to the model, based on the modification indexes of the statistical package IBM AMOS. This resulted in a structural model with improved fit and explanatory power. Figure 2 demonstrates the modified structural model, with the extracted path coefficients and the adjusted  $R^2$  scores.

More analytically, in order to evaluate the fit of the overall model, the chi-square value ( $\chi^2 = 56,41$  with 18 degrees of freedom) and the p-value ( $p = 0,026$ ) were estimated. These values indicate a satisfactory fit of the data to the overall model. However, the sensitivity of the  $\chi^2$  statistic to the sample size forces towards the adoption of other supplementary measures for evaluating the overall model (Smith and McMillan, 2001), such as the “Normed- $\chi^2$ ” index (3,133), the RMR (0,027), the CFI (0,974), the GFI (0,952), and the RSMEA (0,044), that all indicate a very good fit.

Table 4 demonstrates, among others, the model fit summary and the findings concerning the hypotheses of the study, while Table 5 summarizes the Total, Direct, and Indirect effects between the research factors that were incorporated into the proposed research model.

The results of the statistical analysis provide support to five out of the eight initial hypotheses, while three new casual paths were added to the model (after consulting the modification indexes provided by IBM AMOS). All the additional casual paths are concerned with indirect relationships, in which job autonomy and job satisfaction act as mediating factors [e.g., Job autonomy (via Job satisfaction)  $\rightarrow$  Intrinsic motivation]. Finally, Hypothesis 2 [Supervisor support (via Intrinsic motivation)  $\rightarrow$  Job performance], Hypothesis 4 [Task interdependence (via Intrinsic motivation)  $\rightarrow$  Job performance] and Hypothesis 8 (Public Service Motivation  $\rightarrow$  Intrinsic motivation) were rejected by the empirical data.

**Table 4. Hypotheses testing results**

Model Fit Summary		Squared Multiple Correlations (R <sup>2</sup> )		
Normed- $\chi^2$	3,133		Estimate	
RMR	0,027	Job autonomy	0,240 / 24%	
CFI	0,974	Job performance	0,130 / 13%	
GFI	0,952	Intrinsic motivation	0,276 / 28%	
RMSEA	0,044	Job satisfaction	0,208 / 21%	
H	Causal path	r	p	Remarks
H1	Intrinsic motivation → Job performance	0,168	0,000	Accepted
H2	Supervisor support (via Intrinsic motivation) → Job performance	-	*	Rejected
H3	Job autonomy (via Intrinsic motivation) → Job performance	0,056	**	Accepted
H4	Task interdependence (via Intrinsic motivation) → Job performance	-	***	Rejected
H5	Job satisfaction (via Intrinsic motivation) → Job performance	0,053	**	Accepted
H6	Public Service Motivation → Job performance	0,156	0,031	Accepted
H7	Public Service Motivation → Job satisfaction	0,163	0,017	Accepted
H8	Public Service Motivation → Intrinsic motivation	0,013	0,265	Rejected
Proposed causal relationships				
	Supervisor support (via Job autonomy) → Job performance	0,103	**	New path
	Supervisor support (via Job satisfaction) → Intrinsic motivation	0,016	**	New path
	Job autonomy (via Job satisfaction) → Intrinsic motivation	0,009	**	New path
* Only one path is statistically significant				
** Both paths are statistically significant				
*** The factor "Task interdependence" has been removed				

Overall, results underline the significant role of job autonomy and job satisfaction and their impact on the intrinsic motivation of employees. The proposed model successfully captured the causal relationships between the various research factors and it can be considered as a starting point for future research. The main results of this study are summarized below:

Figure 2. The modified structural model (all paths are significant)

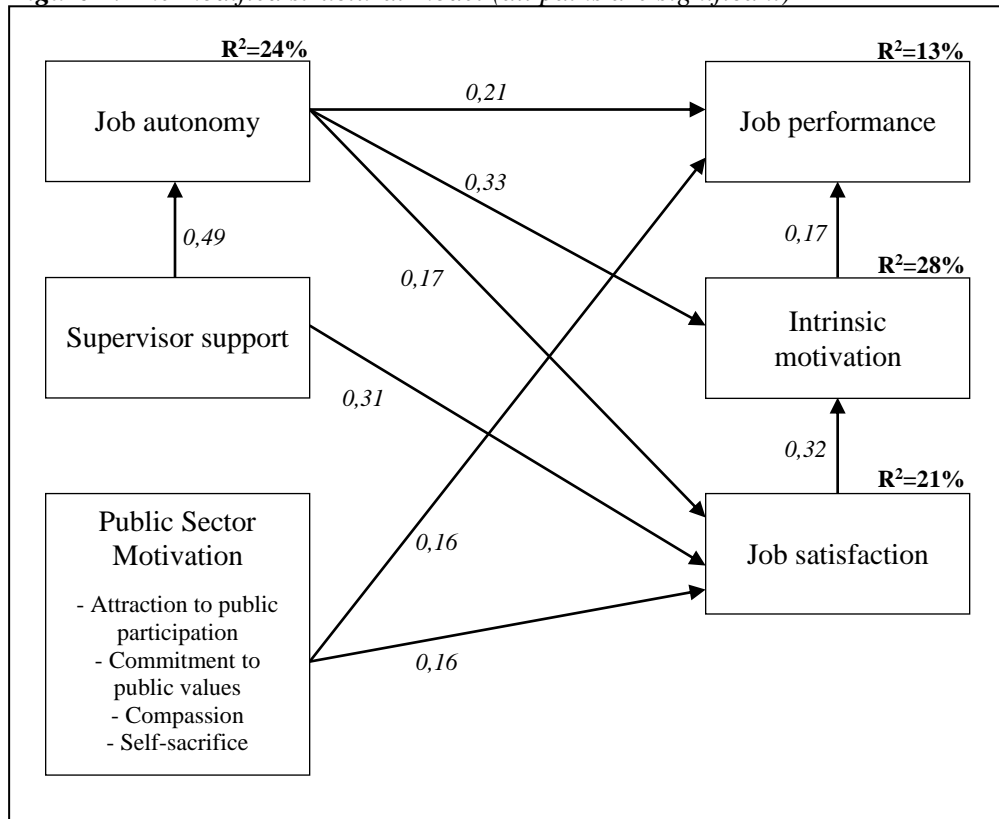


Table 5. Direct, Indirect and Total standardised effects between research factors

		Supervisor support	Public Service Motivation	Job autonomy	Job satisfaction	Intrinsic motivation
Job autonomy	Direct	0,490	-	-	-	-
	Indirect	-	-	-	-	-
	Total	0,490	-	-	-	-
Job satisfaction	Direct	0,312	0,163	0,174	-	-
	Indirect	0,085	-	-	-	-
	Total	0,397	0,163	0,174	-	-
Intrinsic motivation	Direct	-	-	0,329	0,316	-
	Indirect	0,287	0,052	0,055	-	-
	Total	0,287	0,052	0,384	0,316	-
Job performance	Direct	-	0,156	0,210	-	0,168
	Indirect	0,151	0,009	0,065	0,053	-
	Total	0,151	0,164	0,275	0,053	0,168



- The predictive power of the modified model is satisfactory, since it agrees with the findings of various previous studies of the field. For example, Kuvaas (2008) developed a model that explained 14% of the variance in job performance and 25% of the variance in intrinsic motivation. Numerous other authors (e.g., Taylor, 2008; Kim, 2012; Vandenabeele, 2014; Brewer and Selden, 2000; Manolopoulos, 2008) found similar results.
- Task interdependence was not found to have any effect, direct or indirect, on job performance. Therefore, it was removed from the modified structural model.
- Intrinsic motivation directly influences Job performance ( $r=0,17$ ) and along with Job autonomy and Public Sector Motivation can predict 13% of its variance. Hence, Hypothesis 1 is verified.
- Job autonomy affects Job performance, both directly ( $r=0,21$ ) and indirectly (via Intrinsic motivation) ( $r= 0,06$ ). Hence, Hypothesis 3 is verified.
- Job satisfaction indirectly affects, via Intrinsic motivation, Job performance ( $r=0,05$ ), supporting Hypothesis 5.
- Public Sector Motivation directly affects Job performance ( $r=0,16$ ), also offering support for Hypothesis 6.
- Moreover, Public Sector Motivation, along with Job autonomy and Supervisor support, can predict 21% of the variance in Job satisfaction. Under that context, Hypothesis 7 is also supported.
- Supervisor support directly affects Job autonomy ( $r= 0,49$ ). This is, actually, the stronger relationship of the research model. Also, Supervisor support indirectly affects Job performance ( $r= 0,10$ ), via Job autonomy. Therefore, the relationship between Supervisor support and Job performance is largely mediated through Job autonomy.
- Also, the relationship between Supervisor support and Intrinsic motivation is mediated through Job satisfaction. Additionally, the direct impact of Supervisor support on Job satisfaction is quite strong ( $r= 0,31$ ).
- Finally, the relationship between Job autonomy and Intrinsic motivation seems to be both direct ( $r=0,33$ ) and indirect ( $r= 0,05$ ), mediated through Job satisfaction. Taking under consideration both direct and indirect effects, Job autonomy, quite interestingly, has the stronger total impact on Job performance ( $r=0,275$ ).

## **6. Conclusions**

The present study aimed to develop and empirically test an original conceptual framework that investigates employee motivation, in the light of two prominent theories, the Self Determination Theory (SDT), and the Public Service Motivation (PSM). The factors included in the proposed conceptual framework fall into various dimensions. Such a multidimensional approach has never been explored in the existing literature of the field, making the examination of the proposed conceptual framework an interesting research topic.

The examination of the proposed conceptual framework was made with the use of a newly developed structured questionnaire. The questionnaire was distributed to the

employees of a specific Greek public organization [Hellenic Agricultural Insurance Organization, H.A.I.O.]. The questionnaire, consisting of items (questions) measuring ten research factors (constructs), was targeted to 390 public servants. After the completion of the two month data collection period, 174 usable questionnaires were remained (response rate = 44,6%). The Structural Equation Modeling technique was used in order to test the research hypothesis of this study.

Empirical results underline the significant impact of four research factors (namely, Supervisor support, Public Service Motivation, Job satisfaction, Intrinsic motivation) on Job performance. Moreover, the multifaceted role of Job autonomy is highlighted, arguing that public servants value their autonomy in the workplace. According to the empirical results, job performance is being influenced both directly and indirectly; it seems that enhancing employee performance in public organizations is a demanding task. In a hierarchical order, Job autonomy is the most significant determinant of job performance, while the second place is occupied equally by the three other factors (Supervisor support, Public Service Motivation, Job satisfaction). Surprisingly, the impact of Job satisfaction on Job performance is not as strong as these ones.

Overall, the present study argues in favor of intrinsic motivation in the public sector. When external incentives that can be offered to employees are limited, it is crucial to consider the importance of promoting and supporting intrinsic motivation. Moreover, results strongly support the self-determination theory, suggesting that public servants appreciate autonomy-supportive work environments. That finding is consistent with those of previous relevant studies.

Three are the main limitations of the study. Firstly, it concerns a case study of a single public Organization and therefore it may affect the generalizability of the results. In order to generalize the findings of the present research, attention is needed to be paid to all public sector Organizations, where HRM reforms are likely to be more mature and HR managers are more familiar with these incentives. Secondly, as 'motivations' are not 'fixed' characteristics and vary over time and according to different circumstances, this research is considered as a static one and does not constitute a longitudinal analysis in order to obtain reliable evidence on the role of motivation in performance in the long run. Thirdly, attention should be paid to the reliance on self-reported questionnaire data. Further research is suggested to be performed in similar Organizations in Greece or internationally, and particularly in more stable economic environments.

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