

**Effects of Supervisor Communication on Employee Job
Satisfaction and Organizational Commitment**
*– A Study in the Water Supply and Sewerage Utilities of Western
Thessaly*

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EXECUTIVE SUMMARY

The aim of this study is ascertain the levels of Supervisor Communication as they are perceived by the employees in the DEYAs of Western Thessaly and to assess the relationship between Supervisor Communication Satisfaction as far as both Employee Job Satisfaction and Employee Organizational Commitment are concerned. Additionally, it explores the role of Job Satisfaction as a mediator between Supervisor Communication Satisfaction and Employee Organizational Commitment. Finally, the impact of demographic traits on the perceived Supervisor Communication Satisfaction is studied.

To conduct the survey, all 189 employees DEYAs of Western Thessaly were asked to contribute. From this number, 132 responded, providing a satisfactory response rate for this quantitative research and obtaining a representative sample. Perceptions and attitudes were measured with the use of a self-administered, closed-ended questionnaire. Firstly, the study's scales and subscales were examined for internal consistency reliability, also factor analysis was reviewed to support this aim. Following this, descriptive statistics concerning demographic information and the study's variables were used to summarize the data. Subsequently, inferential statistics were employed in the form of the independent T-test, and, finally, correlation and multiple regression analysis was done, to test the research hypotheses.

The results indicate that, firstly, there is a significant positive relationship between Supervisor Communication Satisfaction and Employee Job Satisfaction. In addition, the same positive relationship exists between Supervisor Communication Satisfaction and Organizational Commitment, noting that the same results were found in all three categories of commitment (Affective, Continuance and Normative). Furthermore, it can be concluded that Employee Job Satisfaction affects Organizational Commitment positively, and acts as a mediator between Supervisor Communication Satisfaction and Organizational Commitment. Thus Supervisor Communication Satisfaction leads to higher levels of commitment, both directly and indirectly, through Employee Job Satisfaction. Finally, the study found that Job Category affects Supervisor Communication Satisfaction.

The current economic climate and major changes in Greece and specifically in DEYA, oblige the organization to improve its situation. This study recommends that DEYA should focus on improving Supervisor Communication which will enhance Job Satisfaction and increase Organizational Commitment, enabling DEYA to cope with today's problems. Furthermore, managers, with the support of the human resource function, must develop suitable practices and dedicate more time and effort to providing the correct quantity and quality of information necessary to improve Employee Communication Satisfaction, particularly in the case of technical staff which represent the group of the least satisfied employees. Finally, it is suggested that future research should be undertaken in other DEYAs, thus increasing the population of the research in order to substantiate validity and generalize the findings further. Additionally, other demographic variables which affect supervisor communication could be taken into consideration.

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1.INTRODUCTION

1.1 PROJECT BACKGROUND

In 1980 a new law (1069/80) was passed, giving the municipalities the right to set up water supply companies, this led to the establishment of The Municipal Water Supply and Sewerage Companies (DEYAs). DEYAs are public equivalent bodies which benefit the citizens. They are directed by a President and a committee, elected by the city council, and their responsibility is to provide water supply and sewerage services in a designated area. To fulfil these duties, DEYAs use, maintain and develop an infrastructure consisting of installations and pipe networks. It is worth noting that DEYAs, because of their field (water, sewerage, sewage treatment, and in some areas, district heating) and the labour-intensive nature of the work, require hardworking personnel with expertise who can respond with competence and efficiency to the needs of the company (www.edeya.gr)¹.

Currently, the Greek state is in serious financial difficulty. The GDP has decreased, there has been a fall in domestic consumption, a dramatic rise in unemployment, combined with an increase in inflation and lack of access to international markets. To combat these problems, emergency measures have been put into place with the financial support of the EU, the IMF and the European Central Bank (ECB), thus hoping to reduce the deficits and public debt, and restore the competitiveness of the Greek economy and confidence in the markets. As the recession continues, Greece is monitored and evaluated by the EU, the IMF and the ECB for the strict implementation of the government fiscal adjustment programme and heavy structural modifications (Economic Adjustment Programme) in an attempt to maintain financial stability (www.hba.gr)²; HBA, 2011).

The financial situation is further exacerbated by the problematic structure and malfunctioning of public services. To tackle these problems, as far as local

¹ The Hellenic Union of Municipal Enterprises for Water Supply and Sewerage (EDEYA).

² Hellenic Bank Association (HBA)

governments and their companies are concerned, the state implemented the law 3852/2010 “Kallikrates”. Under this directive, local government and their companies, including DEYAs, who lack the necessary size or resources to solve local problems, underwent major administrative reforms. By creating fewer and larger units, the companies will benefit from economies of scale, pooling of human and financial resources, streamlined distribution and promotion of staff, all of which aim to improve the quality of services to citizens. (www.eetaa.gr)³

In addition, DEYAs are in financial difficulty due to accumulated debts and urgent action is required to improve this. Furthermore, as the implementation of important projects is an issue of great importance for DEYAs it is necessary, following the ruling for water resource management and the common European water policy, that DEYAs’ projects are accepted and co-financed by the Greek state and the funding programmes of the European Community under the NSRF (National Strategic Reference Framework) (www.edeya.gr).

All of the above have led to a deterioration in the situation for the DEYAs. Firstly, duties have been increased due to the merging of neighbouring companies, enlargement of administrative limits to regions which did not have DEYA, and the undertaking of new commitments, such as irrigation, after the implementation of “Kallikrates” law. Secondly, under the new laws, DEYAs have been obliged to make redundancies of temporary staff, and in some cases, permanent employees, along with great reductions in salaries. Finally, the finances of the companies are at their lowest point. This means that services to customers may be degraded, consequently affecting the quality of life for society and threatening the viability of the companies (www.edeya.gr).

The research interest arises from the study of existing literature and the author’s personal involvement and experience of the difficulties of DEYAs. Having worked in a managerial position for the organization for more than ten years, the author has become well aware of the company’s problems and the attitudes of his fellow

³ Hellenic Agency for Regional Development and Local Government (E.E.T.A.A.).

employees. As such, communication is one of his every day concerns. Since there is currently no Greek research related to communication aspects within DEYA, this paper aims to bridge the gap in the existing knowledge, aspiring to deeper insight into communication related problems especially as communication is recognized as a basic tool in combating problems arising, in this case, from the above mentioned changes. Changes, such as mergers and structural reforms, may exacerbate existing communication difficulties (Zwijze-Koning and De Jong, 2009) and make the situation worse.

Hargie et al, (1999) state that communication is the mortar which binds an organization's parts together, providing basic task realization and an understanding of the goals the organization is trying to reach (Van Vuuren et al, 2007). Managers, as representatives of the organization (Van Vuuren et al, 2007), must develop suitable communication practices in order to provide employees with the correct quantity and quality of information at the appropriate time, to enable them to do their jobs well (Carrière and Bourque, 2009). Thus managers applying good communication practices will contribute to Employee Communication Satisfaction (Carrière and Bourque, 2009) which, according to existing research, has a significantly positive effect on Employees' Organizational Commitment (Bartels et al, 2010; Van den Hooff and De Ridder, 2004; Varona, 1996) and Job Satisfaction (Carrière and Bourque, 2009; Hargie et al, 1999).

In an attempt to get a deeper understanding of the impact of managerial communication on the perceptions of DEYAs' employees, this paper proposes to investigate the relationships between Supervisor Communication and Organizational Commitment, as well as, between Supervisor Communication and Job Satisfaction. The term supervisor is used in the broader meaning, and does not only refer to the immediate superior. In addition, the term Supervisor Communication refers to Supervisor Communication Satisfaction as it is perceived by the employee, so in this study the terms are interchangeable. The question is whether it is useful for managers to dedicate more time and effort on communication with employees (Robson and Turkish, 2005). This information could be provided by examining to what extent managerial communication affects Employees' Organizational Commitment and Job

Satisfaction. If a positive significance can be determined this could lead to policies which will be beneficial for both employees and organizations.

The area of the proposed research are the DEYAs of Western Thessaly, namely Trikala and Karditsa Prefectures. More specifically, our research concerns 189 employees working in the eight DEYAs of Western Thessaly, excluding top management.

1.2 RESEARCH OBJECTIVES

Taking into consideration the study's background while also considering the literature concerning the benefits derived from Supervisor Communication, both for the personnel and the organization, the following objectives were established. Firstly, the aim was to investigate whether there is a significant positive relationship between management communication and Employee Job Satisfaction, in the particular context of DEYA. Should this assumption be verified, more emphasis should be given to providing suitable forms of managerial communication in order to increase Employee Job Satisfaction. In this way, the latter will produce valuable outcomes, such as higher organizational performance and reduced counterproductive work behaviours such as absenteeism and early departure (Carrière and Bourque, 2009). In the present climate of major changes and with the implementation of new measures, increasing Job Satisfaction is essential for DEYAs. Thus, the first objective is *to identify the relationship between Supervisor Communication and Employee Job Satisfaction*.

Another objective was to investigate the contribution of management communication to Employee Organizational Commitment. Commitment is extremely important in the current climate as it reduces the resistance to change (Peccei et al, 2011) and improves work efficiency while also reducing work stress (Muthuveloo and Rose, 2005). Attention should be paid to the evaluation of the components of Employee Organizational Commitment, that is, Affective, Continuance and Normative Commitment. In particular, emphasis should be placed on Affective Commitment as strength in this area creates greater motivation for higher levels of performance (Meyer and Allen, 1997). Therefore, it is proposed that *the impact of Supervisor Communication on Employee Organizational Commitment should be identified*.

Many researchers argue that Job Satisfaction predicts Organizational Commitment (Gunlu et al, 2010 and Muthuveloo and Rose, 2005) claiming that when Job Satisfaction levels increase, commitment increases as well. In addition, if a positive relationship can be established, improving Supervisor Communication increases commitment indirectly through increased Job Satisfaction, which may act as a mediator. Therefore, the third objective is *to assess the relationship between the two*

dependent variables of our research, that is, Employee Job Satisfaction and Organizational Commitment.

Finally, there are many studies concerning the relationship of demographic variables with employee Job Satisfaction (Böckerman and Ilmakunnas, 2008; Okpara et al, 2005; O'Leary et al, 2009; Toker, 2011). However, relatively little has been written relating specifically to Supervisor Communication Satisfaction and how it is affected by demographic variables, and even less concerning Supervisor Communication in the water supply industry of Greece. Moreover, as subtle differences in behaviour relating to various demographic traits may have a potential impact on the perceptions of the workforce (Young and Hurlic, 2007), the fourth objective is *to define the extent of perceived Supervisor Communication Satisfaction for each of the employee groups according to various demographic traits (namely, Prefecture, DEYA Type, Age, Gender, Job Category, Organizational Tenure, Level of Education, Time with the same Supervisor, and Supervising Others).*

It may be beneficial to examine the impact of demographic traits on the four dependent variables of the study, Employee Job Satisfaction, Affective Commitment, Continuance Commitment and Normative Commitment. Research has indicated that many demographic variables have an impact on Job Satisfaction and Organizational Commitment (English et al, 2010; Toker, 2011). The inferential statistics may provide useful information on the effect of demographic variables on the dependent variables above.

1.3 STRUCTURE OF DISSERTATION

Chapter 1 describes the context from which the idea for studying this particular research topic arose, the general standpoint of the existing literature and the value of the possible outcomes for DEYA employees and organizations. The objectives are presented along with the practical implications of addressing these objectives.

Chapter 2 provides a review of the existing theoretical background and is divided into five sections. The first deals with the broader meaning of communication and goes on to focus on managerial aspects of communication and communication satisfaction. The second presents the definitions and theories concerning job satisfaction. It also provides information about scales, related variables and research findings. The third provides a general approach to organizational commitment. It then outlines the components of affective, continuance and normative commitment in terms of their antecedents and, finally, presents the implications of organizational commitment. The fourth section shows the graphical representation of the research model and describes the relationship between the study's variables. Finally, in the fifth section, the research hypotheses are given after reviewing the theories relating to the variables concerned.

Chapter 3 describes how the research was conducted in order to achieve the study objectives developed in the first chapter. The survey strategy, the sources of data, the method of data collection and the research instruments are discussed analytically.

Chapter 4 presents how the data collected is analyzed, giving an overview of the research results. Using reliability analysis and factor analysis, subscales are examined for internal consistency reliability. Then, descriptive statistics, concerning demographic information and the study's variables, summarize the data. Finally, correlation and multiple regression analysis are used to test the research hypotheses.

Chapter 5 discusses the most important findings of the study in relation to the literature reviewed.

Chapter 6 provides conclusions, drawn from the study's empirical findings and makes recommendations after critical discussion.

Chapter 7 outlines the limitations concerning research data collection, assumptions in data analysis and generalizations.

Chapter 8 reflects on the learning experience gained in carrying out the study.

2. LITERATURE REVIEW

2.1 COMMUNICATION

“The best idea, the most creative suggestion, or the finest plan will not make any difference unless effectively communicated” (Hunsaker, 2004, p.61). Organizational communication is defined by Keyton (2005, p.13) as “a complex and continuous process through which organizational members create, maintain, and change the organization.” Communication plays an important role in the organization’s competitiveness and survival through the exploitation of employees’ ideas and talents, utilizing their energy and creativity and ensuring their commitment. In addition, there is increasing recognition of the importance of knowledge management, which is facilitated through communication (Brewster et al, 2007).

Bartels et al, (2010) state that the communication of the organization’s strategies and goals, the encouragement of employees to participate in making decisions and provision of sufficient information, helps personnel to identify with the organization.

Moreover:

“... communication is not just important from the functional point of view of getting the message across, it is also central to the development and maintenance of positive working relationships, harmony and trust.” (Hunt et al, 2000, p.120).

Trust can be built directly via communication and also indirectly through procedural justice, especially in times of change. Open acceptance to change can be achieved through good communication policies (Chawla and Kelloway, 2004). Henderson and McAdam, (2003) point out that there is a strong link, throughout the organization from the smallest unit to the company as a whole, between effective communication and successful change. Furthermore, obstacles to the development of a learning culture are created by ineffective and unclear communication policies, which lead to problems in terms of delivery and feedback.

The supervisor, through processes and practices, acts as a link between the organization and employees. He is a pivotal mechanism (Brunetto and Farr-Wharton, 2003) as through him communication flows vertically and horizontally, providing and

receiving information, feedback and comments, as well as influencing his staff (Johlke and Duhan, 2000). Thus communication is a key task of managers (Mintzberg, 1975, cited by Brewster et al, 2007). The role of the manager is significant in terms of an openness to change as employees are more emotionally willing to accept change with supervisor support (Qian and Daniels, 2008; Shah and Shah, 2010). Many negative employee attitudes, such as critical or disparaging behaviour towards the company, which are described in the literature as change-specific organizational cynicism, are significantly affected by the communication processes (Qian and Daniels, 2008). Persuasive communication, which conveys the change message both in written and verbal forms, is important for the change agents, namely, the managers (Armenakis and Stanley, 2002).

Lastly, the role of cultural positioning is very important as national characteristics may create 'stickiness' affecting individual and organizational communication patterns (Brewster et al, 2007) and DEYAs are obviously influenced by this. As Hofstede (http://www.geert-hofstede.com/hofstede_greece.shtml) points out, organizational culture in Greece is characterized by a relatively high power distance (hierarchical organizations) and high uncertainty avoidance, making information and knowledge sharing problematic (Brewster et al, 2007).

2.1.1 Supervisor Communication Satisfaction

Communication satisfaction is a basic yardstick for employees to measure the organization's activities (Carrière and Bourque, 2009). Their ability to produce the required results is affected by the level of satisfaction with managerial communication processes (Brunetto and Farr-Wharton, 2008). Increased supervisor communication, which is one aspect of communication, leads to an improvement in the overall communication climate. A good way to improve the communication climate rapidly is to instigate measures which increase face to face communication and thus satisfy basic needs in the workplace (Hargie et al, 2002). Varona (1996) states that supervisor communication flows in both an upwards and downwards direction and involves three main components; supervisors' openness to new ideas, whether they listen carefully or not, and how much guidance they offer in solving problems in the workplace.

Krone et al (1987) describe communication using four characteristics: frequency, mode, content and direction. According to Johlke and Duhan (2000), these characteristics have been used by many researchers to investigate communication within firms. In this study, as in the study of Johlke and Duhan (2000), the communication characteristics were used to provide a more detailed description of the aspects related to supervisor communication.

The frequency of contact is how often there is communication between employee and supervisor. The more contact there is, the better the quality of communication (Mohr and Sohi, 1995) and thus, the greater employee satisfaction (Johlke and Duhan, 2000).

Communication mode is how the information is conveyed and may be either formal, through meetings (Brewster et al, 2007) or written memos; or informal involving, often impromptu, personal contact (Axelsson and Bihari-Axelsson, 2004). The latter is most effective as it enables immediate feedback, exchange and evaluation (Tushman and Nadler, 1978). Such communication provides people with timely information of the right quantity and quality which is highly valued by employees as it enables them to do their job well (Carrière and Bourque, 2009).

Communication content is the directness of the communication rather than the message itself. It involves the sender trying to alter the receiver's actions and can be either direct or indirect. The former focuses on direct instructions from the manager and gives little opportunity for employee input. Whilst the latter requires information sharing and decision-making responsibility (Mohr et al, 1996, cited by Johlke and Duhan, 2000).

Communication direction relates to the flow of information; downward, upward and lateral (Axelsson and Bihari-Axelsson, 2004; Brewster et al, 2007). Johlke and Duhan (2000) claim that with two-way (bidirectional) communication, managers provide information and influence employees. They also actively receive and consider employee input and so recognize employees' contributions. The quality of this communication depends on the relationship between the supervisor and his subordinates (Brunetto et al, 2011). It is, therefore, important that subordinates feel that they are able to interact with their supervisors by asking questions and making

suggestions (Gray and Laidlow, 2002). To conclude, good relationships between supervisors and their subordinates can be built if there is frequent and informal bidirectional communication which encourages the sharing of information and responsibility for decision making (Brunetto et al, 2011).

Style plays an important role. It has been said that “a manager is paid 80 percent of his/her salary to communicate” (Allen et al, 2006, p.15). Communication style is significant as a friendly, relaxed approach, which leaves a good impression, explains more than half of supervisory effectiveness, so serious consideration should be given to a person’s communication style when allocating them to supervise a group (Allen et al, 2006). Managers who possess the ability to combine argumentation with little verbal aggression and adopt a relaxed, friendly, attentive and affirming style (Infante *et al.*, 1993, cited by Henderson and McAdam, 2003) were seen as more effective in understanding people and appreciating their abilities and talents. They are also able to set disciplinary standards which are observed and encourage staff to express their grievances (Brewster et al, 2007). This effectiveness is highly influenced by communication (Allen et al, 2006).

It is important for the organization that managers provide employees with a “bigger picture” and an understanding of the company’s values, environment, other stakeholder’s preferences and, naturally, the organization’s vision and strategy, through adequate communication (Robson and Tourish, 2005). In this way they will contribute to the dissemination of information to co-workers and external parties (Brewster et al, 2007). This not only applies to full-time staff but also part-time workers, as a failure to keep the latter fully informed can mean that they are not fully integrated and therefore feel less satisfied. This can lead to reduced effectiveness and half-hearted contributions. Therefore, all employees, regardless of their type of employment, should be kept in the communication loop (Gray and Laidlow, 2002). Failure to provide this “bigger picture” because of reduced contact or lack of skill, means employees lose sight of organizational goals and become de-motivated (Van Vuuren et al, 2007). In addition, managers who are overassertive, lazy and make assumptions about the speaker and the situation, are poor listeners who adversely affect employees’ communication satisfaction and are prone to bad decision making

(Bell and Smith, 1999). However, superiors who are open-minded and pay attention are able to overcome job-related difficulties (Al-Nashmi and Zin, 2011).

Providing there is mutual trust between employees and supervisors, and the information is considered relevant, credible and free from threats, employees are more likely to listen (Brunetto and Farr-Wharton, 2004). In addition, mutual dependence and contact through shared knowledge help develop team spirit and achieve better results (Bartels et al, 2010, Bell and Smith, 1999). An important aspect of communication is feedback. Once the managers have listened to employees, feedback is given which facilitates interaction between the different levels thus helping in the achievement of tasks involving complex decision making (Brunetto and Farr-Wharton, 2003). Such feedback enables lower-level employees to have a role in the company's decision-making process (Bell and Smith, 1999). Employees who receive the appropriate feedback and are kept informed react more favourably to the organization and can be expected to produce better outcomes (Gray and Laidlaw, 2002). Employing outcome feedback and process feedback, which are two categories of appraisal information, provides the employee with details of accomplishments, behavioural analysis and constructive criticism (Driskill et al, 1992).

Within organizations "there is a marked "slope" in the provision of information [about strategy and finances] below the managerial level. The further down the organization one goes, the less likely employees are to be given this information." (Brewster et al, 2007, p.99) Therefore, greater communication dissatisfaction arises at the lower levels due to lack of information and understanding. They feel uninformed and undervalued, especially when the information concerns important issues and may directly affect their jobs (Hargie et al, 1999).

Managers as representatives of the organization can influence employees' perceptions (Van Vuuren et al, 2007). A positive view is achieved more easily when emotional and inter-personal dimensions are involved in communication (Blundel, 1998). Reducing the distance between management and employees and acting as mentors, managers can lead and befriend employees, especially newcomers. This will influence their behaviour and job satisfaction (Lam et al, 2003). Dissatisfaction with

communication should be dealt with promptly as this will enhance organizational effectiveness (Brunetto and Farr-Wharton, 2003). Robson and Turish, (2005) state that clarity is the key in solving complex communication problems rather than increased frequency. Therefore managers must use more than one channel or medium to convey their messages so that it reaches the receiver (Blundel, 1998).

Managers are advised to use effective communication skills to satisfy employees' needs for communication. To do so, better communication skills must be developed through training (Hunt et al, 2000). With such training and managing their time wisely, managers can communicate effectively with all subordinates, either as a group or separately as required (Hunsaker, 2004). In order to develop a communication strategy and articulate clearly, management need training in communication techniques. This will enable them to motivate employees to improve their work performance (Henderson and McAdam, 2003). Managers should not be alone in this effort. Effective communication and human resource management go hand in hand, therefore, the human resource function must play an active role in the communication processes of the organization (Buckley et al, 1997).

Thus, human resource management should openly support and aid managers in their efforts to improve communications. However, research has shown that, in the majority of cases, the human resource department does not provide specific training in communication skills when preparing managers. In fact, if there is any training, it is included in the general management training. As communication skills are difficult to measure accurately, individual judgement is relied upon when selecting managerial staff even though it is widely recognised that such skills play an important role in a manager's career (Bambacas and Patrickson, 2009).

The existing literature shows that there are numerous benefits of successful communication (Brewster et al, 2007; Carrière and Bourque, 2009; Chen et al, 2006; Hargie et al, 1999) among them employee job satisfaction and organizational commitment are particularly relevant to this research and will be discussed in the following sections.

2.2 JOB SATISFACTION

Spector (1997, p.2) defined satisfaction “as a global feeling about the job or as a related constellation of attitudes about various aspects or facets of the job” whereas Locke (1969, p.317, cited by Weiss, 2002) said that job satisfaction is the “pleasurable emotional state resulting from the appraisal of one’s job as achieving or facilitating one’s job values”.

Job satisfaction is the attitude that employees develop towards their job. This attitude is formed from how they perceive their job and whether there is a good fit between themselves and the organization (Pool and Pool, 2007). Job satisfaction is not a global construct of simply being satisfied or dissatisfied, rather it is a complex, multifaceted concept (Lund, 2003; Pool and Pool, 2007) including such factors as supervisor satisfaction, promotion opportunities, work, pay, and contact with customers and co-workers (De Jong et al, 2001). Weiss (2002) argued that the treatment of job satisfaction as an affect has obscured the three separate key constructs of affective experience, beliefs and overall evaluation about jobs. It is suggested that job satisfaction could be predicted by these three key constructs.

Herzberg et al.’s (1959) introduced a two-factor theory to explain the causes of job satisfaction and dissatisfaction. Company policy, supervision, relationships with peers and work conditions, among others, are considered as hygiene factors whereas achievement, the work itself, recognition, responsibility and advancement are listed as motivators. Job dissatisfaction occurs when there is an absence of hygiene factors (dissatisfiers), however, their presence does not result in satisfaction. In fact, motivators account for the permanent positive effects on performance and strongly determine job satisfaction. Although many researchers currently differentiate using the terms “intrinsic” and “extrinsic” aspects of job satisfaction, the fact remains that, despite criticism, Herzberg’s two-factor theory is still significant in the literature as the basic directions are the same (Furnham et al, 2002).

Weiss et al, (1967) divide employees’ attitude to job satisfaction into three categories; intrinsic, extrinsic and general satisfaction. To assess intrinsic job satisfaction several key factors have to be considered, such as achievement, activity, creativity, utilization

of ability, authority, independence, responsibility, moral values, social status, security, social service, and variety. The factors related to extrinsic are; recognition, advancement, company policy, compensation, human relations and technical supervision. Finally, general job satisfaction includes two more factors, namely co-workers and working conditions. General job satisfaction is created when extrinsic, intrinsic and the two other factors are combined. (Feinstein and Vondrasek, 2001).

If the factors that influence job satisfaction can be measured, the organization has the ability to improve employees' morale and obtain positive results (Pool and Pool, 2007). Such measurements can be made using a single item, but this is to be discouraged when considering complex psychological constructs, such as job satisfaction. A multiple item scale is more advisable (Wanous et al, 1997) and as such will be adopted in this study. Churchill et al, (1974), cited by Rutherford et al, (2009), proposed a seven dimension, 95 item Likert scale to measure job satisfaction. The scale included the following satisfaction dimensions, satisfaction with: overall job, supervisor, promotion and advancement, pay, co-workers, company policy and support, and customers. Following the lead of previous studies, namely, Carriere and Bourque, (2009) and Gunlu et al, (2010), this study used the short form of the Minnesota Satisfaction Questionnaire, consisting of 20 items, developed by Weiss, Dawis, England and Lofquist in (1967). The reason for this was to measure job satisfaction on a scale which has been used by many researchers and has produced satisfactory results.

Many researchers have examined the link between job satisfaction and a range of different organizational variables. Findings indicate that job satisfaction has a significant effect on organizational commitment categories (Gunlu et al, 2010; Kim et al, 2004) as well as stress, the latter revealing both a negative and positive relationship (Lu et al, 2007; Tuten and Neidermeyer, 2004). In addition, there has been shown to be a relationship between job satisfaction and employee performance (Christen et al, 2006; Van Scotter, 2000), and job satisfaction and gender (Crossman and Abou-Zaki 2003). Finally, job satisfaction levels are affected by management practices (Lowry et al, 2002).

Employees are more likely to be successful in their jobs and, consequently, more productive if they are working in an organizational environment that offers high job satisfaction (Skalli et al, 2008). They are also more punctual, absent less frequently and remain with the organization longer (Huddleston et al, 2002; Christen et al, 2006). Therefore, it is extremely important that employers and managers, as organizational representatives, work towards finding ways to increase workforce satisfaction. This can be done by making every effort to highlight teamwork and loyalty, build cohesion and consensus, as well as giving support to employees' innovative ideas. It is essential to reduce bureaucracy and discourage individualism in order to boost the levels of job satisfaction which, in turn, will foster long-term commitment and lead to higher levels of loyalty (Lund, 2003).

Travaglione and Marshall (2000) state that job satisfaction can be enhanced if employees feel that they receive support and fair treatment both from their managers and colleagues. Seo et al, (2004) propose that supervisory support has a significant effect on job satisfaction and that when employees have a good relationship with their supervisors, because they regard them as supportive, they exhibit higher levels of job satisfaction. In addition, greater job variety, participation in decision making, job security and promotion opportunities as well as satisfactory pay all contribute to greater job satisfaction. Conversely, lack of recognition, poor front line management and no positive feedback leave employees feeling discontent. Employees with a strong desire to initiate new ideas exhibit lower job satisfaction when working in a restrictive innovative climate (Lee et al, 2009). Therefore, it is essential that management are seen to be supportive, commend employees on their work and generally facilitate career progression and encourage innovation, thus increasing job satisfaction (Ferguson et al, 2011).

2.3 ORGANIZATIONAL COMMITMENT

Organizational commitment is a multi-faceted, “psychological state linking employees to their organization” (Meyer and Allen, 1997, p.23). Commitment is defined by Mowday et al (1979, p. 226) as “the relative strength of an individual’s identification with and involvement in a particular organization”. It can be characterized using three related factors: firstly, “a strong belief in and acceptance of the organization’s goals and values; secondly, a willingness to exert considerable effort on behalf of the organization; and thirdly, a strong desire to maintain membership in the organization”. These three factors can be labelled as, identification, involvement and loyalty (Yousef, 2000).

Meyer and Allen (1991) approach the subject of organizational commitment by dividing it into three components; affective, normative and continuance (Appendix A). These three forms are not mutually exclusive and may be experienced by employees in varying degrees. There is the possibility that interaction between them may influence behaviour. However, comparing these three categories, Meyer and Allen (1997) suggest that affective commitment is more significant than continuance and normative, as it is a motive for higher performance levels and thus employees make a more meaningful contribution (Suliman and Iles, 2000).

2.3.1 Affective Commitment

Affective commitment is when employees stay because they want to; “affective commitment refers to the employee’s emotional attachment to, identification with, and involvement in the organization” (Meyer and Allen, 1991, p.67). According to Meyer and Allen’s theory, the antecedents of affective commitment are, firstly, *organizational characteristics*, in other words, variables related to the organizational structure which influence affective commitment, such as the justice and the fairness of the organizational policies. An example of this can be seen in Lee and Corbett’s (2006) findings that interactional justice, that is, whether the decision is implemented with respect and politeness, is reflected in employees’ affective commitment. Furthermore, affective commitment can be linked to the manner in which the organizational policies, such as decentralization, are conveyed. This means that the

amount of information, and the degree of sensitivity with which these policies are communicated can have an influence on affective commitment (Meyer and Allen, 1997). In the case of this study, as downsizing, mergers and salary cutting are unavoidable, consideration must be given to the above theory.

Secondly, *person characteristics*, for example, demographics, such as age and gender variables have been shown, in the main, to have a weak or inconsistent relationship with affective commitment (Suliman and Iles, 2000). As far as tenure is concerned, a moderate effect on affective commitment can be seen for employees with one to nine years service (English et al, 2010). Dispositional variables (values and personality) also exhibit an inconclusive affect on affective commitment. However, high achievers and employees with a strong work ethic often show strong affective commitment (Steinmetz et al, 2011; Subramaniam et al, 2002).

Finally, *work experience*, that is, job scope including the level of challenge in the job, variety of skills used, and the degree of autonomy, can be positively linked to affective commitment (Meyer and Allen, 1997). The role of an employee in the organization, specifically, newcomers and the extent to which they have the opportunity to participate in work related activities and socialize with established staff, could affect the development of affective commitment (Filstad, 2011). Finally, if employees experience high levels of support from their supervisors and have a good relationship them, while also being encouraged to participate in decision making, affective commitment is boosted (Dawley et al, 2010).

Comparing these three categories, Meyer and Allen (1997) suggest that affective commitment is more significant than continuance and normative, as it is a motive for higher performance levels and thus employees make a more meaningful contribution.

2.3.2 Continuance Commitment

Continuance commitment is when employees remain with the organization because they need to; continuance commitment “refers to employee’s awareness that costs are associated with leaving the organization” (Meyer and Allen, 1997, p.56) The antecedents of continuance commitment are, first of all, *side bets*, that is, the

investment of money, time and effort, to acquire a skill that is not transferable to another company. A further side bet involves the disruption caused on leaving the company, for example, the prospect of losing benefits, having to give up privileges based on rank, or having to relocate the family and upset personal relationships. Secondly, *employment alternatives*, in other words, whether an employee's skills are up-to-date and marketable and the degree to which the alternatives are viable (Wasti, 2002).

Bearing in mind the current economic climate, employees need to put time and effort into their work to guarantee continuity of their membership, as such, the more they believe they have to lose if they leave the company, the better they must perform in order to stay. From another perspective, a company which offers benefits and privileges will automatically foster continuance commitment as employees do not wish to lose these advantages (Suliman and Iles, 2000).

2.3.3 Normative Commitment

Normative commitment is when employees feel they ought to stay with the organization; it "refers to an employee's feeling of obligation to remain with the organization" (Meyer and Allen, 1997, p. 60) The antecedents of normative commitment are, to begin with, *cultural/familiar and organizational socialization*, that is the obligation to remain with the organization because they feel normative pressure from the ingrained values that they have received prior to and following entry to the organization (Chang et al, 2007). Secondly, *organizational investment*, which is the employees' feeling of obligation towards the organization to reciprocate investment made on their behalf, for example, the payment of college tuition. In addition to this, when an employ has been mentored and they have developed a bond with their mentor, they are reluctant to leave the organization because of a feeling of indebtedness (Dawley et al, 2010). Thus, the two sides of normative commitment are moral duty and a feeling of obligation. However, research suggests that both the organization and the employee receive greater benefits when normative commitment is experienced out of a sense of moral duty (Meyer and Parfyonova, 2010).

2.3.4 Implication of Organizational Commitment

Resistance to change is an important consideration when an organization such as DEYA is undergoing major change. Shum et al, (2008) point out that those employees who are committed to the organization are able to minimize resistance to change. Those who exhibit high levels of affective commitment are a critical factor to successful implementation of Kallikrates law. In today's economic climate, unfortunately, downsizing is a necessary evil. According to Cross and Travaglione (2004), employees who show less affective commitment should be the first to be considered when making redundancies as those who are emotionally committed are more likely to form a more efficient workforce after downsizing. Therefore, it is necessary to assess levels of commitment to establish positive, long-term downsizing results. As downsizing may cause a decrease in affective commitment, both directly and indirectly, through daily work experiences (justice, promotional chances, and acceptance of change and new ideas), it is important that it is executed in such a way that employees feel that the changes are positive and, as such, their levels of affective commitment are maintained or possibly even improved (Lee and Corbett, 2006).

Research indicates that employees who are highly committed to the organization are likely to be more productive, experience greater job satisfaction and present lower turn-over rates (Sowmya and Panchanatham, 2011; Yousef, 2000). Further investigations have shown that organizational commitment acts as a mediator between supervisors' behaviour and job satisfaction and performance (Suliman and Paul Iles, 2000). Furthermore, there are several factors which influence organizational commitment such as fair treatment, job challenges, recognition of their contribution and the skills used. Commitment can benefit the organization in that it reduces work stress, employees work more effectively and tend not to leave (Muthuveloo and Rose, 2005). More significantly, in the case of DEYA, the contribution of commitment is crucial because, as Peccei et al (2011) state, it reduces the levels of resistance to change, which is especially important in these times of major change.

In examining commitment in DEYA it is important to review the role of cultural positioning in organizational commitment. Greece exhibits a relatively low level of individualism and high levels of collectivism (<http://www.geert-hofstede.com/>

hofstede_greece.shtml). When an employee is in this situation he feels he needs to be part of a group and the organization becomes one of these groups, which should support him “like a family” (Hofstede, 1980, p.173). Cheng and Stockdale (2003) state that in a country where collectivism is the dominant culture, employees show loyalty to the organization and score highly in normative commitment. Furthermore, in this type of culture, commitment becomes a habit in that it is never questioned, people behave in the same way as others (normative commitment) and they do not wish to make the sacrifices involved if they were to leave the organization (continuance commitment). Finally, they identify the values of the organization as their own (affective commitment). Therefore, DEYA employees, as members of a collectivist society, tend to increase their levels of organizational commitment and DEYAs should embrace this concept.

In the literature, organizational commitment is usually measured by one of two scales. Firstly, the Organizational Commitment Questionnaire (OCQ) of Mowday et al (1979), in various forms (15, 12 and 9 items), which covers the three aspects of their definition of organizational commitment. Secondly, the Affective, Continuance and Normative Commitment scales developed and tested by Meyer & Allen’s in 1997, containing 18 items, six for each dimension scale. To support the aims of this study, the latter was chosen as it was more appropriate to the study’s setting.

2.4 RESEARCH MODEL

This study aims to investigate the relationship between Supervisor Communication, as perceived by employees, and Employee Job Satisfaction while also considering the influence of Supervisor Communication on Employee Organizational Commitment. Further to this, the contribution of Employee Job Satisfaction to Employee Organizational Commitment is also examined. Finally, it explores whether selected demographic traits have a significant effect on perceived supervisor communication satisfaction levels. This is clearly illustrated in the Figure 2.1 below.

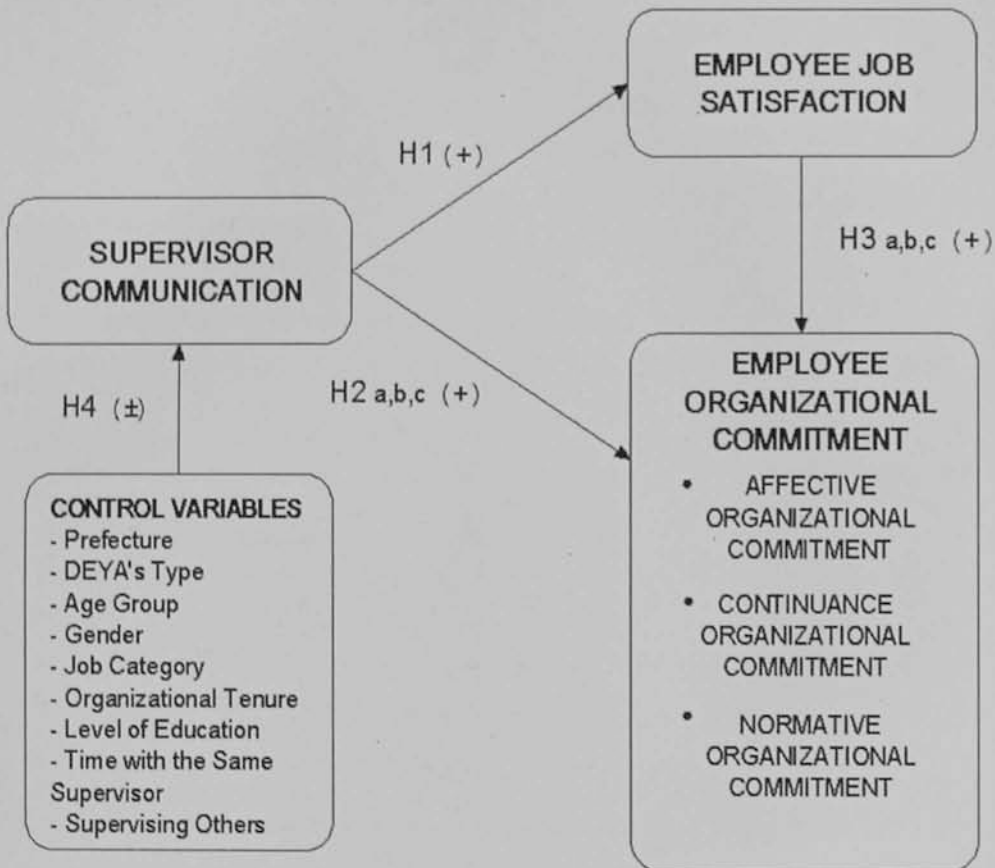


Figure 2.1: The proposed model of supervisor communication on employee job satisfaction and organizational commitment.

It is assumed that there is a positive relationship between Supervisor Communication and both Employee Job Satisfaction and Organizational Commitment. Similarly, it is postulated that Employee Job Satisfaction contributes positively to Organizational Commitment.

2.5 RESEARCH HYPOTHESES

2.5.1 Communication and Job Satisfaction

Generally, the literature indicates that there are strong links between communication and job satisfaction. Often communication acts as a strong predictor of job satisfaction and sometimes functions as a moderator between job satisfaction and other organization variables (Pettit et al, 1997). Goris (2007) also states that communication acts as an important predictor of job satisfaction and suggests that managers, as a part of the organization communication system, need to be open and interact face-to-face with employees, utilize vertical and horizontal flows of communication, and regulate the amount of information given. Johlke and Duhan (2000) point out that not only the amount, but also the frequency of communication between supervisor and employee affects job satisfaction.

As a result of greater communication satisfaction, employees are more pleased with their employment situation which can be seen in the fact that there are fewer strikes, less absenteeism, increased productivity and greater creativity (Hargie et al, 1999). Similarly, Nelson et al, (2007) state that the development of employee-manager relationships, through successful communication practices, enhances job satisfaction among the employees which in turn leads to increased productivity. Conversely, strong dissatisfaction can arise when employees feel that they never receive a response or that management are not open and honest (Zwijze-Koning and De Jong, 2009) with the result that employees exhibit counterproductive work behaviours.

Liu et al, (2005) point out that there is a strong correlation between job satisfaction and communication satisfaction. Stating that people who are responsible for creating good working environments must give due consideration to good communication practices as this will result in greater job satisfaction. Furthermore, Parsons and Broadbridge (2006) claim that not only subordinates benefit from better communication policies but managers also feel greater satisfaction when they have formed good interpersonal relationships with their staff and are able to work closely with their team. Employee job satisfaction is significantly determined by the behaviour of the supervisor and the employees' colleagues (Park and Deitz, 2006).

As a starting point, the first hypothesis in the study can be presented as:

H1. Supervisor communication satisfaction contributes to employees' job satisfaction

2.5.2 Communication and Organizational Commitment

Varona (1996) found that employees' organizational commitment is directly related to communication satisfaction and passes through several stages over a period of time. Initially, on joining the organization, communication satisfaction and commitment are high. This lasts about one year. Then a crisis stage is reached when the levels in both areas decrease, finally moving into a "normal stage", after about six years, when communication satisfaction and commitment increase again.

Van Vuuren et al, (2007) note that commitment can be strengthened through communication, more specifically, supervisor communication satisfaction enhances affective commitment. Brunetto and Farr-Wharton (2004) also agree that a positive relationship between commitment and communication exists. A clear view of the values and the organization's aims motivates those employees, whose identity is compatible with that of the company, to cooperate and be flexible to ongoing changes. Also, employees' view of the efficacy of the organization in reaching its aims is important in developing commitment as they feel a part of the organization and strive to meet these goals.

Effective communication is vital to organizational commitment as it enables employees to understand and share the organization's vision (Appelbaum et al, 2009). Such communication entails listening and giving feedback on key activities (Van Vuuren et al, 2007) as well as providing timely, useful, and accurate information (IPMA, 2006). Individuals have a greater sense of organization membership if they experience communication satisfaction with supervisors and, even more so, with top management (Putti et al, 1990, cited by Vuuren et al, 2007). Moreover, supervisor communication contributes to the commitment of employees to team work (Bakar et al, 2009).

Nelson et al, (2007) emphasize that organizations must invest resources in developing communication practices between management and employees, building relationships

and nurturing commitment which is fundamental for the survival and future long term growth of the organization in a changing work environment. As communication is of great importance in creating a sense of belonging (Hargie et al, 1999) and maintaining involvement (Van Vuuren et al, 2007) managers, with the assistance of HRM, should develop channels of communication in order to generate greater workforce commitment (Brewster et al, 2007). Failure to make employees feel part of the organization, because of inadequate communication, results in a breakdown in the communication climate which leads to a lack in the development of new ideas, identification and commitment (Zwijze-Koning and De Jong, 2009).

Based on the above literature background analysis, the second hypothesis of the study is proposed, incorporating the following set of three sub-hypotheses associated with the relationship between employees' communication satisfaction and employees' organizational commitment:

H2: Supervisor Communication Satisfaction is positively related to Employees' Organizational Commitment

H2a. Supervisor communication satisfaction is positively related to employees' affective organizational commitment

H2b. Supervisor communication satisfaction is positively related to employees' continuance organizational commitment

H2c. Supervisor communication satisfaction is positively related to employees' normative organizational commitment

2.5.3 Job Satisfaction and Organizational Commitment

Organizational commitment is a more global concern than job satisfaction. It shows a general affective response to the organization whereas job satisfaction reflects the employees' response to a certain aspect of the job. So commitment is an attachment to the organizational goals and values while satisfaction focuses on a particular task environment (Mowday et al, 1979). Specific job attitudes, such as job satisfaction, are connected to task-related outcomes like performance, whereas global organizational attitudes, such as commitment, are linked to organizational related outcomes, for example turnover (Shore and Martin, 1989). Feinstein and Vondrasek, (2001) support

this argument and add that the focus is on maintaining long-term commitment rather than job satisfaction.

In undertaking this study, since satisfaction and commitment are being measured when testing the previous hypothesis, it is worth examining the relationship between these two dependent variables and whether there is evidence of their positive relationship. As employees' organizational commitment is of great importance, it is interesting to exam if the relationship between supervisor communication satisfaction and employees' organizational commitment is mediated by employee job satisfaction. If so, this will provide us with evidence that there is another indirect way to increase commitment.

From the existing literature it can be ascertained that there is a lot of controversy regarding these attitudes. The majority of the researchers argue that job satisfaction predicts organizational commitment. Gunlu et al, (2010) and Muthuveloo and Rose (2005) more specifically state that when job satisfaction levels increase, affective and normative commitment increase as well. On the contrary, Yousef (2000) argues that managers must adopt behaviours which improve organizational commitment which, in turn, leads to job satisfaction and an improvement in job performance. Sharma and Bajpai (2010, p.16) support Yousef's arguments saying that "committed employees are more prone to higher level of job satisfaction". In this study there is agreement with the research that supports that organizational commitment is created, at least in part, by job satisfaction. Therefore the third hypothesis is:

H3. Organizational commitment is affected positively by the level of employee job satisfaction

H3a. Affective Organizational Commitment is affected positively by the level of Employee Job Satisfaction

H3b. Continuance Organizational Commitment is affected positively by the level of Employee Job Satisfaction

H3c. Normative Organizational Commitment is affected positively by the level of Employee Job Satisfaction

2.5.4 Demographics and Supervisor Communication Satisfaction

A lot of literature exists related to demographics and their effect on the broader area of job satisfaction, for example, Okpara et al, (2005) and O'Leary et al, (2009) discuss gender issues, while Böckerman and Ilmakunnas (2008) refer to job category influences and Toker (2011) reviews the impact of both gender and age group on job satisfaction. However, very little focuses specifically on supervisor communication satisfaction. Young and Hurlie (2007) advise supervisors to consider the subtle differences in gender related behaviours when communicating ideas. This provides an incentive for analysis of the possible influences of demographic traits on the study's independent variable, Supervisor Communication Satisfaction.

This leads to the conclusion that it is also useful to determine the differences in perceived Supervisor Communication Satisfaction levels related to selected demographic traits, such as age, gender, educational background, position, experience and length of employment. In this way, the specific categories of employees who feel dissatisfied with the existing flow of communication can be focused on. The hypothesis is that:

H4. Employees' demographic traits have a significant relationship with Supervisor Communication Satisfaction

3. RESEARCH METHODOLOGY

The purpose of this project was to investigate the relationship between Supervisor Communication and Employee Job Satisfaction, as well as between Supervisor Communication and Employee Organizational Commitment. The research philosophy which best supported the proposed strategy and methods, was positivism since it employs quantitative methods (Deshpande, 1983) to verify hypothesis formulated from theory while the observer remains independent (Amaratunga et al, 2002). Using the quantitative method a relatively large representative sample could be investigated, measuring the attitudes and characteristics (Hyde, 2000), thus obtaining generalizations concerning all the DEYA employees of Western Thessaly. This approach, which generates statistics usually through survey research, (Dawson, 2009) was followed. The disadvantage of this method is that it does not explain behavioural factors in depth and it only gives a representative view of the current situation without predicting what may happen in the future (Amaratunga et al, 2002).

Explanatory research had to be undertaken to explain causal relationships between the variables of the project (Saunders et al, 2009). In addition, the deductive approach was used, in which existing theory “informs the development of hypotheses, the choice of variables, and the resultant measures which researchers intend to use.” (Ali and Birley, 1999, p.103). Thus, a theoretical framework was formulated about how Supervisor Communication Satisfaction affects Employees’ Job Satisfaction and Organizational Commitment, which was then tested.

3.1 SURVEY STRATEGY

In this case, a cross-sectional study was appropriate as there was not the opportunity to review the situation over a long period of time. The survey which was carried out is compatible with cross sectional studies and is also associated with the deductive approach (Saunders et al, 2009). Kotler and Keller (2006) state that researchers adopt survey strategy when they are interested in ascertaining preferences, beliefs and satisfaction. Through survey strategy, quantitative data can be collected and analyzed utilizing descriptive and inferential statistics. Therefore, statistical software (SPSS)

was used as it was the most convenient and efficient method. The data from the survey was “used to suggest possible reasons for particular relationships between variables and to produce models of these relationships” (Saunders et al, 2009, p144).

3.2 SOURCES OF DATA

The survey population consisted of all the employees who work in the eight DEYAs of Western Thessaly. This amounted to approximately 189, excluding only top managers. The middle and low level managers face the same problems when communicating with top management as the rest of employees with their superiors. The workforce of a typical DEYA was categorized into three groups: managers, clerical and manual workers. Whether they work in urban or peripheral DEYA was also considered. Taking into consideration the population under investigation and, based on the guide suggested by Saunders et al, (2009, p.219), more than 127 cases had to be collected in order to have a confidence level of 95%. With this number of respondents (cases) it was assumed that the results provided were comprehensive and representative of the population. Since the number of respondents was high compared with the total population, to achieve the response rate all employees were asked to contribute to this survey and therefore there was no need to apply any sampling technique. Thus, the sample was equal to the population and was a probability sample since there was an equal chance of selection for every member of our population (Kotler and Keller, 2006). Finally, 132 cases were collected.

3.3 METHOD OF DATA COLLECTION

Data was gathered using a self-administered, closed-ended questionnaire (Appendix B) because of its suitability as a data collection technique for explanatory research of a relatively large sample. This was then followed by quantitative analysis (Saunders et al, 2009). Care was taken when designing and piloting the questionnaire as the majority of the population is unused to completing questionnaires. The questions used were based on scales already employed abroad and it was important that the translation was clear and simple and embarrassing questions, which could have produced false answers (prestige bias), were avoided (Dawson, 2009).

With the approval of the organizations, the questionnaire was delivered to each respondent personally by a team of fieldworkers (delivery and collection questionnaires) with the aim of increasing the response rate. Instructions were given orally accompanied by an explanatory introduction outlining the purpose of the research and what would be done with the results. This method was preferable to a structured interview as it was less time consuming and covered a relatively larger sample. It also avoided the problem of contamination or distortion by interviewers and misleading answers from respondents who wanted to create a good impression (Dawson, 2009). The data was processed and when there was a noticeable lack of response in a specific job category group of certain DEYA, fieldworkers made, up to two, follow-up visits to encourage participation.

3.4 RELIABILITY AND VALIDITY

In this study, an adequate sample was collected which was representative of this study's population, enabling the generalization of the findings as far as this particular research setting of the DEYA of Western Thessaly is concerned. To extend the external validity, follow-up studies should be conducted in other research settings (Calder et al, 1982; Neuendorf, 2002; Yin, 2003). Additionally, the questionnaire is based on scales which have already been used many times in previous research, and have been tested and validated in various business environments. This guarantees the reliability and internal validity of the questionnaire used in the study. Care was taken to ensure careful selection of the measurement questions, a pleasant layout, clear explanation of our purpose and pilot testing thus strengthening the reliability and internal validity (Alexander and Winne, 2006; Saunders et al, 2009; Yin, 2003).

3.5 ETHICAL CONSIDERATIONS

Efforts were made to assure respondents that their contribution was confidential and anonymous, so that nobody felt pressured or bullied. However, there was a degree of scepticism regarding such assurances. Therefore, details of the project were freely communicated to respondents, giving them information on the subject and purpose of the research, as well as promising to provide them with a final report should they wish to see it. In this way the respondents could appreciate the benefits of the research,

both for themselves and the organization as a whole. If this had not been done the collected data could have been marred as respondents might have offered false or irrelevant information.

3.6 RESEARCH INSTRUMENTS

3.6.1 Supervisor Communication Satisfaction scales

Communication satisfaction was measured using a Greek translation of Vuuren, De Jong and Seydel's (2007) twelve-item communication satisfaction scale. The scale, which was constructed to measure supervisor communication satisfaction, "stems from different sources that incorporate aspects of communication between manager and employee" (Vuuren et al, 2007 p.120) It consists of items from four other scales, and comprises aspects such as perceived supervisor support, two-way communication, active listening, feedback, vision communication and the importance of trust. Furthermore, five items from the scale of Jolke and Duhan (2000) were added concerning communication frequency, informal communication mode, indirect communication content, bidirectional communication flows and ambiguity regarding the supervisor. This scale was tested for convergent validity and also it "indicated sufficient discriminant validity between each construct" (Jolke and Duhan, 2000, p.159). The perceptions of DEYA's employees regarding supervisor communication satisfaction were recorded using a seven-point Likert scale which ranged from strongly disagree to strongly agree. As this scale is the sum of two other scales, effort was made to test the internal consistency reliability of the scale. This was done by employing reliability analysis and factor analysis.

3.6.2 Job Satisfaction scale

Job satisfaction was measured using the short form of the Minnesota Satisfaction Questionnaire, developed by Weiss, Dawis, England and Lofquist in (1967). This form, consisting of 20 items, was more suitable for this study than the longer one. This questionnaire covered the three aspects of job satisfaction namely, intrinsic, extrinsic and general satisfaction. It is widely recognized as its internal consistency reliability has been tested and construct validity complies with theoretical expectation

in various contexts (Weiss et al, 1967). A seven-point Likert-type scale was used which ranged from strongly disagree to strongly agree.

3.6.3 Organizational Commitment scale

Organizational Commitment was measured utilizing the Affective, Continuance and Normative Commitment scales developed and tested by Meyer & Allen's in 1997. The 1997 version contains 18 items, six for each dimension scale. This was preferable in order to separate the employees' perception in each dimension of commitment. The scale has been tested for its internal consistency reliability in various studies and provides adequate evidence that the three constructs (affective, continuance and normative commitment) are indeed distinguishable (Meyer and Allen, 1997). Once again a seven-point scale was used with labelled anchors from strongly disagree to strongly agree.

3.6.4 Control measures

The information provided by the respondents, which was used as control measures, relates to demographic variables, namely, Prefecture, DEYA Type, Age, Gender, Job Category, Organizational Tenure, Level of Education. Further demographic questions concerning the length of time with the same supervisor and supervisory status, that is, whether they supervise others, were included. The categories were not established arbitrarily but were based on existing research which was as similar to this study as possible. Five age groups were defined; under 30s, 31 to 40, 41 to 50, 51 to 60, and 61 year-olds and over (Oshagbemi, 2004; Toker, 2011). In the case of job category, the research of Zeffrane, (1994) was referred to dividing the workforce into managers, administrative staff and technicians. English et al, (2010) provided the basis for the categorization of organizational tenure, that is, under 1 year, 1 to 9 years and 9 years and over. Lastly, guidance was taken from Daley (1992) concerning time with the same supervisor and the category was divided into; under one year, 1 to 2 years, 3 to 5 years, 6 to 8 years and more than 8 years.

4. DATA ANALYSIS AND RESEARCH FINDINGS

4.1 INTRODUCTION

In this chapter the data collected will be analyzed, giving an overview of the results of research carried out in the DEYA of Western Thessaly. Firstly, using reliability analysis, the study's scales and subscales will be examined for internal consistency reliability, and factor analysis is also reviewed to support this aim. Following this, descriptive statistics concerning demographic information will be presented using tables and bar charts. In addition, descriptive statistics of the study's variables will be used to summarize the data. Subsequently, inferential statistics will be presented in the form of the independent T-test, to show the significant mean difference between groups, and, finally, correlation and multiple regression analysis, to test the research hypotheses. All the above statistical analysis will be conducted with the use of the Statistical Package for the Social Sciences (SPSS) Version 17.0.

4.2 RELIABILITY ANALYSIS

The properties of the study's measurement scales can be studied using reliability analysis which examines each multi-item scale and subscale's internal consistency reliability. As, Field (2005, p.666) states "Reliability just means that a scale should consistently reflect the construct it is measuring". Consistency means that if a respondent answers the same questionnaire on two separate occasions he should obtain the same score. Alternatively, if two like-minded respondents answer the questionnaire they should get the same scores. Statistically, reliability can be viewed as being based on the idea that the results produced by the individual items of the scale should be consistent with the overall scale (Field, 2005). Internal consistency reliability can be measured using Cronbach's Alpha coefficient which, when the figure is substantially low, indicates that the items have very little in common and, therefore, reveals an unreliable scale (Dornyei and Taguchi, 2010). An acceptable value is .7 to .8 (Field, 2005).

4.2.1 Supervisor Communication Satisfaction scale

The analysis starts with the supervisor communication scale consisting of Vuuren, De Jong and Seydel's (2007) twelve-item communication satisfaction scale and five items from the validated scale of Jolke and Duhan (2000). The first step of reliability analysis is to ascertain which questions are reverse phrased. Two items were identified, namely item 9 (COM_SAT9) and item 14 (INF_COM_MODE). Then, the way those items were scored, was reversed:

COM_SAT9 → 8-COM_SAT9 and INF_COM_MODE → 8- INF_COM_MODE

As can be seen in Table 4.1., the overall Cronbach's Alpha for the scale is .958.

Table 4.1: Reliability Statistics for Supervisor Communication Satisfaction scale

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,958	,957	17

However, Cortina (1993) stresses that a large value of Cronbach's Alpha alone is not enough to prove the reliability of the scale, especially when the number of items is large, as is the case in this study (17 items as shown in the Table 4.1). Attention should be paid to the correlations between the total score in the questionnaire and each item in order to attain a satisfactory internal consistency (Dornyei and Taguchi, 2010).

The values in the "Corrected Item-Total Correlation" column (Table 4.2) show that the items correlate well, apart from one, that is, item 14 (Informal Communication Mode) which has a value of .058 which is well below .3 (Field, 2005), indicating that there is a potential problem. As the value of Cronbach's Alpha in the subsequent column is .965 which is more than the scale's overall reliability of .958, the Cronbach's Alpha would be improved if this item were deleted. Thus, it was decided that the item "Informal Communication Mode" should be removed.

Table 4.2: Item-Total Statistics for Supervisor Communication Satisfaction scale

	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Comm. Satisfaction 1	,782	,955
Comm. Satisfaction 2	,714	,956
Comm. Satisfaction 3	,806	,954
Comm. Satisfaction 4	,840	,954
Comm. Satisfaction 5	,803	,954
Comm. Satisfaction 6	,805	,954
Comm. Satisfaction 7	,862	,953
Comm. Satisfaction 8	,786	,955
Comm. Satisfaction 9	,719	,956
Comm. Satisfaction 10	,713	,956
Comm. Satisfaction 11	,810	,954
Comm. Satisfaction 12	,817	,954
Communication Frequency	,729	,956
Informal Communication Mode	,058	,965
Indirect Communication Content	,786	,955
Bidirectional Communication Flows	,714	,956
Ambiguity Regarding the Supervisor	,846	,954

After the deletion of the “Informal Communication Mode” item the new Cronbach’s Alpha coefficient was improved to .966 (Table 4.3) which indicates a good reliability. From the “Corrected Item-Total Correlation” column of Table 4.4 it can be seen that all the values are above .3 showing good internal consistency. Moreover, the values in the column “Cronbach's Alpha if Item Deleted” are less than .966, which is the overall reliability, indicating that if deleted, none of the other items would increase reliability.

Table 4.3: Reliability Statistics for Supervisor Communication Satisfaction scale after item deletion

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,966	,966	16

Table 4.4.: Item-Total Statistics for Supervisor Communication Satisfaction scale after item deletion

	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Comm. Satisfaction 1	,785	,964
Comm. Satisfaction 2	,726	,965
Comm. Satisfaction 3	,815	,963
Comm. Satisfaction 4	,844	,963
Comm. Satisfaction 5	,813	,963
Comm. Satisfaction 6	,806	,963
Comm. Satisfaction 7	,861	,962
Comm. Satisfaction 8	,795	,963
Comm. Satisfaction 9	,709	,965
Comm. Satisfaction 10	,710	,965
Comm. Satisfaction 11	,808	,963
Comm. Satisfaction 12	,827	,963
Communication Frequency	,733	,964
Indirect Communication Content	,785	,964
Bidirectional Communication Flows	,715	,965
Ambiguity Regarding the Supervisor	,849	,962

4.2.1.1 Factor Analysis

Since a reasonably large combined scale for Supervisor Communication Satisfaction is proposed by the author, the Cronbach's Alpha > 0.8 may be achieved easily (Cortina, 1993). Cronbach (1951) states that if a scale can be separated by factors into smaller subscales then his formula should be applied to each of them. Therefore, factor analysis for the 16 remaining items must be employed, firstly to identify the factors that split the items into smaller groups and then to conduct reliability analysis for each one of these groups.

Factor analysis was conducted and the results are presented in Appendix C. The table of Communalities shows the percentage of the variance of each variable, which is explained by the factors derived from this analysis. The larger the values (close to 1.000) in the column labelled "Extraction" the better the particular common factors explain the variance of the variables. Since there are high values (Appendix C, Table

1) it can be concluded that these factors represent the variables well (Simeonaki, 2008). In the Total Variance Explained table (Appendix C, Table 2), the first two factors of the solution are obtained by extracting factors which have eigenvalues greater than 1.000. Each factor's eigenvalue indicates the degree of variance in all the items which is explained by that factor. These two factors cumulatively explain 73.384% of the total variance of the 16 remaining variables of the Supervisor Communication scale.

The items which have been loaded on each of the factors are presented in the Rotated Component Matrix table providing a clear picture of the resulting factors (Appendix C, Table 3). According to this table, two groups of items of the Supervisor Communication Satisfaction scale were formed. Specifically, the first factor, which defines the group consisting of items 1,2,3,4,5,6,7 and 17, shows greater correlation with item 1 (.845), namely, "Overall, I am satisfied with the communication with my manager" and is characterized by the employee's perception of their managers attitude. The group that is loaded to the second factor includes the items 8,9,10,11,12,13,15,16. This factor has a greater correlation with item 13 (.840), namely, "I often discuss my work with my supervisor" and reports the employees' view of their managers daily practices.

4.2.1.2 Supervisor Communication Subscales Reliability Analysis

Reliability analysis was conducted for the two subscales of the Supervisor Communication Satisfaction scale which were produced through the factor analysis above. In both cases, it can be seen from Tables 4.6 and 4.8 that the values in the "Corrected Item-Total Correlation" columns are above .3, indicating good internal consistency. Moreover, as far as the first subscale is concerned (Table 4.6), the values in the column labelled "Cronbach's Alpha if Item Deleted" are less than .951, which is the overall reliability, indicating that if deleted, none of the subscale's items would increase the reliability. The same applies for the second subscale (Table 4.8), where all the values are less than .936. Finally, the Cronbach's Alpha coefficients were .951 and .936 correspondingly (Table 4.5 and Table 4.7) which indicate a good reliability for both subscales of Supervisor Communication Satisfaction.

Table 4.5: Reliability Statistics for the 1st Supervisor Communication subscale

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,951	,952	8

Table 4.6: Item-Total Statistics for the 1st Supervisor Communication subscale

	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Comm. Satisfaction 1	,843	,943
Comm. Satisfaction 2	,734	,950
Comm. Satisfaction 3	,841	,943
Comm. Satisfaction 4	,831	,944
Comm. Satisfaction 5	,837	,943
Comm. Satisfaction 6	,770	,949
Comm. Satisfaction 7	,860	,941
Ambiguity Regarding the Supervisor	,860	,941

Table 4.7: Reliability Statistics for the 2nd Supervisor Communication subscale

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,936	,937	8

Table 4.8: Item-Total Statistics for the 2nd Supervisor Communication subscale

	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Comm. Satisfaction 8	,751	,929
Comm. Satisfaction 9	,707	,932
Comm. Satisfaction 10	,774	,927
Comm. Satisfaction 11	,812	,924
Comm. Satisfaction 12	,831	,923
Communication Frequency	,802	,925
Indirect Communication Content	,812	,925
Bidirectional Communication Flows	,728	,931

4.2.2 Scales: Employee Job Satisfaction and Employee Organizational Commitment

Using reliability analysis, the multi-item scale's internal consistency reliability was examined for the remaining scales. Firstly, the short form of the Minnesota Satisfaction Questionnaire, which was developed by Weiss, Dawis, England and Lofquist in 1967, was used to measure the Employee Job Satisfaction, and, secondly, the Organizational Commitment scale consisting of the Affective, Continuance and Normative Commitment subscales, which was developed and tested by Meyer & Allen in 1997. These measures proved to be highly reliable since each Cronbach's Alpha is, clearly, well above .80 (Table 4.9).

Table 4.9: Reliability Statistics for the scales of Job Satisfaction and Organizational Commitment

Scale	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
Employee Job Satisfaction	,916	,917	20
Affective Commitment	,946	,946	6
Continuance Commitment	,840	,844	6
Normative Commitment	,912	,914	6

4.3 DESCRIPTIVE STATISTICS

4.3.1 Demographic information deriving from the sample

The demographic data was obtained from a sample of the eight DEYAs of Western Thessaly and involved 132 respondents. To have a clear picture of the DEYAs' employees, descriptive statistics for all the control variables are presented in the form of tables and bar charts. Moreover, information about the existence of dependency, or not, of the control variables is provided with the use of chi-square tests.

Table 4.10: Descriptive Statistics for the total Sample

Control Variables		Frequency (n=132)	Percentage (%)
Prefecture	Trikala	83	62.9%
	Karditsa	49	37.1%
DEYA Type	Urban	98	74.2%
	Rural/Urban (Peripheral)	34	25.8%
Age	Under 30	4	3.0%
	31 to 40	39	29.5%
	41 to 50	54	40.9%
	51 to 60	34	25.8%
	61 and over	1	0.8%
Gender	Male	94	71.2%
	Female	38	28,8%
Job Category	Managers	27	20,5%
	Administrative Staff	39	29,5%
	Technicians	66	50,0%
Organizational Tenure	< 1 year	4	3,0%
	1 to 9 years	52	39,4%
	> 9 years	76	57,6%
Education	Compulsory education	26	19,7%
	Secondary school (upper)	63	47,7%
	TEI	13	9,8%
	University	25	18,9%
	Postgraduate degree	5	3,8%
Time with the Same Supervisor	<1 year	14	10,6%
	1 to 2 years	11	8,3%
	3 to 5 years	30	22,7%
	6 to 8 years	24	18,2%
	> 8 years	53	40,2%
Supervising Others	YES	37	28,0%
	NO	95	72,0%

The research was carried out in two prefectures, Trikala and Karditsa, with 83 and 49 respondents respectively. Therefore, Trikala represents 62.9% while Karditsa provides the remaining 37.1% of the sample (Table 4.10). The majority of the participants (74.2%) work in urban DEYAs, in other words, the towns of Trikala and Karditsa, and the rest (25.8%) are employed in the peripheral DEYAs of Pyli, Kalabaka, Farkadona, Mouzaki, Sofades and Palama (Figure 4.1).

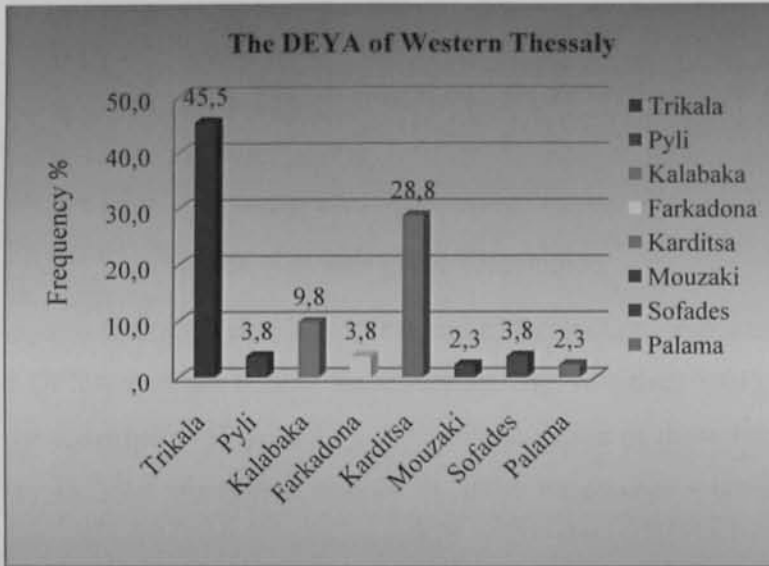


Figure 4.1: Respondents' distribution according to location

With regard to age, the respondents fall into 5 categories, ranging from under 30s to 61-year-olds and over, the greatest percentage (40.9%) being between 41 and 50 years old. Almost equal representation can be seen in the 31 to 40 year-olds group (29.5%) and the 51 to 60 year-olds group (25.8%). The smallest percentages are comprised of the under 30s (3.0%) and the over 61s (0.8%) (Figure 4.2).

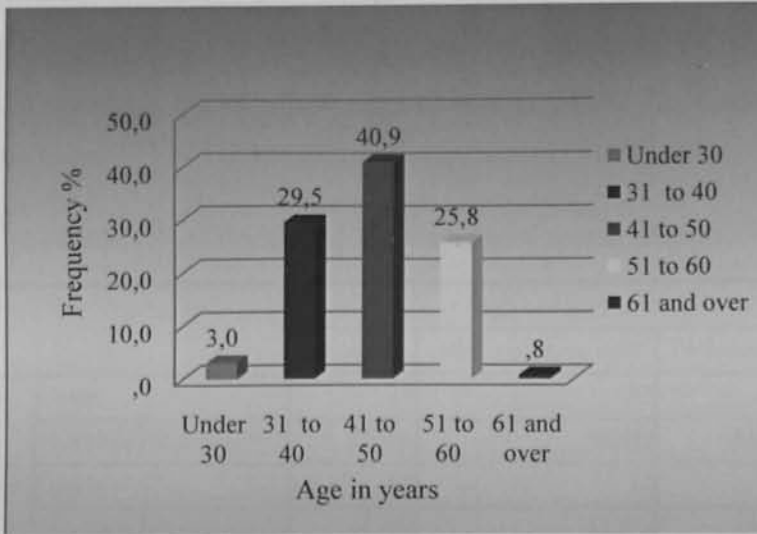


Figure 4.2: Age group distribution

Pearson chi-square test (see Table 4.14 at the end of the section) indicates that the age category and DEYA type are related since Asymp. Sig. (2-sided) $<.01$, and, as also depicted in the chart below (Figure 4.3), the crosstabulation of these variables shows that the urban DEYAs are staffed mainly by older employees whereas peripheral DEYAs employ predominantly younger people.

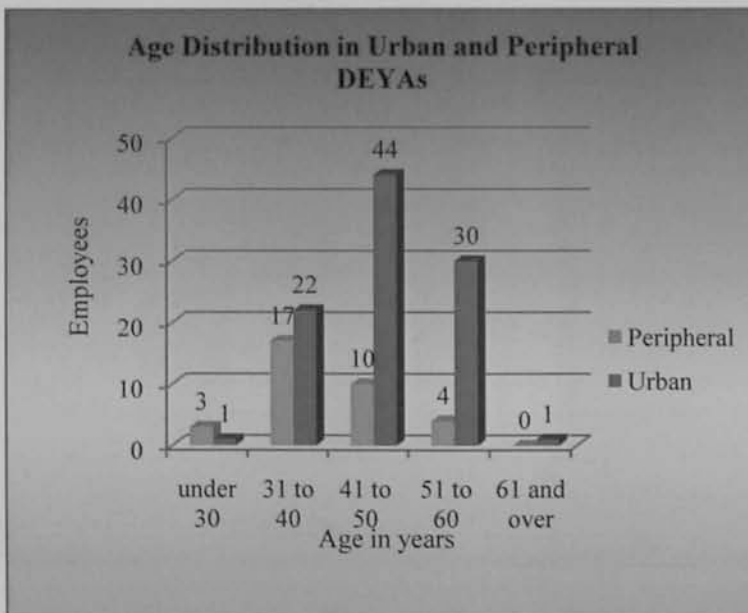


Figure 4.3: Age distribution in Urban and Peripheral DEYA

The majority of the employees are male (71.2%), however, this percentage does not occur in all job categories. In fact, gender and job categories are related and the percentage of women varies from approximately 44% in management and administration to only 13.6% in the technical department (Table 4.11).

Table 4.11: Gender and Job Category Crosstabulation

			Job category			Total
			Managers	Administrative staff	Technicians	
Gender	Male	Count	15	22	57	94
		% within Job category	55,6%	56,4%	86,4%	71,2%
	Female	Count	12	17	9	38
		% within Job category	44,4%	43,6%	13,6%	28,8%

According to Job Category, the employees of the sample are divided into two equal groups of 66 respondents in each. In the category of managers and administrative staff the former constitute 20.5% while the latter are 29.5% (Figure 4.4). The other group being technicians (50%). From the Chi-square test it can be established that Job Category is independent of Prefecture, DEYA type and Age group.

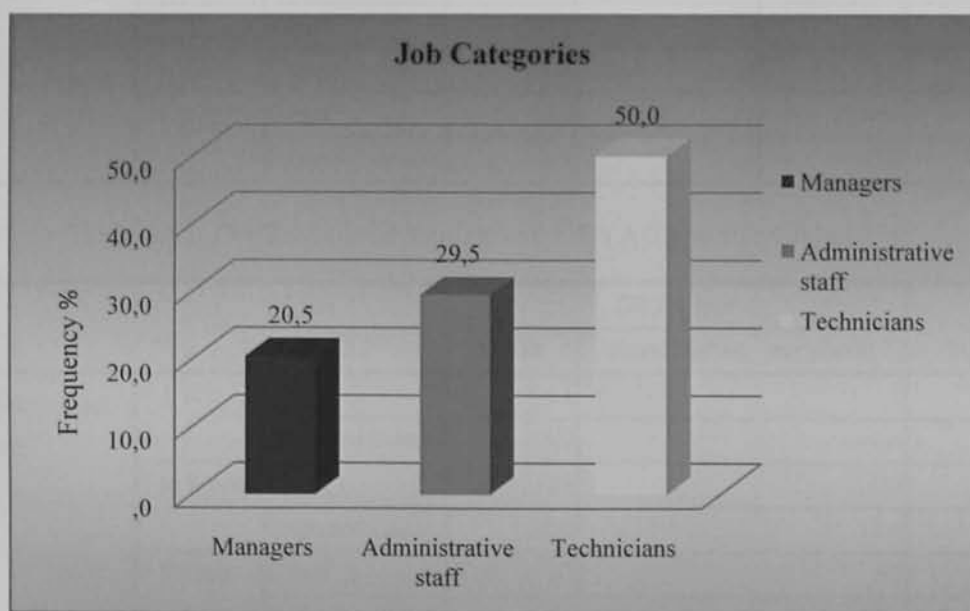


Figure 4.4: Job Category distribution

The greatest percentage of employees have held their positions for more than 9 years (57.6%) while those employed for less than a year make up only 3.0%, the remainder have been employed for between 1 and 9 years (39.4%) (Table 4.10). Pearson chi-square test shows that the Organizational Tenure and Job Category are dependent (Asymp. Sig. (2-sided) <.05). This is because employees who have been with the organization more than 9 years have been promoted to managerial positions (23 as opposed to 15.5 expected) (Table 4.12). On the other hand, those who have been hired within the last 10 years hold administrative positions (22 rather than the expected 16.6). Similarly, Organizational Tenure is related to DEYA type (Asymp. Sig. (2-sided) <.01) because new employees are hired mostly by the peripheral DEYA (21 instead of the 14.4 expected) (Table 4.13).

Table 4.12: Organizational Tenure and Job Category Crosstabulation

			Job category			Total
			Managers	Administrative staff	Technicians	
Organizational tenure	< 1 year	Count	0	2	2	4
		Expected Count	,8	1,2	2,0	4,0
	1 to 9 years	Count	4	20	28	52
		Expected Count	10,6	15,4	26,0	52,0
	> 9 years	Count	23	17	36	76
		Expected Count	15,5	22,5	38,0	76,0

Table 4.13: Organizational Tenure and DEYA Type Crosstabulation

			DEYA type		Total
			Urban	Rural / urban - peripheral	
Organizational tenure	< 1 year	Count	1	3	4
		Expected Count	3,0	1,0	4,0
	1 to 9 years	Count	34	18	52
		Expected Count	38,6	13,4	52,0
	> 9 years	Count	63	13	76
		Expected Count	56,4	19,6	76,0

As far as education is concerned, by far the greatest percentage of employees has attained a secondary school education (47.7%), while those who received a basic education constitute 19.7%. Employees with further education, that is TEI, undergraduate and post graduate studies, make up the remainder (9.8%, 18.9% and 3.8% respectively) (Figure 4.5). Both urban and peripheral DEYAs are staffed, to an equal extent, by people of all educational levels as the DEYA type and education level are independent (Asymp. (Sig. 2-sided) .714>.05).

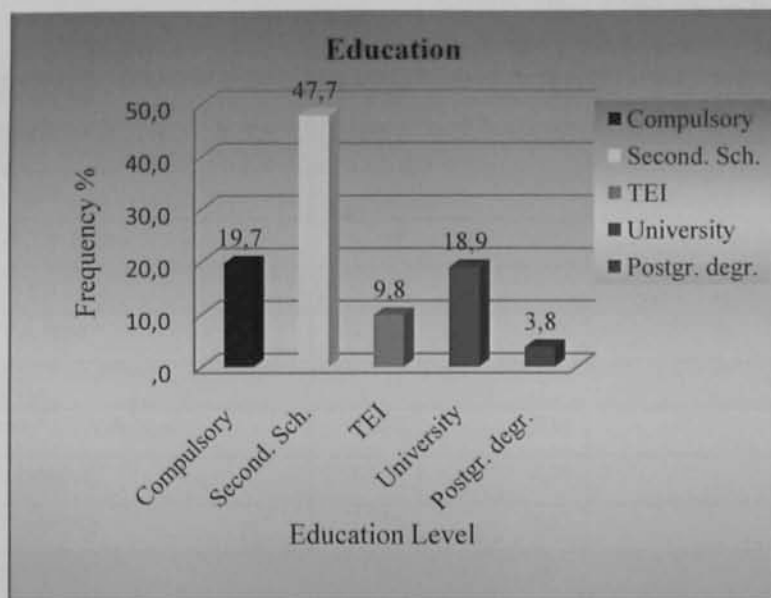


Figure 4.5: Educational distribution

With respect to time with the same supervisor, there is a trend within the DEYA for employees to stay with the same supervisor, as can be seen in Table 4.10. Logically, almost all employees with 9 years of service or more (57.6%) have been with the same supervisor for more than 8 years (40,2%). The Time with the Same Supervisor variable is related to Job Category (Asymp. Sig. 2-sided .035<.05) because managers either remain with the same supervisor for many years or in the case of those who are close to high management levels, change often due to the fact that high level management changes frequently. The percentage of respondents who claim to be supervising others is 28%, despite there being officially only 20.5% in managerial positions. This can be explained by the fact that some employees are, unofficially, in charge of small teams and, as such, feel that they supervise others.

The table below summarizes the results of Pearson Chi-Square tests indicating whether there is a relationship between the control variables. Grey represents those variables that are dependent while white denotes independent variables.

Table 4.14: Pearson Chi-Square tests for control variables

Pearson Chi-Square tests			
Variables	Value	Asymp. Sig. (2-sided)	Exact Sig. (2-sided) (2x2) or Monte Carlo Sig. (2-sided)
Prefecture * DEYA type	.446	.504	.543
Age group * DEYA type	16.865	.002	.002
Gender * DEYA type	.009	.926	1.000
Job category * DEYA type	.358	.836	.811
Organ. Tenure * DEYA type	10.181	.006	.007
Education * DEYA type	2.118	.714	.732
Time with the same superv. * DEYA type	11.151	.025	.023
Supervising others * DEYA type	.055	.814	.830
Prefecture * Job category	1.646	.439	.477
Age group * Job category	7.968	.437	.450
Gender * Job category	14.787	.001	.000
Organ. Tenure * Job category	12.083	.017	.014
Education * Job category	72.965	.000	.000
Time with the same superv. * Job category	16.564	.035	.030

4.3.2 Descriptive statistics for the variables of the study

The model of Supervisor Communication on Employee Job Satisfaction and Organizational Commitment, as presented in Chapter 2, consists of an independent variable, that is, Supervisor Communication and four dependent variables, namely, Employee Job Satisfaction, Affective Commitment, Continuance Commitment and Normative Commitment. Supervisor Communication was measured by a scale of 17 items, 12 from the communication satisfaction scale of Vuuren, De Jong and Seydel’s (2007) and 5 items from the scale of Jolke and Duhan (2000), where employees reported their perceptions using a seven-point Likert scale which ranged from strongly disagree to strongly agree. Job satisfaction was measured with the use of the 20 item

Minnesota Satisfaction Questionnaire (Weiss et al, 1967) employing a seven-point Likert-type scale which ranged from very dissatisfied to very satisfied.

The dependent variables-categories of Employee Organizational Commitment: Affective, Continuance and Normative Commitment were measured utilizing the Affective, Continuance and Normative Commitment scales (Meyer and Allen 1997) containing 18 items, six for each scale. Employees' perceptions in each dimension of commitment were recorded, once again, on a seven-point scale with labelled anchors from strongly disagree to strongly agree. The average scores of the items for each scale and subscale were calculated to obtain the study variables. The arithmetic means and the standard deviations of the study's variables, as assessed by the study questionnaire, were calculated and presented in the Table 4.15.

Table 4.15: Descriptive Statistics for the study's variables

Variables	Mean	Standard Deviation
Independent		
Supervisor communication satisfaction	5,18057	1,226700
Dependent		
Employee Job satisfaction	4,97174	,873151
Affective commitment	5,36654	1,326018
Continuance commitment	4,87273	1,217562
Normative commitment	4,73258	1,419496

When comparing the variables means it can be seen that the participants of the survey seem to be more satisfied with their supervisor than their job, and report higher levels of Affective Commitment followed by Continuance and Normative Commitment.

4.4 REVIEWING THE SIGNIFICANCE OF CONTROL VARIABLES

In this section, using the independent samples T-Test, any significant mean difference of two independent groups, defined by several grouping variables, relating to the variables of the study will be examined. The study variables which will be tested are: Supervisor Communication Satisfaction, Employee Job Satisfaction and Employee Organizational Commitment (i.e. Affective commitment, Continuance commitment and Normative Commitment). Control variables (i.e. Prefecture, DEYA's type, Age group, Gender, Job category, Organizational Tenure, of Education Level, Time with the Same Supervisor and Supervising Others) will be used as grouping variables.

Doing this analysis revealed that there are no significant group mean differences for six out of the nine control variables. Specifically, Prefecture, Age, Organizational tenure, Education, Time with the Same Supervisor and Supervising others. When the above grouping variables consisted of more than two categories (e.g. Organizational tenure has three categories) all possible combinations were used to run the T- Test on the dependent and the independent variables of the study. It was found that the group means of the study variables, regarding the six control variables, are not significantly different ($p>.05$).

4.4.1 Reviewing the role of the type of DEYA

To establish whether significant differences exist between the means of the dependent and independent variables of the study due to the type of DEYA, an analysis using an independent t-test was carried out. The results (Table 4.17) indicated significant group mean differences only for the Normative Commitment variable ($t=2.514$, $p<.05$).

Table 4.16: Group Statistics for urban and peripheral DEYAs

	DEYA Type	N	Mean	Std. Deviation	Std. Error Mean
Supervisor communication satisfaction	Urban	98	5,09766	1,245206	,125785
	Rural / urban peripheral	34	5,41957	1,156142	,198277
Employee Job satisfaction	Urban	98	4,94190	,858069	,086678
	Rural / urban peripheral	34	5,05776	,923025	,158298
Affective commitment	Urban	98	5,48350	1,324923	,133837
	Rural / urban peripheral	34	5,02941	1,289344	,221121
Continuance commitment	Urban	98	4,87789	1,260765	,127357
	Rural / urban peripheral	34	4,85784	1,101065	,188831
Normative commitment	Urban	98	4,91190	1,417153	,143154
	Rural / urban peripheral	34	4,21569	1,313315	,225232

To examine whether the employees of the urban or peripheral DEYAs are more satisfied with their supervisor communication, their job, and show higher levels of organizational commitment, the relevant means were calculated (Table 4.16). This table shows that, with regard to employees' perceptions of communication with their supervisor and job satisfaction, employees in peripheral DEYAs were more satisfied with Supervisor Communication, the means being 5.42 v/s 5.10, and their job, the means being 5.06 v/s 4.94 than urban employees. However, these differences are statistically insignificant. Conversely, Table 4.16 shows that employees in urban DEYAs scored higher than those of peripheral DEYAs on Affective and Continuance Commitment with the means being 5.48 v/s 5.03 and 4.88 v/s 4.86 but these differences are not statistically significant either. Finally, concerning Normative Commitment, employees in urban DEYAs reported higher levels than those of

peripheral, the means being 4,91v/s 4,22 yielding a significant t-value of 2.514 at $p < .05$ (Table 4.17).

Table 4.17: T-test results using DEYA Type as a grouping variable

	t	Sig. (2-tailed)
Supervisor communication satisfaction	-1,322	,188
Employee Job satisfaction	-,665	,507
Affective commitment	1,734	,085
Continuance commitment	,082	,934
Normative commitment	2,514	,013

4.4.2 Reviewing the role of Gender

According to independent t-test analysis of the study's variables, grouped in terms of Gender, significant group mean differences were found only in the perceived level of Employee Job Satisfaction. The test revealed higher levels of Job Satisfaction for male employees in comparison with their female colleagues ($t=2.455$, $p < .05$) (Table 4.19). In Employee Job Satisfaction, males' scores have been found to be higher than females with the means being 5.09 v/s 4.68 (Table 4.18) indicating that male employees are more expected to experience higher levels of Job Satisfaction than their female counterparts. In addition, males seem to be more satisfied than females when communicating with supervisors 5.28 v/s 4.94 and presented higher scores regarding Affective Commitment 5.50 v/s 5.03, Continuance Commitment 4.93 v/s 4.73 and Normative Commitment 4.83 v/s 4.50 to their company. Nevertheless, significant group mean differences were not found.

Table 4.18: Group Statistics for male and female employees

	Gender	N	Mean	Std. Deviation	Std. Error Mean
Supervisor communication satisfaction	Male	94	5,27806	1,152463	,118867
	Female	38	4,93943	1,380413	,223933
Employee Job satisfaction	Male	94	5,08816	,784578	,080923
	Female	38	4,68377	1,016100	,164833
Affective commitment	Male	94	5,50177	1,310169	,135134
	Female	38	5,03202	1,322674	,214566
Continuance commitment	Male	94	4,92943	1,268164	,130801
	Female	38	4,73246	1,085351	,176067
Normative commitment	Male	94	4,82837	1,400819	,144483
	Female	38	4,49561	1,456314	,236245

Table 4.19: T-test results using Gender as a grouping variable

	t	Sig. (2-tailed)
Supervisor communication satisfaction	1,442	,152
Employee Job satisfaction	2,455	,015
Affective commitment	1,860	,065
Continuance commitment	,841	,402
Normative commitment	1,222	,224

4.4.3 Reviewing the role of Job Category

Böckerman and Ilmakunnas (2008) have suggested that employees who may have difficult or unpleasant working conditions often experience greater job dissatisfaction. Additionally, non-frequent contact with the supervisor results in a lower quality of communication (Mohr and Sohi, 1995) leading to greater employee dissatisfaction (Johlke and Duhan, 2000). Therefore, to assess the role of Job Category, it is preferable to divide the employees into two groups according to the place where they perform their services most of the time; personnel working outdoors (technicians) and personnel working indoors (managers and administrative staff). The results of the t-test (Table 4.21) show that there are significant differences between the two group means defined by Job Category in terms of Supervisor Communication Satisfaction, t-value being -2.163 at $p < 0.05$, and Employee Job Satisfaction, t-value being -2.485 at $p < 0.05$, only.

Table 4.20: Group Statistics for technicians and non technician employees

	Job Category	N	Mean	Std. Deviation	Std. Error Mean
Supervisor communication satisfaction	Technicians	66	4,95284	1,155268	,142204
	Managers, Administrative staff	66	5,40831	1,262051	,155348
Employee Job satisfaction	Technicians	66	4,78649	,721968	,088868
	Managers, Administrative staff	66	5,15700	,972412	,119696
Affective commitment	Technicians	66	5,21919	1,467203	,180600
	Managers, Administrative staff	66	5,51389	1,160569	,142856
Continuance commitment	Technicians	66	4,72273	1,271746	,156541
	Managers, Administrative staff	66	5,02273	1,150951	,141672
Normative commitment	Technicians	66	4,60404	1,524854	,187697
	Managers, Administrative staff	66	4,86111	1,304687	,160596

Table 4.21: T-test results using Job Category as a grouping variable

	t	Sig. (2-tailed)
Supervisor communication satisfaction	-2,163	,032
Employee Job satisfaction	-2,485	,014
Affective commitment	-1,280	,203
Continuance commitment	-1,421	,158
Normative commitment	-1,041	,300

Table 4.20 shows that, as regards Supervisor Communication, managers and administrative staff were more satisfied with the communication they have with their supervisor, the mean being 5.41, than the technical staff who felt dissatisfied with the existing flow of communication, the mean being 4.95. Additionally, managers and administrative staff scored higher on Employee Job Satisfaction, the mean being 5.16 compared with the technicians where the group mean was 4.79, indicating that technicians did not feel satisfied with their job to the same extent as those who work mostly in the offices. As far Organizational Commitment is concerned, managers and administrative staff reported that they were more committed in all the Organizational Commitment categories (Affective, Continuance and Normative), in comparison with

the technical staff. However, there were no significant group means differences concerning these three variables.

4.5.1 Testing hypothesis 1

The hypothesis concerned the difference in perception of technical staff and non-technical staff.

The results showed that the technical staff perceived the organizational climate as more positive than the non-technical staff. This is shown in Table 4.5.1.

Table 4.5.1: Perception of organizational climate by technical and non-technical staff

Variable	Technical Staff	Non-Technical Staff
Organizational Climate	4.2	3.8
Technical Staff	4.2	3.8
Non-Technical Staff	3.8	3.8

4.5 TESTING HYPOTHESES

Multiple regression analysis was carried out to establish the extent to which the independent variables, namely Supervisor Communication Satisfaction, and the Control Variables explain the variance in Employee Job Satisfaction and Employee Organizational Commitment among DEYA personnel. The combined impact of Supervisor Communication Satisfaction and the Control Variables on Employee Job Satisfaction and Employee Organizational Commitment was studied using this statistical measure. This tests the research hypotheses 1 and 2. In addition, The Pearson correlations, in combination with multiple regression analysis, were employed to assess the degree of association between Employee Job Satisfaction and the various categories of Organizational Commitment, as well as between the demographic traits and Supervisor Communication Satisfaction. This tests the research hypotheses 3 and 4.

4.5.1. Testing hypothesis 1

H1: Supervisor Communication Satisfaction contributes to Employees' Job Satisfaction

The analysis results, regressing Supervisor Communication Satisfaction and the Control Variables against the dependent variable of Employee Job Satisfaction, are shown in Table 4.22 and Table 4.23.

Table 4.22: Regressing Supervisor Communication and the Control Variables against Employee Job Satisfaction

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,765	,585	,550	,585517

Table 4.23: Multiple Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3,341	,730		4,578	,000
	Supervisor communication satisfaction	,490	,044	,689	11,083	,000
	Prefecture	,044	,109	,024	,405	,686
	DEYA's type	-,085	,130	-,043	-,659	,511
	Age group	-,039	,073	-,038	-,539	,591
	Gender	-,367	,128	-,191	-2,864	,005
	Job category	-,153	,105	-,138	-1,448	,150
	Organizational tenure	-,113	,135	-,072	-,832	,407
	Level of education	,060	,064	,077	,937	,350
	Time with the same supervisor	,023	,051	,035	,444	,658
	Supervising others	,078	,179	,040	,438	,662

Dependent Variable: Employee job satisfaction

The coefficient of multiple correlation (R) between Supervisor Communication Satisfaction, the Control Variables and Employee Job Satisfaction equals .765, the coefficient of multiple determination (R^2) is .585, while R^2 adjusted, is .550 (Table 4.22). Therefore, in this case, the aforementioned independent variables account for 55,00% of the variance in Employee Job Satisfaction. As can be seen from Table 4.23, the levels of Employee Job Satisfaction were affected by only two variables. Supervisor Communication Satisfaction, with a Beta-value of .689, was statistically significant at a level of 0.01 and this shows that it is the best predictor of Employee Job Satisfaction. Similarly, gender, with a Beta-value of -.191, reaches statistical significance at a level of .01. Gender has a negative Beta weight, indicating that there is an inverse relationship between Gender and Employee Job Satisfaction, with female employees exhibiting lower satisfaction levels. Table 4.23 also shows that the remaining Control Variables were not statistically significant at a level of 0.05. Hypothesis H_1 , suggests a positive relationship between Supervisor Communication Satisfaction and Employee Job Satisfaction. The hypothesis is supported by the above evidence (Table 4.22). Thus perceived Supervisor Communication Satisfaction can be seen to affect the levels of Employee Job Satisfaction positively.

4.5.2 Testing hypothesis 2

H2: Supervisor Communication Satisfaction is positively related to Employees' Organizational Commitment

Hypothesis H₂ refers to a positive relationship between Supervisor Communication Satisfaction and Employees' Organizational Commitment. This hypothesis is divided in three other sub-hypotheses concerning Affective (H2a), Continuance (H2b) and Normative Commitment (H2c). In the following sections each one of the three hypotheses will be examined separately.

4.5.2.1 Testing Hypothesis H2a

H2a: Supervisor Communication Satisfaction is positively related to Employees' Affective Organizational Commitment

The results of using multiple regression analysis on Supervisor Communication Satisfaction and the Control Variables against the dependent variable of the Affective Organizational Commitment are shown in Table 4.24 and Table 4.25. Two variables have an impact on the levels of Affective Organizational Commitment (Table 4.25); Supervisor Communication Satisfaction with a Beta-value of ,506 and $p < 0.01$ and DEYA Type with a Beta-value of -,194 and $p < 0.05$. The model explains 28,9% of the variation of Affective Organizational Commitment (Table 4.24). The results of the regression analysis indicate that Supervisor Communication Satisfaction has a statistically significant, positive relationship with Affective Organizational Commitment. In other words, the more satisfied the employees are with their communication with the supervisor, the greater their affective commitment is. Therefore, perceived Supervisor Communication Satisfaction affects the levels of Affective Organizational Commitment positively, thus supporting H2a.

Table 4.24: Regressing Supervisor Communication and the Control Variables against Affective Organizational Commitment

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,586 ^a	,344	,289	1,117896

Table 4.25: Multiple Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3,900	1,393		2,800	,006
	Supervisor communication satisfaction	,546	,084	,506	6,472	,000
	Prefecture	,354	,207	,129	1,705	,091
	DEYA's type	-,585	,248	-,194	-2,362	,020
	Age group	-,047	,139	-,030	-,339	,736
	Gender	-,312	,245	-,107	-1,273	,205
	Job category	-,012	,201	-,007	-,060	,952
	Organizational tenure	-,126	,258	-,053	-,488	,627
	Level of education	-,041	,123	-,034	-,331	,741
	Time with the same supervisor	,109	,098	,112	1,116	,267
	Supervising others	-,309	,342	-,105	-,905	,367

Dependent Variable: Affective commitment

Furthermore, only one of the Control Variables was significantly related to Affective Organizational Commitment. In fact, DEYA type had a statistically significant negative relationship with Affective Organizational Commitment, indicating that the urban DEYAs show higher levels of Affective Commitment.

4.5.2.2 Testing Hypothesis H2b

H2b: Supervisor Communication Satisfaction is positively related to Employees' Continuance Organizational Commitment

The dependent variable, in this case, is Continuance Organizational Commitment, whereas the independent variables are as mentioned above, namely, Supervisor Communication Satisfaction and the Control Variables. The results of the regression analysis (Table 4.27), demonstrate that only Supervisor Communication Satisfaction, with a Beta-value of ,290 and $p < .01$ has a positive relationship with continuance organizational commitment which is statistically significant. The model explains 3,7% of the variance of Continuance Organizational Commitment (Table 4.26).

Nevertheless, 96,3% of the variance in Continuance Organizational Commitment may be explained by factors outside the scope of this study.

Table 4.26: Regressing Supervisor Communication and the Control Variables against Continuance Organizational Commitment

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,332 ^a	,110	,037	1,,194972

Hypothesis H2b postulates that Supervisor Communication Satisfaction and Continuance Organizational Commitment are positively related. The analysis shows that this positive relationship does, in fact, exist. Therefore, the greater the perceived Supervisor Communication Satisfaction level, the greater the Continuance Organizational Commitment seems to be. Thus, hypothesis H2b is supported in this study.

Table 4.27: Multiple Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2,944	1,489		1,977	,050
	Supervisor communication satisfaction	,287	,090	,290	3,184	,002
	Prefecture	,091	,222	,036	,410	,682
	DEYA's type	-,069	,265	-,025	-,262	,794
	Age group	-,038	,149	-,026	-,257	,798
	Gender	-,090	,262	-,033	-,343	,732
	Job category	-,213	,215	-,138	-,989	,325
	Organizational tenure	,076	,276	,035	,273	,785
	Level of education	-,015	,132	-,014	-,113	,910
	Time with the same supervisor	,067	,105	,074	,637	,526
	Supervising others	,416	,365	,154	1,138	,258

Dependent Variable: Continuance commitment

4.5.2.3 Testing Hypothesis H2c

H2c: Supervisor Communication Satisfaction is positively related to Employees' Normative Organizational Commitment

The results of using multiple regression analysis on Supervisor Communication Satisfaction and the Control Variables against the dependent variable of Normative Organizational Commitment, are shown in Table 4.28 and Table 4.29. As for the facets of Organizational Commitment previously mentioned, the same applies for the relationship between Supervisor Communication Satisfaction and Normative Organizational Commitment (Table 4.29) since Supervisor Communication Satisfaction has a Beta-value of ,343 and $p < 0.01$. The coefficient of multiple correlation (R) between Supervisor Communication Satisfaction, the Control Variables and Normative Organizational Commitment is ,430, the coefficient of multiple determination (R^2) is ,185, while R^2 adjusted, is ,118 (Table 4.28). Thus, the independent variables account for 11.8% of the variance in Normative Commitment. As far satisfaction is concerned, employees with greater Supervisor Communication Satisfaction, also have increased levels of Normative Commitment to their company. Therefore, hypothesis H2c which suggests a positive relationship between Supervisor Communication Satisfaction and Normative Commitment is supported.

Table 4.28: Regressing Supervisor Communication and the Control Variables against Normative Organizational Commitment

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,430 ^a	,185	,118	1,333313

With relation to the Control variables, DEYA Type proved, yet again, to be a predictor of Normative Commitment (Beta-value of -.254 and $p < 0.01$) which is negatively related to it. This means that the urban DEYAs show higher levels of Normative Commitment. The impact of the remaining Control Variables on Normative Commitment, as seen in Table 4.29, have no statistical significance.

Table 4.29: Multiple Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3,844	1,662		2,313	,022
	Supervisor communication satisfaction	,397	,101	,343	3,945	,000
	Prefecture	,022	,247	,007	,089	,930
	DEYA's type	-,820	,296	-,254	-2,774	,006
	Age group	,015	,166	,009	,089	,929
	Gender	-,266	,292	-,085	-,911	,364
	Job category	-,157	,240	-,087	-,654	,515
	Organizational tenure	,032	,308	,013	,105	,917
	Level of education	,029	,147	,023	,199	,843
	Time with the same supervisor	-,013	,117	-,012	-,108	,914
	Supervising others	,224	,408	,071	,549	,584

Dependent Variable: Normative commitment

4.5.3 Testing hypothesis 3

H3: Organizational Commitment is affected positively by the level of Employee Job Satisfaction

H3a. Affective Organizational Commitment is affected positively by the level of Employee Job Satisfaction

H3b. Continuance Organizational Commitment is affected positively by the level of Employee Job Satisfaction

H3c. Normative Organizational Commitment is affected positively by the level of Employee Job Satisfaction

The Pearson correlations of the relationships between Employee Job Satisfaction and the various categories of Organizational Commitment, as assessed by the study's questionnaire can be seen in Table 4.30.

Table 4.30: Correlation matrix for Employee Job Satisfaction and the Organizational Commitment categories

		Affective organizational commitment	Continuance organizational commitment	Normative organizational commitment
Employee job satisfaction	Pearson Correlation	,592**	,472**	,410**
	Sig. (2-tailed)	,000	,000	,000

** Correlation is significant at the 0.01 level (2-tailed).

The table indicates that the strongest correlation was between Employee Job Satisfaction and Affective Organizational Commitment where $r = 0.592$. This correlation indicates a relatively strong, positive relationship confirmed by the coefficient of determination (otherwise called the regression coefficient) (Saunders et al, 2009), where r^2 equals 0.3505. This shows that Employee Job Satisfaction accounts for 35,05 % of the variation in Affective Organizational Commitment. Moreover, the correlation between Affective Organizational Commitment and Employee Job Satisfaction has statistical significance at the level of 0.01. That is, there is only a probability of 1% or less of finding no relationship between Employee Job Satisfaction and Affective Organizational Commitment in the DEYA of Western Thessaly from where the sample was taken. Therefore, the conclusion is that Affective Organizational Commitment is affected positively by Employee Job Satisfaction.

Similarly, Employee Job Satisfaction indicates quite a significant, positive relationship to the remaining categories of Organizational Commitment, namely the Continuance and the Normative Commitment. The correlation between Continuance Organizational Commitment and Employee Job Satisfaction ($r = 0.472$) was stronger than that of Normative Organizational Commitment and Employee Job Satisfaction ($r = 0.410$). As previously, both relationships were found to be statistically significant at the level of .01. The coefficient of determination indicates that, Employee Job Satisfaction accounts for 22,28% ($r^2 = 0.2228$) of the variation in Continuance Organizational Commitment, whereas 16,81% ($r^2 = 0.1681$) of the variation is explained by employee job satisfaction. It can, therefore, be assumed that increased

levels of Job Satisfaction lead to greater levels of Continuance and Normative Commitment.

The multiple regression analysis results of Employee Job Satisfaction and the Control Variables against the dependent variables which, in this case, are the three categories of Organizational Commitment, are shown in Appendix D. Employee Job Satisfaction impacted on the levels of these three categories. Since there is a Beta-value of ,600 and $p < 0.01$ in affective commitment, a Beta-value of ,505 and $p < 0.01$ in continuance commitment and a Beta-value of ,421 and $p < 0.01$ in normative commitment, a statistically significant positive relationship with Organizational Commitment can be seen. Therefore, hypotheses H3a, H3b and H3c, which suggest a positive relationship between Employee Job Satisfaction and the three categories of Organizational Commitment, are supported. Moreover, as far as control variables are concerned, DEYA Type has a negative Beta value of -,159 and $p < 0.05$ in Affective Commitment and a Beta-value of -,231 and $p < 0.05$ in Normative Commitment, that is, the urban DEYAs show higher levels of Affective and Normative Commitment. Appendix D further shows that the remaining Control Variables were not statistically significant at the level of 0.05.

4.5.4 Testing hypothesis 4

H4: Employees' demographic traits have a significant relationship with Supervisor Communication Satisfaction*

* Namely, Prefecture, DEYA Type, Age, Gender, Job Category, Organizational Tenure, Level of Education, Time with the Same Supervisor and Supervising Others.

Table 4.31 illustrates the correlation matrix relating the respondents' demographic characteristics to their Supervisor Communication Satisfaction levels as obtained from the study's questionnaire. There was a variation in correlation coefficients from .11 (DEYA Type) to -.20 (Job category). From the results it can be concluded that there was a relatively weak, negative relationship which was, however, statistically significant, between Job Category and Supervisor Communication Satisfaction ($r = -$

0.204, $p < 0.05$). Nevertheless, the rest of the demographic traits were not statistically significant at a level of 0.05

Table 4.31: Correlation matrix for the Control Variables and Supervisor Communication Satisfaction

		Supervisor communication satisfaction
Prefecture	Pearson Correlation	-,021
	Sig. (2-tailed)	,809
DEYA type	Pearson Correlation	,115
	Sig. (2-tailed)	,188
Age group	Pearson Correlation	-,017
	Sig. (2-tailed)	,846
Gender	Pearson Correlation	-,125
	Sig. (2-tailed)	,152
Job category	Pearson Correlation	-,204*
	Sig. (2-tailed)	,019
Organizational tenure	Pearson Correlation	-,070
	Sig. (2-tailed)	,427
Level of education	Pearson Correlation	,045
	Sig. (2-tailed)	,612
Time with the same supervisor	Pearson Correlation	-,016
	Sig. (2-tailed)	,856
Supervising others	Pearson Correlation	-,117
	Sig. (2-tailed)	,181

* Correlation is significant at the 0.05 level (2-tailed).

5. DISCUSSION

This chapter discusses the most important findings of the study in relation to the literature reviewed. It concerns Supervisor Communication, Employee Job Satisfaction and Employee Affective, Continuance and Normative Commitment. The first objective was to investigate whether there is a significant positive relationship between management communication and employee job satisfaction in the particular context of DEYA. The study revealed that the perceived Supervisor Communication Satisfaction affects the levels of Employee Job Satisfaction positively. The findings of this study are in accordance with the work of Goris (2007) who states that communication acts as an important predictor of job satisfaction. They are also in line with many other studies presented in the literature (Carrière and Bourque, 2009; Hargie et al, 1999; Nelson et al, 2007) which state that communication satisfaction significantly enhances job satisfaction.

The second objective proposed an investigation into the contribution of management communication to employee organizational commitment. This research was done by assessing the impact of Supervisor Communication on the three categories of Organizational Commitment, namely, Affective, Continuance and Normative Commitment. The findings show that the more satisfied the employees are with their communication with the supervisor, the greater their Affective Commitment is. This is in agreement with Van den Hooff and De Ridder (2004) and Van Vuuren et al, (2007) who state that management communication positively influences affective commitment.

Regarding the link between Supervisor Communication Satisfaction and the other two categories, once again, increased levels of perceived communication satisfaction lead to greater Continuance and Normative Commitment. This is consistent with the work of Brunetto and Farr-Wharton, (2004). In conclusion, these results support the findings in the literature which illustrate the positive effect of Communication Satisfaction on Employees' Organizational Commitment (Bakar et al, 2009; Bartels et al, 2010; Van Vuuren et al, 2007; Varona, 1996). The studies of Meyer and Allen (1997) and Suliman and Iles (2000) state that affective commitment is more beneficial

to the organization than continuance and normative commitment and, in the context of the DEYA, higher levels of affective commitment were noted.

With regard to the third objective, Job Satisfaction can be seen to positively affect the level of Affective, Continuance and Normative Commitment. It can, therefore, be assumed that increased levels of Job Satisfaction lead to greater levels of organizational commitment which is of great importance to the organization. Thus Employee Job Satisfaction can be seen to mediate between Supervisor Communication Satisfaction and Employees' Organizational Commitment and in this way enable supervisors to increase employee commitment indirectly. This study supports the findings of Gunlu et al, (2010) and Muthuveloo and Rose (2005) as far as affective and normative commitment are concerned. However, in the case of continuance commitment, in which the above authors state that there is no significant influence, the study's findings did not concur.

The fourth objective was to ascertain whether supervisor communication satisfaction has any relationship with the employees' demographic traits. Evidence partially supports the initial hypothesis since it was found that Supervisor Communication Satisfaction was affected by Job Category. In other words, managers and administrative staff were more satisfied with the communication flow than technicians, thus, supporting Varona's findings (2006) concerning supervisor communication satisfaction and job category.

It is worthwhile examining the impact of demographic traits on the four dependent variables of the study. The inferential statistics provide interesting information on the effect of control variables on Employee Job Satisfaction, Affective Commitment, Continuance Commitment and Normative Commitment. First of all, in this study employee job satisfaction is affected by gender, specifically, male employees tend to experience higher degrees of job satisfaction than their female colleagues. This is contrary to Toker's claims (2011) that gender is unrelated to job satisfaction. As regards Affective, Continuance and Normative Commitment, a significant relationship concerning gender was not found. This is in agreement with Suliman and

Iles' research (2000) in respect of Affective commitment, but is in contrast in terms of the other two.

Secondly, with regard to job category, in this study, managers and administrative staff scored higher on Employee Job Satisfaction compared with the technicians. This is in line with Böckerman and Ilmakunnas (2008) who suggest that difficult or unpleasant working conditions often lead to a lower degree of job satisfaction. Although there is a significant means difference between the two groups of the Employee Job Satisfaction variable, defined by staff working indoors and those employed outside, the multiple regression analysis for the total sample did not prove that the job category is among the factors that impact on Employee Job Satisfaction. Additionally, there were no significant group means differences concerning the Affective, Continuance and Normative Commitment due to Job Category.

Finally, significant group mean differences for Normative Commitment as far as the type of DEYA is concerned, indicated that employees in urban DEYAs are more committed in terms of Normative Commitment than those of the peripheral ones. There is no support in the literature concerning these two types of DEYA and the variables, age, education and tenure do not offer any explanation in terms of significant dependence. Thus, it could be assumed that the hiring methods of the Supreme Council for Civil Personnel Selection (ASEP), by which most of the peripheral staff have been employed, are a reason for the higher levels of Normative Commitment in urban DEYA. As this is beyond the scope of this study, there is an opportunity for further research.

6. CONCLUSIONS, RECOMMENDATIONS OF THE STUDY

In this chapter conclusions are drawn from these empirical findings and recommendations are made. When defining the research objectives the aim of this study was to examine the contribution of Supervisor Communication Satisfaction, as perceived by the employee, on Job Satisfaction and Organizational Commitment. The results indicate that, firstly, there is a significant positive relationship between Supervisor Communication Satisfaction and Employee Job Satisfaction. In addition, the same positive relationship exists between Supervisor Communication Satisfaction and Organizational Commitment, noting that on examining all three categories of commitment (Affective, Continuance and Normative) the same results were found. Furthermore, it can be concluded that Employee Job Satisfaction affects organizational commitment positively, and acts as a mediator between Supervisor Communication Satisfaction and Organizational commitment. Thus, Supervisor Communication Satisfaction leads to higher levels of commitment not only directly but also via Employee Job Satisfaction. Finally, the study found that Supervisor Communication Satisfaction is directly affected by job category. Therefore, the research objectives have been met as it is clear that Supervisor Communication Satisfaction has a great impact on both Job Satisfaction and Organizational Commitment.

Bearing in mind the current economic climate and considering the recent major changes in Greece and specifically in DEYA, it is vital that the organization improve its situation to face new difficulties. With the implementation of "Kallikrates" law, an urgent need to tackle new demands arose. This law instigated major re-structuring, mergers, and enlargement of administrative limits to new areas. In addition, the implementation of the government fiscal adjustment programme led to redundancies and salary reductions worsening the situation for employees and causing low morale. Therefore, the companies have to find new ways to change employees' perceptions during these difficult times. The author, being aware of these problems and feeling a

part of the organization, attempts in this study to make a contribution by finding an effective way of alleviating these problems.

The results of this study lead to the recommendation that DEYA should focus on improving supervisor communication which will, in turn, enhance Job Satisfaction and Organizational commitment, placing DEYA in a stronger position to deal with today's problems. Furthermore, managers, acting as organizational representatives, must develop suitable practices, dedicating more time and effort into providing the correct quantity and quality of information in order to improve Employee Communication Satisfaction. This particularly applies in the case of technical staff which represent the group of least satisfied employees. This is not the responsibility of managers alone, human resource function has an active role to play as they must support managers in the development of improved communication skills.

Although a large amount of work currently exists relating to job satisfaction and commitment (Meyer and Allen, 1997; Van Vuuren et al, 2007; Varona, 1996), no previous studies are known to have been made relating to DEYA. This study partially confirms work done in other fields and makes a valuable contribution to the awareness of employees' perceptions concerning Supervisor Communication, Job Satisfaction and Organizational Commitment within the context of DEYA. Since in this study it has been shown that Organizational Commitment and Job Satisfaction are positively related to Supervisor Communication, an employee's perception of the organization can be altered through managers' effective communication.

Finally, it is suggested that future research should be undertaken in other DEYAs, especially in big cities such as Athens and Thessaloniki, thus increasing the population of the research in order to substantiate validity and generalize the findings further. For a deeper analysis of the impact of Supervisor Communication on Job Satisfaction, a further study could be undertaken considering the three categories of job satisfaction, namely, intrinsic, extrinsic and general satisfaction. Moreover, other demographic variables which affect supervisor communication DEY could also be taken into consideration.

7. LIMITATIONS OF THE STUDY

As with all research, this study has certain limitations. Firstly, the fact that it was self-administered gives rise to certain limitations. Some employees, possibly due to a lower education level, encountered difficulties in completing the questionnaire, despite the fact that every effort was made to keep it as simple as possible. This could mean that workers, who were embarrassed to admit that they did not understand, simply put an answer by chance, possibly providing an inaccurate response. Alternatively, they contacted the personnel responsible for distributing the questionnaire to ask for further explanation, this may have led to answers being given that were not entirely the perception of the respondent. In other cases, employees, being aware that this was research conducted in the workplace and not entirely trusting the claims of confidentiality and anonymity, may have put answers which they felt would satisfy the organization rather than give their true impressions. Finally, due to work commitments or general lack of interest, some respondents, especially those in the offices, may have answered the questions quickly and carelessly without giving it due care and attention, which could, again, lead to false results.

In respect to the variables of the study, an assumption was made when calculating the variables that all questions carried the same weight. It is possible that some of the questions were more significant than others and this was not taken into consideration in the way the calculations were made. Further limitations exist in that, firstly, there may be other variables which would affect Supervisor Communication Satisfaction that were not considered and, had they been included, may have provided more answers. Secondly, Job Satisfaction could have been examined in terms of the three categories of job satisfaction, namely, intrinsic, extrinsic and general satisfaction which might have offered more detailed information. Furthermore, because of limited time and funding only Western Thessaly, with 189 employees, was targeted. Obviously, if resources had been available, more extensive research could have been undertaken over a wider area, thus giving a more accurate picture of the situation.

8. REFLECTION ON LEARNING

This study posed a great challenge as it approached a situation that the author deals with on a routine, daily basis from an academic perspective. However, it enabled him to formulate new ways of approaching co-workers and provided a deeper understanding of how his colleagues perceive the organization and their subsequent attitude towards it. Through intensive study of the literature, the author has been able to increase his knowledge and broaden his horizons on a topic of great importance to the organization for which he works. Finally, through this experience and the knowledge acquired, the author feels that he has been able to make a small but valuable contribution to the field.

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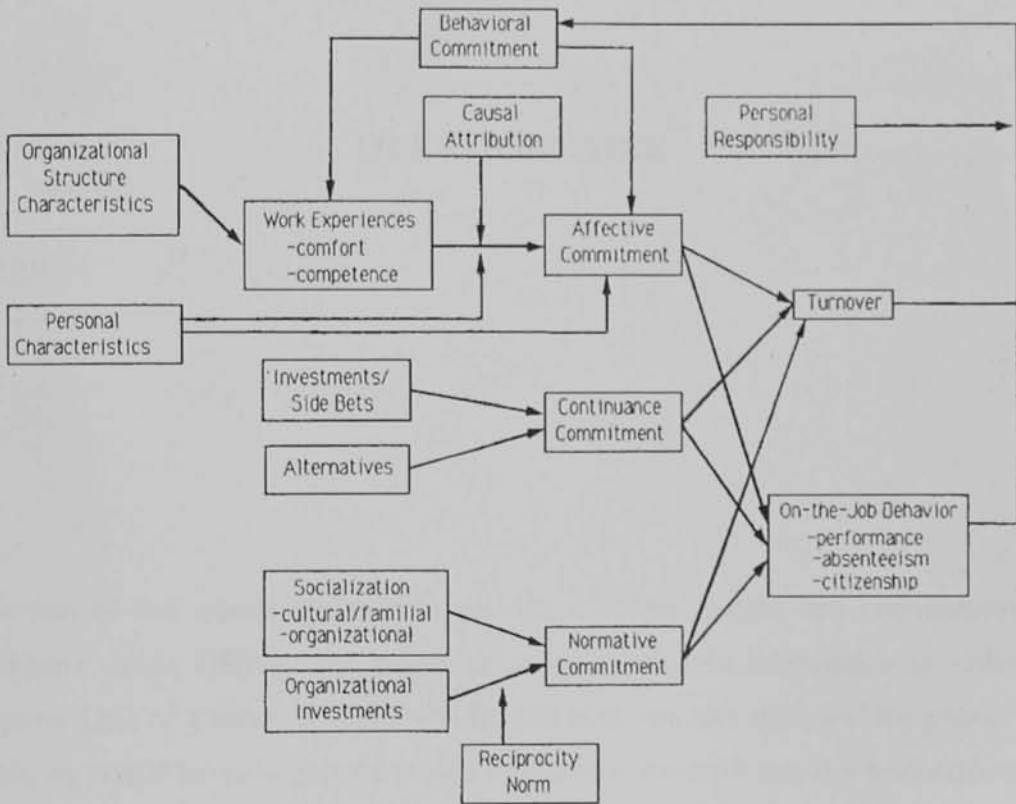
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APPENDICES

APPENDIX A: Meyer and Allen three-component model of organizational commitment



Source: Meyer and Allen, 1991. p.68

APPENDIX B: STUDY QUESTIONNAIRE

EFFECTS OF SUPERVISOR COMMUNICATION ON EMPLOYEE JOB SATISFACTION AND ORGANIZATIONAL COMMITMENT

A STUDY IN THE WATER SUPPLY AND SEWERAGE UTILITIES OF WESTERN THESSALY

QUESTIONNAIRE

The aim of this questionnaire is to provide a deeper insight into communication problems within DEYAs and enable us to gain valuable information in order to improve DEYA' s services which will benefit both you, the staff, and the public. As such, we would be most grateful if you would take about 10 minutes to complete all the questions carefully. Your answers are strictly confidential and anonymous and only the aggregated data will be used for research purposes. We would like to take this opportunity to thank you in advance for your contribution.

JULY 2011

A. Please put a tick (✓) in the column which most closely indicates your opinion on each statement.

		Strongly disagree	Disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Agree	Strongly agree
		1	2	3	4	5	6	7
1.	Overall, I am satisfied with the communication with my manager.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.	My manager communicates the vision of DEYA.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.	My manager takes time to listen to me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.	My manager values my contribution.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.	My manager is honest with me in his/her communication.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.	My manager shares personal (work) experiences with me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.	I trust my manager.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.	My manager keeps me informed about important issues in the organization.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.	I experience a distance between me and my manager.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10.	I receive clear information from my manager about the task I am assigned to.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11.	My manager provides information about the targets of our team.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.	I am content with the feedback I receive from my manager."	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13.	I often discuss my work with my supervisor.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14.	Most of the communication I have with my supervisor is through memos or other written directions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.	My supervisor communicates with me about my work in order that we can agree upon the best actions for me to take.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16.	At my work, employees exchange ideas and information with the supervisor freely and easily.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17.	I am certain how far my supervisor will go to back me up.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

B. Please put a tick (✓) in the column which most closely indicates your level of satisfaction or dissatisfaction in each of the following cases.

		Very Dissatisfied	Dissatisfied	Slightly dissatisfied	I am not sure	Slightly satisfied	Satisfied	Very satisfied
		1	2	3	4	5	6	7
1.	Being able to keep busy all the time	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.	The chance to work alone on the job	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.	The chance to do different things from time to time	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.	The chance to be "somebody" in the community	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.	The way my boss handles his/her workers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.	The competence of my supervisor in making decisions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.	Being able to do things that don't go against my conscience	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.	The way my job provides for steady employment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.	The chance to do things for other people							
10.	The chance to tell people what to do	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11.	The chance to do something that makes use of my abilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.	The way company policies are put into practice	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13.	My pay and the amount of work I do	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14.	The chances for advancement on this job	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.	The freedom to use my own judgment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16.	The chance to try my own methods of doing the job	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17.	The working conditions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18.	The way my co-workers get along with each other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19.	The praise I get for doing a good job	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20.	The feeling of accomplishment I get from the job	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

C. Please put a tick (✓) in the column which most closely indicates your opinion on each statement.

		Strongly disagree	Disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Agree	Strongly agree
		1	2	3	4	5	6	7
C1.								
1.	I would be very happy to spend the rest of my career in this organization.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.	I really feel as if this organization's problems are my own.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.	I do not feel like "part of the family" at my organization. (R)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.	I do not feel "emotionally attached" to this organization. (R)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.	This organization has a great deal of personal meaning for me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.	I do not feel a strong sense of belonging to my organization. (R)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C2.								
1.	It would be very hard for me to leave my organization right now, even if I wanted to.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.	Too much of my life would be disrupted if I decided I wanted to leave my organization right now.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.	Right now, staying with my organization is a matter of necessity as much as desire.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.	I believe I have too few options to consider leaving this organization.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.	One of the major reasons I continue to work for this organization is that leaving would require considerable personal sacrifice: another organization may not match the overall benefits I have here.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.	If I had not already put so much of myself into this organization, I might consider working elsewhere.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please put a tick (✓) in the column which most closely indicates your opinion on each statement.

		Strongly disagree	Disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Agree	Strongly agree
		1	2	3	4	5	6	7
<i>C3.</i>								
1.	I do not feel any obligation to remain with my current employer. (R)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.	Even if it were to my advantage, I do not feel it would be right to leave my organization now.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.	I would feel guilty if I left my organization now.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.	This organization deserves my loyalty.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.	I would not leave my organization right now because I have a sense of obligation to the people in it.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.	I owe a great deal to my organization.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The items 3, 4, 6 from subscale C1 and the item 1 from scale C3 were translated into Greek in the affirmative.

D. Control variables

1. Tick the name of the prefecture you work in.
 - Trikala
 - Karditsa

2. What is the type of your company?
 - Urban
 - Rural / urban - peripheral

3. What is your age group?
 - Under 30
 - 31 to 40
 - 41 to 50
 - 51 to 60
 - 61 and over

4. What is your gender?
 - Male
 - Female

5. What is your job category?
 - Managers
 - Administrative staff
 - Technicians

6. What is your organizational tenure?
 - "early tenure" – < 1 year
 - "middle tenure" – 1 to 9 years
 - "later tenure" – > 9 years

7. What is your highest level of education?
 - Compulsory education
 - Secondary school (upper)
 - TEI
 - University
 - Postgraduate degree

8. "How long have you worked under your current Supervisor?"
 - <1 year
 - 1 to 2 years
 - 3 to 5 years
 - 6 to 8 years
 - >8 years

9. Do you supervise other employees?
 - Yes
 - No

Thank you for your time.

APPENDIX C: Factor Analysis

Table 1: Communalities

	Initial	Extraction
Comm. Satisfaction 1	1,000	,796
Comm. Satisfaction 2	1,000	,661
Comm. Satisfaction 3	1,000	,782
Comm. Satisfaction 4	1,000	,805
Comm. Satisfaction 5	1,000	,780
Comm. Satisfaction 6	1,000	,697
Comm. Satisfaction 7	1,000	,810
Comm. Satisfaction 8	1,000	,680
Comm. Satisfaction 9	1,000	,581
Comm. Satisfaction 10	1,000	,740
Comm. Satisfaction 11	1,000	,724
Comm. Satisfaction 12	1,000	,752
Communication Frequency	1,000	,776
Indirect Communication Content	1,000	,752
Bidirectional Communication Flows	1,000	,596
Ambiguity Regarding the Supervisor	1,000	,809

Extraction Method: Principal Component Analysis

Table 2: Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	10,648	66,551	66,551	10,648	66,551	66,551	6,280	39,251	39,251
2	1,093	6,833	73,384	1,093	6,833	73,384	5,461	34,133	73,384
3	,626	3,914	77,298						
4	,492	3,073	80,371						
5	,487	3,045	83,416						
6	,466	2,914	86,330						
7	,336	2,101	88,431						
8	,300	1,872	90,304						
9	,278	1,739	92,042						
10	,243	1,517	93,560						
11	,230	1,438	94,998						
12	,211	1,321	96,319						
13	,172	1,076	97,395						
14	,170	1,064	98,459						
15	,136	,851	99,311						
16	,110	,689	100,000						

Extraction Method: Principal Component Analysis.

Table 3: Rotated Component Matrix^a

	Component	
	1	2
Comm. Satisfaction 1	,845	,287
Comm. Satisfaction 2	,755	,302
Comm. Satisfaction 3	,802	,373
Comm. Satisfaction 4	,794	,419
Comm. Satisfaction 5	,800	,374
Comm. Satisfaction 6	,651	,523
Comm. Satisfaction 7	,768	,469
Comm. Satisfaction 8	,547	,618
Comm. Satisfaction 9	,437	,625
Comm. Satisfaction 10	,253	,822
Comm. Satisfaction 11	,494	,693
Comm. Satisfaction 12	,508	,703
Communication Frequency	,266	,840
Indirect Communication Content	,389	,775
Bidirectional Communication Flows	,418	,649
Ambiguity Regarding the Supervisor	,785	,438

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 3 iterations.

APPENDIX D: Regression for Employee Organizational Commitment

1. Regression for Affective Organizational Commitment

Table 1: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,646 ^a	,418	,370	1,052635

a. Predictors: (Constant), Supervising others, DEYA's type, Prefecture, Employee Job satisfaction, Time with the same supervisor, Age group, Gender, Level of education, Organizational tenure, Job category

Table 2: Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1,585	1,421		1,115	,267
	Employee Job satisfaction	,912	,115	,600	7,919	,000
	Prefecture	,315	,195	,115	1,613	,109
	DEYA's type	-,482	,232	-,159	-2,072	,040
	Age group	-,010	,131	-,006	-,073	,942
	Gender	-,031	,238	-,011	-,131	,896
	Job category	,075	,191	,045	,394	,694
	Organizational tenure	-,062	,244	-,026	-,255	,799
	Level of education	-,100	,116	-,084	-,859	,392
	Time with the same supervisor	,098	,092	,100	1,060	,291
	Supervising others	-,375	,322	-,128	-1,165	,246

a. Dependent Variable: Affective commitment

2. Regression for Continuance Organizational Commitment

Table 1: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,499 ^a	,249	,187	1,098041

a. Predictors: (Constant), Supervising others, DEYA's type, Prefecture, Employee Job satisfaction, Time with the same supervisor, Age group, Gender, Level of education, Organizational tenure, Job category

Table 2: Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	,173	1,482		,117	,907
	Employee Job satisfaction	,704	,120	,505	5,858	,000
	Prefecture	,059	,204	,024	,290	,773
	DEYA's type	-,024	,243	-,009	-,098	,922
	Age group	-,012	,137	-,008	-,085	,933
	Gender	,200	,248	,075	,805	,422
	Job category	-,075	,199	-,049	-,379	,706
	Organizational tenure	,177	,254	,081	,696	,488
	Level of education	-,055	,121	-,051	-,457	,649
	Time with the same supervisor	,045	,096	,050	,471	,638
	Supervising others	,358	,336	,132	1,064	,289

a. Dependent Variable: Continuance commitment

3. Regression for Normative organizational commitment

Table 1: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,478 ^a	,228	,165	1,297410

a. Predictors: (Constant), Supervising others, DEYA's type, Prefecture, Employee Job satisfaction, Time with the same supervisor, Age group, Gender, Level of education, Organizational tenure, Job category

Table 2: Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2,014	1,751		1,150	,252
	Employee Job satisfaction	,684	,142	,421	4,819	,000
	Prefecture	-,007	,241	-,002	-,030	,976
	DEYA type	-,745	,287	-,231	-2,602	,010
	Age group	,043	,161	,025	,265	,792
	Gender	-,049	,293	-,016	-,166	,868
	Job category	-,085	,235	-,047	-,361	,719
	Organizational tenure	,085	,301	,033	,283	,777
	Level of education	-,014	,143	-,011	-,101	,920
	Time with the same supervisor	-,022	,114	-,021	-,198	,844
	Supervising others	,174	,397	,055	,438	,662

a. Dependent Variable: Normative commitment

APPENDIX E: TABLE OF RESPONSES

DEYA NAME	DEYA CODE	PREFECTURE	EMPLOYEES	RESPONDENTS	%	SUPERVISORS			ADMINISTRATIVE STAFF			TECHNICIANS		
						EMPLOYEES	RESPONDENTS	%	EMPLOYEES	RESPONDENTS	%	EMPLOYEES	RESPONDENTS	%
DEYA TRIKALA	11	TRIKALA	82	60	73,17%	12	12	100,00%	22	16	72,73%	48	32	66,67%
DEYA PYLI	12	TRIKALA	8	5	62,50%	1	1	100,00%	2	1	50,00%	5	3	60,00%
DEYA KALABAKA	13	TRIKALA	18	13	72,22%	2	2	100,00%	3	3	100,00%	13	8	61,54%
DEYA FARKADONA	14	TRIKALA	7	5	71,43%	1	1	100,00%	2	2	100,00%	4	2	50,00%
SUM OF TRIKALA PREFECTURE			115	83	72,17%	16	16	100,00%	29	22	75,86%	70	45	64,29%
DEYA KARDITSA	21	KARDITSA	60	38	63,33%	10	7	70,00%	21	14	66,67%	29	17	58,62%
DEYA MOYZAKI	22	KARDITSA	4	3	75,00%	1	1	100,00%	1	1	100,00%	2	1	50,00%
DEYA SOFADES	23	KARDITSA	6	5	83,33%	2	2	100,00%	1	1	100,00%	3	2	66,67%
DEYA PALAMA	24	KARDITSA	4	3	75,00%	1	1	100,00%	1	1	100,00%	2	1	50,00%
SUM OF KARDITSA PREFECTURE			74	49	66,22%	14	11	78,57%	24	17	70,83%	36	21	58,33%
TOTAL SUM			189	132	69,84%	30	27	90,00%	53	39	73,58%	106	66	62,26%
URBAN DEYA			142	98	69,01%	22	19	86,36%	43	30	69,77%	77	49	63,64%
PERIPHERIC DEYA			47	34	72,34%	8	8	100,00%	10	9	90,00%	29	17	58,62%