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THE NEGATIVE EFFECT OF E-MAILS AT WORK

DOCTORAL DISSERATION

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DECLARATION OF ORIGINALITY

Declaration of Originality

I, the undersigned, solemnly declare that this diploma work is the result of my own independent research and was written solely by me using the literature and resources listed in the Bibliography.

Signature _____

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Preface

The idea for the current research was derived from years of personal experience using e-mail from its early stage. Most organizations, which understood its benefit focused on the benefits streaming from frequent daily use, and invested many efforts into implementing e-mail usage on a daily basis. The researcher, working as a senior manager in small and large organizations, has very often encountered many private and work-related e-mails, which either took time to handle or were useless or irrelevant. Moreover, the same private e-mails were received by dozens of colleagues, who wanted to entertain the researcher along with many other employees. Of course, they had no idea that dozens of the same e-mails were already received by friends or colleagues in the same organization or outside the organization.

In recent years, the awareness to the importance of e-mail usage has increased tremendously. Undoubtedly, the positive effect has had a revolutionary impact on almost all aspects of the organization. It had an essential trigger in deriving organizations and employees' behavior towards a modern world. The essence of this innovative tool provided great utility to the organizations and employees in their daily work.

E-mails at work undoubtedly serve as a major and essential trigger in the modern world. Service organizations, which differ from production organizations or Hi-Tec organizations are supposed to use the e-mail differently. For example, Hi-Tec companies use e-mails as a major communication and working tool, sometimes the only one, unlike production organizations, which almost do not use it at all. However, service organizations e-mail usage is expressed through the provision of greatest utility to the organization and the customers, and not all employees are using it during the whole day. In Israel, employees in service organizations use it at work occasionally when it is needed, and when its total usage enlarges the overall value delivered to the customers. The research excluded Internet and Net activities such as Facebook, Twitter and the like, which in most cases are for private purposes (in Israel), and automatically restricted by the organizations, and focused only on e-mail as a daily working tool.

The fact that the researcher uses that tool during the entire day and as result receiving irrelevant private and work-related e-mails has led her to investigate the negative effects

of e-mail usage during working hours in large service organizations in Israel. E-mail usage in service companies seemed quite interesting for the researcher mainly because little research has been done about it, if any at all.

The service organizations that were chosen for the research are organizations whose main work (in Israel) is not using e-mails, but only from time to time during the day.

The researcher has chosen large organizations, as it seems that in such large organizations a low level of supervision; monitoring and transfer of normal operating procedures exist. In addition, organizations that have a large number of employees can be better overviewed statistically, and the larger the organization is, the higher the number of its employees, which creates higher transaction of e-mails. In these organizations, it highly likely that the e-mail would be non-work related, because the employees would be more bored. In large organizations, large number of employees may cause employees to send more non-work related emails due to boredom or some other factor.

For that purpose, the researcher has chosen organizations from the service sector, which have more than 500 employees and use e-mails not as their main working tool. All selected companies for this research, are senior and leading service companies in Israel as follow:

Ministry of **Education** (http://cms.education.gov.il/) is one of the largest ministries in Israel. The Ministry of Education is the Government lead advisor on the Israeli education system, forming direction for all educational services provided by the Ministry. The service divisions are located in two major cities, Tel Aviv and Jerusalem and provide different services in each city.

Bank "Leumi" (www.leumi.co.il), the parent company of the "Leumi Group", which is one of the largest banking groups in Israel with a dominant 30% market share of the banking market. It has a strong and stable balance sheet and total assets under management of US$123 billion.

Cellular mobile operators organizations "Pelephone" (www.pelephone.co.il) and "Cellcom" (www.cellcom.co.il) are two out of the three major cell phone companies in Israel with subscribers and market share of 35% for Cellcom, and 29% for Pelephone.

Municipality of Tel Aviv, the biggest city in Israel that attracts the young, sophisticated and educated generation. The additional municipality is Jerusalem, the capital of Israel, which is considered as a holy city for all religions. These are the two biggest cities in Israel in their administrative divisions.

El Al Israel Airlines is the national airline, which posted a net profit of USD$14.8 million and cargo revenue of USD$ 48.4 million. El Al's market share is 38%, while its load factor rose to 80.1%. EL AL was ranked by IATA as one of the world's three most efficient air carriers.

Commerce: "Lito Group" (www.litogroup.co.il) is Israel's largest group in the field of specialty vehicles and vehicle service supplements and equipment. The service division is one of the largest, and apart from the huge headquarters offices, the company has four service locations in different major cities.

Private companies such as doctor services "Bikurofe" is a leading private company in primary care and urgent services, currently manages 32 clinics nationwide including 350 doctors and various fields of medicine and medical staff. The provided services include house call doctors, 24h/7 days a week. In addition, "Dikla" (www.dikla.co.il) is a private company operating health insurance, with 17% market share.

Government: Service division at Ministry of Construction (no web site) is responsible for government policy planning and implementation issues: providing housing solutions, renewal, mortgages, and services such as information on tenders, housing assistance, contractors, engineering and more. Service division at Ministry of Agriculture (no web site) is responsible for planning and development of settlements, land conservation, agriculture and veterinary services.

Sport & Education Centers (MATNAS- Cultural Center for Youth and Sports - www.matnasono.org) is a community center and informal education cultural, sports, leisure, recreational and commercial activities for the entire community.

Consolidation of the model for this research has taken more than two years. Two pilot studies were conducted in order to understand possible issues that might affect time waste and inefficiency at work resulting from e-mail usage at work. The major difficulty with the implementation occurred when it was difficult to understand that e-mails might

have a negative aspect. Many employees and organizations were unwilling to collaborate and reveal information, especially personal information through which employees were supposed to expose their private e-mails usage, which was for the most part against the organization policy. Additionally, even when organizations did agree to collaborate, it was impossible to collect accurate and objective data due to law restrictions. Needless to say, it was difficult to get cooperation because none of the major examined population collaborated, mainly because employees did not wish to expose their behavior. Only after a lot of efforts to enlist a contact person in each of the chosen organizations, who agreed to distribute the final questionnaires, a sufficient amount of data was collected.

The complicated research subject caused discomfort to some of the employees, by imposing private questions that produced subjective perceptions. That caused intricate statistical analyses, which dictated special and logical handling, including developing formulas in order to be able to analyze the results, which caused statistic deviation, but results were quite decisive and significant.

Generally, it can be said that this research required tremendous effort and thus was accompanied by quite a few crises, mainly during the collection of questionnaires, and also during the performance of the statistical analysis.

The statistical analysis was quite intricate, and was characterized by long and concentrated effort to find logical connections between the variables that compose the model. It must be indicated that many of the research hypotheses were supported, and there might be innovations in this field.

The major research field is the HR communication supported by technology (ICT), and it will focus on work efficiency, policy and satisfaction at work.

***To sum up**: This research work served as great and interesting challenge for its writer, and required tremendous investment. It pinpoints the time spent on e-mail, and measures how much of this time is spent on personal versus work-related activities.*

I hope that these findings will add a small brick to the great knowledge existing on the e-mails and its efficiency issue, along with a greater knowledge that will probably serve

other managers to improve this currently popular communication method in their organizations.

It also examines the tools that business professionals use to manage the e-mail platforms. Most importantly however, the research identifies strategic options, which HR and IT managers are using with these platforms. Therefore, their efforts are aligned with their business goals, and will enlarge the overall values organizations gains, which is composed of many elements. In addition, it grants the firm with cost reduction, HR efficiency with better communication inside and outside the organization, better time management, replaced information that previously was hard to get or obtain, and more.

Finally, the research explores interruptions such as (dis)satisfaction at work and the extent to, which the e-mail tool contribute to interruptions and diminish our ability to focus on important tasks.

To recapitulate with personal words:

As a senior lecturer at university and director in the "Council Affairs of TV and Radio Authority", it was enormous personal effort that lasted over four years of research and investigation in an issue I knew exists. I am glad that my family supported me during all that time, even if that time was diminished from them.

Maybe during the research period more researchers will have the same perception as I do regarding the negative effects of e-mail usage, but I feel that today I am still belong to the minority group that think that way. During my research period, the e-mail as working tool was expanded tremendously, and nowadays, when net connections such as sms-s, Facebook, Twitter and other net-tools exit, the results will probably have aspects that are more negative.

This is going to be my next research, and I am sure the results will be hard to digest.

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Chapter 1 - Introduction

1.1 Background for research

Since the beginning of Hi-Tec era, there has been ongoing debate how information technology affects employees' productivity, and how the organization gains positive results by increasing benefits. For more than two decades, managers are trying to understand and measure whether using web-based tools (such as e-mails) to speed communication and processing at work, indeed increased productivity with more value than the potential distraction, as communication should contribute to improving work processes.

People and employees are getting more accustomed of using internet technologies and social networking for sharing data and information in their working and private lives. Researchers have shown that, in spite of the fact that e-mails are facilitating improved marketing, business development and communication processes, depend on the quality of such information tool that determine its business contribution. Smidts et al. (2001) argue that communication processes include all kind of processes between individuals and groups that are using the communication processes as a tool for building relationships. Mueller and Lee (2002) agree that there are several ways to affect the quality of relationships and communication in organizations based on a variety of options with different contexts. It is supported by Dubinsky and Yammarino (1992) Stuart (1999) and Mueller and Lee (2002) which add that public sector managers are responsible for determining the quality processes of communication tools in an organization, because their effect on employee performance level.

Employees communicate more frequently and easily through e-mails and Internet with other employees, internally and externally, as well as with family and friends. This survey identifies the most used platforms and extent of use. However, only little was written and researched on damages caused by using e-mails technology tools, which were designed to minimize those dimensional damages. That has been rarely investigated in terms of employees' productivity and especially time wasted on e-mails.

The increasing ICT (**I**nformation and **C**ommunications **T**echnology) applications and e-mail amongst them, are helping in facilitating work process and help companies

stay competitive, mainly by providing employees with access to internet tools supporting internal and external e-mails communication among employees at work and at home.

Advanced technologies such as chats, instant messages software, phones with broadband technologies and IP, enable companies to conduct business anytime, anywhere. As a result, growing virtual offices emerged, and enhanced products and processes of the omnipresent were made possible thanks to seamless communication among employees at work and at home.

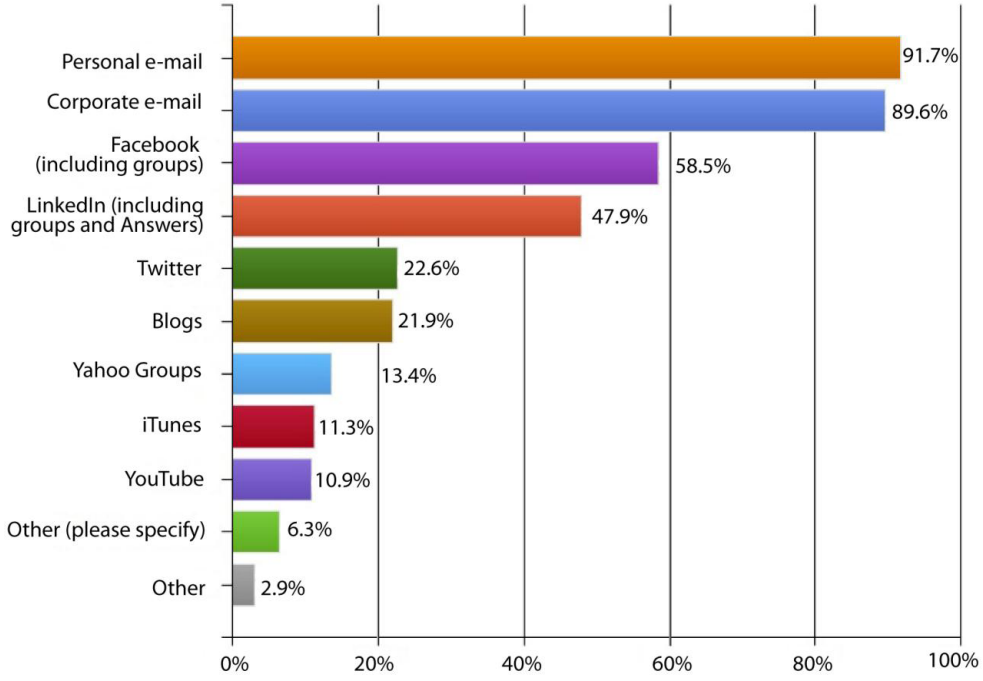
Using web-based tools, such as e-mails, was quickly implemented at work in order to improve the productivity of labor, and produced higher output at any company. Moreover, e-mail became the new trend that dramatically revolutionized working behavior and produced new communication patterns at work. The advancement of e-mail technology enables companies to improve their performance, and several studies had integral impact on organizational communication structure, which served as a mean of measuring and predicting cost-benefit results (Coulson-Thomas, 2005; Evans and Davis, 2005; Kilpatrick, 2000; Smith *et al.*, 2005).

Out of optional web based applications, this document focuses on e-mail related activities in the workplace, especially on sent and received e-mail during work hours, and illustrates the great extent of waste involved in their daily use, not only for private purposes but also for work.

Applicable communication tools like e-mails keep developing into the file sharing (for example e-mule, torrents etc.), social networks (for example facebook, myspace, youtube etc.), blogging and microblogging (such as Tweeter and Tumblr) and others - all of which are accessed and used almost continually either at home, while on the way or at work.

Table 1.1 indicates a survey that was taken at 2009 and checked how many of these communication tools, including e-mail at work, have become part of daily life of participants, and indicates that 92% of the participants checked their personal e-mail regularly. (They were allowed to select multiple platforms).

Table 1.1 - Consumer Communication Tools, 2009



Source: The survey results: © OnTheGo Technologies, LLC (2009)

However, contrary to these rather new applications and tools, e-mail is by far the most mature, robust, organized and institutional application of all. E-mails became so popular, not only from user perspective but rather from an organizational and institutional point of view, that it is now considered an essential element of organizations ICT complex.

The fact that e-mail is more familiar and longer known by many is the main reason for the current research focusing solely on it, excluding other more "cutting-edge" technologies and platforms.

As stated above, the research main goal is to identify and estimate the damage and waste caused to organization due to misuse of e-mails by employees for private and non-work related purposes. The research will focus only on such e-mails usage, their quantity and quality, which might result in negative effects during working hours. They were examined and classified as follows:

1. “Private e-mails" which are not work related

2. "Working e-mails" that are work related

Difficulties arise when organizations try to implement correctly the technologies with strict policy requirements and rigorous content, in attempt to get maximum benefits

1.2 Justification of the research

The more available the advanced technology has become, the greater the conflict is between employees and employers over e-mail usage, and if it led to the efficiency or inefficiency of the employee at work, both internally and externally. We still have much to learn about interactions among computer-mediated communication technologies, new organizational forms, and changes in work and communication. But the ability to monitor e-mail now provides organizations with the opportunity to improve communication practices.

There seems to be two major perspectives framing the management of personal e-mail usage at work.

The first aspect, which was wildly discussed, studied, and researched raises the **positive** effect that has empowers productivity growth as a work-related tool, which was adopted by most organizations, managers and employees.

The second aspect is a **negative** and unproductive effect, which has hardly been examined. That is in spite of the high costs for organizations (in billions of dollars) in terms of lost of productivity, increased network congestion, operational and security costs, along with risking civil or criminal liabilities. Amongst the most unproductive aspects, private e-mail usage at work is depicted as a variation of inappropriate dysfunctional work behavior such as stealing and wasting time (Block, 2001).

Up-to-date, there has been little research carried out on e-mail usage and the negative effect of e-mail on the workplace. This thesis has practical and scientific relevance because it provides tools and significant value information concerning daily usage and working methods with e-mails. The practical relevance is indicated in the finding that satisfaction at work plays a significant role in the e-mail economy costs and usage. Moreover, literature and researches that argue and represent a negative impact on organization immediate hidden costs are scarce. The negative costly aspect of work-related e-mails handling was not researched in depth with quantity tools, neither in large organizations nor in small ones. Employees are using private e-mails at work, regardless of policy existence or valid restrictions procedures, which cost enormous

time waste and inefficiency at work, and that, might be more essential in large organizations where inspection ability is smaller.

Large organizations should benefit of this research, because if they can locate the weaknesses inside the organization, which relate to e-mail mishandling, they might benefit the e-mail tool usage resulting from training and accurate procedures implementation.

The ICT provides enormous possibilities for improving dialogue between organizations and its employees and its availability, dramatically reducing the cost of inside organization communication. In service organizations the majority of commercial transactions are still being made through direct face-to-face or telephone contact, the e-mails did not replace it yet. A growing number of e-mail transactions, though, are taking place on advanced communication networks, which improves the dialogue between organizations and its employees. This is done by ICT electronic infrastructure for almost any type of communication, including development tools for planning and deployment of web-based tools learning materials and web-based communications (Chu and Tsai, 2009).

Israel is considered as top ICT user, and numbers show rapid growth. Liebermann and Stashevsky (2002) stated that there were 1.8 million e-mail users in Israel at 2001. Addition of 250,000 new users each year was added until 2008, bringing the number of Israeli users over the age of 13 to 4.3 million at the end of 2008 (TIM/Teleseker, 2009 survey). There is correlation between Internet increasing usage and e-mail usage in Israel (TIM/Teleseker, 2009 survey) and to get an overview regarding Internet usage in Israel, the two tables below give an overview of the internet growth rates and penetration worldwide and in Israel.

Table 1.2 - World Internet (including e-mails) Usage and Population Statistics

(Update March 31, 2008)

WORLD INTERNET USAGE AND POPULATION STATISTICS						
World Regions	Population (2008 Est.)	Population % of World	Internet Usage, Latest Data	% Population (Penetration)	Usage % of World	Usage Growth 2000-2008
Middle East	197,090,443	3.0 %	41,939,200	21.3 %	3.0 %	1176.8 %
WORLD TOTAL	6,676,120,288	100.0 %	1,407,724,920	21.1 %	100.0 %	290.0 %

Table 1.3 - Israel Internet (including e-mails) Usage and Population Statistics

(Updated December 31, 2009)

	Population (2009 Est.)	Usage, in Dec/2000	Internet Usage, Latest Data	% Population (Penetration)	User Growth (2000-2009)
	7,233,701	1,270,000	5,263,146	**72.8 %**	**314.4 %**

Source : http://www.internetworldstats.com/stats5.htm

According to this report, Internet usage in Middle East region and broadband development are generally low for the relative levels of economic development, but Israel is significantly exception with high growing rate of 314.4% compared with the world average of 290% growing rate.

(http://www.internetworldstats.com/stats5.htm).

This research will concentrate on Israeli organization behavior regarding e-mails as a major communication web-tool, mainly because Israel is considered as one of the most influenced by this tool with internet heavy users.

1.3 Objectives

The following research adopts a distinctive perspective trying to examine how loss of work hours can result from the (mis)use of e-mails during work hours, for either work related e-mails as well as personal purposes.

In addition, while previous studies have shown that e-mail usage for private purposes can be related to aspects of ineffectiveness, this is in fact a first attempt to inclusively model the mutual influence of private e-mails and work related e-mails on employees' ineffectiveness at work and organizational efficiency.

The research field is combined HR and ICT, and the rational for this thesis was examined focusing on large organizations for several reasons:

- *Management and Governance*: corporate governance and management control are less complicated and more effective in smaller organization than in larger ones, thus examining inefficiency is more relevant in larger organizations. In addition, more information exists about how their teams use these platforms, so they can be more effective in guiding this effort.
- ***HR managers*** who want to better leverage these platforms and manage the legal risks and efficiency by training the employees associated with their use, and to know whether employees are working
- ***IT managers*** who want to optimize the tools used and minimize costs and risks.
- *ICT*: larger organizations - ICT infrastructure is larger regarding its scale and its volume as well as regarding its clientele. Thus, as intensity of communication and ICT's infrastructure rises, it is more plausible that issues like system capacities, capacity and usability will be more relevant.

- Methodologically: focusing on large service organizations suggest larger population and hence easier and more natural and presentable sampling.

  Moreover, this rational was examined in service organizations, such as airline companies, communication companies, government and municipal organizations or banking and insurance companies, on the account of minimizing the effect of other core business processes (mainly manufacturing, production, marketing and sales) and focusing on communication, which is the main platform for service.

As such, this research offers a multidisciplinary approach involving both HR management as well as production and operation management.

The goal is to gain better attitudes and behaviors understanding of today's workforce, as it relates to the use of e-mail in the workplace, and to understand how these attitudes and behaviors vary by satisfaction, by function, and by company culture and policy.

Summarizing the reviewed researchers in:

Source	**Measure**	**Components**
Smidts et al. (2001)	Communication	Communication processes
Mueller and Lee (2002)	Communication	Relationship and organizational communication
Dubinsky and Yammarino (1992), and Stuart (1999) and Mueller and Lee (2002)	Communication	Communication processes
Coulson-Thomas, 2005; Evans and Davis, 2005; Kilpatrick, 2000; Smith *et al.*, 2005	Cost benefit	Performance and organizational communication
Chu and Tsai, 2009	Communication	Web based tools
Liebermann and Stashevsky, (2002)	Communication	e-mail users

Chapter 2 - Literature Review

This Chapter will present - in a structural form - how the relevant literature, professional authors think on different aspects of email use and it presents some investigations, survey techniques, which they have used to prove their statements and models. Sub-chapters have been selected (and titled) according to the main research fields, which the author of the dissertation would like to involve into a complex model as variables and parameters (see in Chapter 2).

2.1 Introduction

Parsons (2000) examined the usage and access of Internet within liberal profession. He found that Internet is increasingly occupying a central place in our lives, and that 79% of the members of liberal professions such as lawyers, consultants and doctors surf online for professional reasons, 42% of users on a daily basis, while 29% regularly spend at least five hours a week online.

The following **Table 2** shows the useful web usage among Israelis.

Table 2.1 - The web usage among Israelis

1	Search information and general data	93%
2	**E-mail**	**84%**
3	Reading newspapers / news	74%
4	Download Software / Files	65%
5	Perform banking / finance	48%
6	Games	46%
7	Chat	43%
8	Buy / order a product or service	42%
9	Listening to radio stations	28%
10	Participation in forums	25%
11	Dating	10%

Source: (Goldman, 2004)

A new study from the Radicati Group (2009) brings statistics and forecasts for e-mail usage including wireless e-mail. It includes both data on business and consumer e-mail usage by many factors, such as demographics, business size, industry, daily e-mail traffic and more. The forecast number of global e-mail users is planed to increase from over 1.4 billion in 2009, to almost 1.9 billion by 2013. Worldwide e-mail traffic was in total 247 billion messages per day in 2009. By 2013, this figure will almost double to 507 billion messages per day. In 2009, spam was one of the major negative effects on large organizations, in which about 81% of all e-mail traffic was spam that caused spending upwards of $1.8 million a year to manage them.

These researches indicate the number websites, e-mails, and Internet users that were added. In relation to 2009, the distribution for e-mail only is as follow:

• **90 trillion** – The number of e-mails sent on the Internet in 2009.
• **247 billion** – Average number of e-mail messages per day.
• **1.4 billion** – The number of e-mail users worldwide.
• **100 million** – New e-mail users since the year before.
• **81%** – The percentage of e-mails that were spam.
• **92%** – Peak spam levels late in the year.
• **24%** – Increase in spam since last year.
• **200 billion** – The number of spam e-mails per day (assuming 81% are spam).

Source : http://royal.pingdom.com/2010/01/22/internet-2009-in-numbers/

Most people are exposed to the Internet for the first time in their workplace, and today, it is almost impossible to find an organization in the developed countries that does not use e-mails to deliver information to employees, suppliers and customers or other interested parties. Many companies appreciate the importance and necessities of using e-mails for work purposes, despite the abuse of those facilities among some corrupted employees. Parsons (2000) and Burgess et al. (2005) also agree that

organizations are becoming aware of problems arising from the use of e-mails, and they are eager and keen to reduce the deficiencies associated with inefficiency of e-mail usage within organizations.

2.2 Different Approaches to E-mail Usage

2.2.1 The positive e-mail aspects

The workplace has changed during the past decade beyond recognition, due to the introduction of the Internet and the web-based tools. This exposure and its expansion worldwide, has increased the power strengthening of the global network, and urged the global corporation production processes.

Since the use of Internet and e-mail tools began, there has been ongoing debate about how such information technology tools affect productivity. For nearly two decades, many organizations, through marketing people and economists, have debated whether and how the rapid communication technology tools affects productivity, and whether increased processing via Internet communications and e-mail tools brought them more value rather than the potential for extra distraction. Many researchers were done about the e-mail usage at work, most of them trying to evaluate the phenomena and estimate its effect. A supportive early study led by Powell, (2003) showed that e-mail became an integral part of routine lives of workers, and 98% of them are using e-mail during working hours. He pointed out that in the mentioned year 2003, an average of 34 e-mails were received daily. Due to, mainly, e-commerce and automated customer support, global e-mails usage number rose from 2.6 trillion in 2000 to 9.2 trillion in 2005, according to The International Data Corporation (IDC) forecast (Harney, 2001).

A later research, which also emphasizes the positive perception of mail use, (Taylor et al, 2008; Mano and Mesch, 2009) relates to aspects of increasing employee and organizational potential to provide more and/or better work-related outcomes. The organizational point of view can be seen in Lin (2001) who suggests that what helps in creating relations inside and outside the organization is an effective social relationship among employees, which is based on tight communication tools. These relations are important both to the organizations and to the employees because they support in fulfilling their work tasks with higher efficiency. Kilpatrick (2000) tried to determine employees productivity by measuring it, and said that during the last decade, web-base tools penetration into companies, which implemented it has saved

the economy $133.5 billion, and the use of these tools has led to the meteoric advancement of undeveloped countries. Similarly, an examination of the social climate literature by Smith et al., (2005) and Coulson-Thomas (2005) suggests that quality of both organizational social relationships and organizational social climate, determined by employees' productivity. Those and many more finding (Kilpatrick, 2000; Chyna, 2000; Spithoven, 2003; Friedman and Currall, 2003; Coulson-Thomas, 2005) indicate that wide e-mail usage results in saving time and financial costs, since all the material is saved in computer memory, eliminating the need for extensive paperwork that must be stored and filed. Aspects that are more positive show that employees who use the e-mails at work claimed that it improved their morale, and they completed their tasks more quickly. All agree that the positive financial contribution can be achieved by pointing that the Internet and e-mail usage enhance individual productivity, and thus contributes to the organization economic advancement. Regarding managing e-mail messages, all agree that there is overwhelming consensus that the use of e-mail technology becomes an important management tool, mainly because it is accessible to managers. Yet, there is a debate whether providing continuous access during the day, contributes to raising the productivity value.

Among these positive aspects is the ability of employees to overcome the hierarchical structure “Structured Communication Barriers”, like secretary that serve as gatekeeper, and leaves control over communication in sender’s hand (Cheney et al., 2004; Goldman, 2004). By that, they can shorten communication time and reduce the traditional gatekeepers' necessity. Adam (2002) Todd and Nelson (1993), Zack (1994) and Markus (1994) support the results that face-to-face meetings and telephone conversations are less versatile and flexible constructive communication quality medium than other forms of internal organizational communication such as e-mails.

Another positive aspect regarding e-mail is also reflected in Fallows (2003) research saying that most employees referred to e-mails at work as something that helps them work efficiently and fulfill their tasks. It is emphasizing that on one hand, e-mail works best for managing logistics and communication, which is considered as the simplest tasks, on the other hand, serves big projects, which considered as the most complicated tasks. The employees who use e-mail at work confirmed that e-communication mostly contain content that is highly valuable to their work. Latest

research has engaged a new field of positive awareness, the health issues with relation to social independence.

In summary, the author points, since it was introduced, more than 4 decades ago, e-mail usage is rapidly growing, both the number of users and by volume and extent in which it is being used. According above mentioned literature, this rapid growth of use is not only a matter of technological improvement or fashionable trend, it also changes the way organizations work and employees interact leading to faster communications, both within and outside the organization, wider and closer relational networks and greater efficiency expressed among others by higher productivity and lower costs.

These advances according to the author are of higher interest to managers in particular. E-mail provides managers with better communication tool, and hence better control over their terms. It also enhances organizational and team knowledge base and knowledge retention, all are desirable managerial objectives.

2.2.2 The negative e-mail aspects

As mentioned above, positive aspects results from e-mail usage have been the key to mass behavior standardization, but this point of view started to breakdown. Thus, e-mail management play a significant role in productivity, and most researchers deal with the potentially improvement by the effective usage. Fallows (2003) found that when communications that are more complex are required, work mailers concede that e-mail is less effective. More difficulties in applying the web-based tools, produced criticism that the initial target application of these tools was fadedding, and considered as job distraction. This was emphasized by Solingen, Berghout and Latum (1998) claiming that about 20% of an employee's time is spent on "**general interruptions**", which is defined as "any distraction that makes a developer stop his planned activity to respond to the interruption initiator", and reduce employee's productivity, and thus reduces the contribution to the organization economic advancement. Furthermore, these distractions are not often related at all to the work that needs to be done, or to the workplace.

For instance, while at work, employees tend to get e-mails such as entertainment, financial and adult contents with links to web sites, and in most case use organization infrastructure, and more importantly time and money for their pleasure and interest.

The negative aspect has its cost. Robinson and Bennett (1997) explored the existence of negative effects of the infrastructure exploitation of employers using Internet and e-mail tools during working hours in order to access non job related activities for personal purposes, including receiving and sending personal e-mails. Employees and managers often find they spend too much time on handling e-mails, by reading or answering them. This wasted time increases as e-mail usage increase, which led them to dedicate specific time for checking, organizing and prioritizing their e-mails, to become more efficiently oriented. In spite of that, employers failed to formulate better ways to confront with consequences of the e-mail misuse and the implications of economic and legal outcomes resulting from e-mail misuse. Amongst are the implications of economic and legal outcome (Adam, 2002).

Malik (2007) raised an argument why e-mail is fading in usage while startups to day try to make e-mail inboxes easier to handle, and suggests that no sufficient attention is given to the changing needs of e-mailing system as a whole in order to meet the increasing demands of e-mail continuous accessibility. By this, e-mail tool may turn from strength to weakness, because it becomes time consumer more than time-saver, and ambitious entrepreneurs try to address this problem. More negative results of e-mail time waste, which coined the term "**e-mail bankruptcy**", is used to explain a decision to announce about taking a break from e-mail, by closing the account due to an overwhelming receipt of garbage and e-mails. Musgrove (2007) in his article quotes Fred Wilson a venture capitalist that has declared "e-mail bankruptcy" after the complete inability to keep up with messages, followed by mass deletion and a plea for legitimate correspondents to send new ones. As a result, many colleagues followed Wilson's example by announcing that they are taking a break from e-mail for the rest of the year.

Some researchers claim that large of the negative aspects, which explores Internet and e-mail abuse are consequences of addiction, which covers a wide range of employee behavior at work. They recommend that organizations should pay special attention to these employees, just as they would do in the case of alcoholics (Young, 1999; Griffiths, 2003; Trask, 2006; Shellenbarger, 2007; Jengchung et al., 2008). Jengchung et al. (2008) add that the Internet long-term abuse effects will continue if there will be no close and tight management supervision and in the end, employees with web addiction will develop and demonstrate unstable patterns of its use. This might be the

affect of e-mail as well. Three areas comprise web addiction: excessive e-mail/texting; excessive preoccupation with basic drives; and excessive gaming. Each of these areas has three components: withdrawal symptoms; rising tolerance; and negative repercussions.

Fallows (2003) comments that economists have questioned whether processing and communication speeds brought by computers are more valuable than the risk of distracting employees and shifting their attention, resulting in reduced productivity. She added that since the Hi-Tec was in its beginning there have been constantly ongoing discussions about the connection between information technology and work productivity. She also indicates that past researches show that employers and employees share a clear sense of the right and wrong ways to use their business e-mail.

More studies show the personal usage during working time (Reid, 2000; Carswell, 2001; Taylor, 2001; Websense, 2006; Acespy.com, 2006; Arnesen and Weis, 2007) and study indicates only percentage and numbers that show that the majority of employees with e-mail access admit they have used it at work for personal purposes, including pornography e-mails and links during working day. They also showed that usually the internet and e-mail usage is for on-line activities such as shopping, banking, playing on-line poker, music, photos, and more. However, none of the above-mentioned studies dealt with the negative aspect of e-mails from the organization point of view, except the fact that some NASA employees were found to be regularly visiting the porn web site at work Taylor (2001).

In summary, along with the growing popularity of e-mail usage, and particularly within the organizational context, darker sides of its use have begun to show. For the most part, administration costs grown considerably as e-mail volume increased. As stated by the author (Zelikovich, 2001 and 2007), not only that large e-mail volume required more attention from the organization administrators, such as technicians and IT managers, causing larger costs, but it also implicitly imposed administration costs on employees because of the need to handle so much information. In this perspective, e-mail volume overload have produced larger overheads costs.

However, while these costs are to some extent predictable, growing e-mail popularity has also presented many employees with the opportunity to use the organizational

tool for their private needs. As reviewed, most researches have referred to this issue by examining the extent of this behavior, e.g. how many employees behave like that and use e-mail for private purposes. From this perspective, the current research is a first attempt to evaluate the actual aspects of this behavior, e.g. to examine how an employee behaves and how this behavior reflect on the organization.

2.2.3 An integrated approach to employee e-mail usage at work

There are diverse approaches to the impact of technology on the business regarding e-mail usage. There is a general agreement in the literature that technology affects the business, the content and the level of skills needed, but there is considerable disagreement over the nature of the impact. Three main approaches might be noted in this regard:

1. One approach claims that the influence of technology and computerization on business is generally positive and profitable, since it reduces the routine elements of the work and reduces boredom, monotony and the physical effort required (Kilpatrick, 2000; Spithoven, 2003; Coulson-Thomas, 2005). In this way, the technology, among which are e-mails, leaves the employee with more time and opportunity to concentrate on intellectual complex issues. Thus, technology, and in particular knowledge technology, raises the levels of skills and knowledge, and consequently enhances business efficiency, productivity and quality in general.

   Another positive aspect of this influence was investigated in Lin et al. (2006) regarding the relationship between people's emotional responses to e-mail content, and their intention to forward e-mails. This knowledge could allow enterprises to understand which kind of e-mails is more likely to increase recipients' intentions to forward them, which can assist in development of e-commerce.

2. Second approach argues for a negative influence of technology on business, maintaining that the computer eliminates enrichment, mental, and perceptual elements, which lead to negative effects (Lim, 2002; Zoghbi et al., 2006; Malik, 2007; Musgrove, 2007). The computer simplifies the intellectual content, and the work 'fragments' into simple components, and thus works becomes more routine and boring. Another negative point is, when the firm's adoption of technology concentrates more power, strength and decision-making in the hands of the administration. This can be done with closer supervision, which usually lowers

the autonomy of individual employees and degree of their responsibility towards their work (Samuel, 1996). Although the focus of the above researches was on the effect of technology as a whole, most of them (and in particular, Lim, 2002 and Malik, 2007), explicitly refer to e-mail as one of the most characteristic tool of this approach.

3. Third integrated approach to the impact of technology on business: By examining the reality, *in situ*, researchers have found that the type of technological impact that focuses on job attributes is not uni-directional. Some claim that both trends – the positive and the negative – exist and others clarify ways of the effects of mediating variables, particularly how the business is redesigned by the management after introducing new technology into the organization. According to Kfir (1997) the impact of computerization is manifold and is likely to affect one organization positively and another negatively. In other words, the nature of the impact is determined by the special circumstances of that organizational system and its individual employees. Furthermore, the impact of technology may even vary within the organization for specific individuals and jobs that function with specific technologies. It was claimed that computer technology can function effectively in a variety of organizational structures, whether complex and integrative businesses, or narrow specialized businesses. However, broad integrative businesses are probably more suitable for sophisticated technologies, since employees who perform integrative tasks need considerable skills and knowledge of the system, and can thus derive greater benefits from the technology (Fallows, 2003; Forman et al., 2007; Simmons, 2007)

The author thinks that the integrated approaches in which the technology has a positive influence on a business by helping employees to simplify their work, points out the importance of using e-mail communication along with spending more time particularly for the purpose of establishing new markets and for building brand image. They also support the approach that e-mail has a positive effect on the social work environment in service companies by improving their teamwork and make them more available to the clients and co-workers who need rapid response. In that case, the answer is twofold yet with a clear indication in favor of e-mail usage. However,

while most employees relate e-mail usage to positive effects, some relate it to negative effects. The e-mail is the tool of choice for effectiveness in many work tasks, but about a third of employees in previous researchers stated that e-mail usage could be stressful, encourage gossip, or otherwise create situations that distract from work.

In summary, the optimistic and positive approach that characterized early research regarding the overwhelming contribution of technology, of which e-mail is included, to organizational efficiency and employees' productivity was replaced by a more realistic approach. These realistic integrated approaches, according to which technological improvements, entails more complicated administrative management and higher costs. Furthermore, this integrated approach often sees and uses e-mail as the most pronounced expression of these developments.

Summarizing the reviewed researchers:

Approach	Source	Aspects
Positive	Powell, 2003	part of routine lives of workers
	Harney, 2001	Rose of e-mail usage
	Taylor et al, 2008; Mano and Mesch, 2009	more and/or better work-related outcomes
	Lin, 2001	creating relations inside and outside the organization
	Kilpatrick, 2000	employees productivity
	Smith et al., 2005 and Coulson-Thomas 2005	organizational social relationships and climate
	Kilpatrick, 2000; Chyna, 2000; Spithoven, 2003; Friedman and Currall, 2003; Coulson-Thomas, 2005	saving time and financial costs
	Cheney et al., 2004; Goldman, 2004	ability of employees to overcome the hierarchical structure
	Adam, 2002; Todd and Nelson 1993, Zack, 1994 and Markus, 1994	constructive communication quality medium
Negative	Solingen, Berghout and Latum, 1998	general interruptions
	Robinson and Bennett, 1997	infrastructure exploitation
	Malik, 2007	e-mail inboxes
	Musgrove, 2007	e-mail bankruptcy
	Young, 1999; Griffiths, 2003; Trask, 2006; Shellenbarger, 2007; Jengchung et al., 2008	addiction
	Jengchung et al. 2008	tight management supervision
	Reid, 2000; Carswell, 2001; Taylor, 2001; Websense, 2006; Acespy.com, 2006; Arnesen and Weis, 2007	personal usage during working time
	Taylor, 2001	negative aspect of e-mails from the organization point of view

Integrated	Kilpatrick, 2000; Spithoven, 2003; Coulson-Thomas, 2005	influence of technology and computerization
	Lin et al. 2006	relationship
	Lim, 2002 ; Zoghbi et al. 2006 ; Malik, 2007 ; Musgrove, 2007	computer eliminates enrichment, mental, and perceptual elements
	Samuel, 1996	closer supervision
	Lim, 2002 and Malik, 2007	e-mail as one of the most characteristic tool of this approach
	Kfir, 1997	affect one organization positively and another negatively
	Fallows, 2003; Forman et al., 2007; Simmons, 2007	computer technology can function effectively in a variety of organizational structures
	Adam, 2002	Positive: constructive communication quality medium Negative: implications of economic and legal outcomes
	Fallows, 2003	Positive: helps work efficiently and fulfill tasks Negative: communications that are more complex; risk of distracting employees

2.3 Quantity and Quality

2.3.1 Quantity: information overload, interruptions and recovery time.

The quantities of the e-mails are a major factor in overload and interruption, along with the recovery time and although most employees found e-mail to be highly useful, they complained about information overload, misuse and lack of training in order to be able to handle it more efficiently. The e-mails overload quantity as a growing factor causes employees stress when it is excessive due to what many refer to as e-mail overload even though it is vital (McShane and Von Glinow, 2003). The term "**information overload**" was defined by Alvin Toffler Yang et al. (2003) and refers to the difficulty a person can have understanding an issue and making decisions, which

is caused by the presence of too much information. That was later pointed out as negative impacts of e-mail "information overload" and miscommunication that are caused because of too much data and erroneous communication (Van den Hooff and Jackson, 2006). The overload is the outcome of the amount of information that the employee receives, which exceeds his or her information processing capacity, and that is the prevalent complain concerning overload of e-mails, which is beyond a person's ability to handle. This e-mail overload phenomena, is often known as a major problem at work (Jackson, Dawson and Wilson, 2001; Adam, 2002; Ingham, 2003; Dawley and Anthony, 2003; Thomas and King, 2006; Middleton and Cukier, 2006).

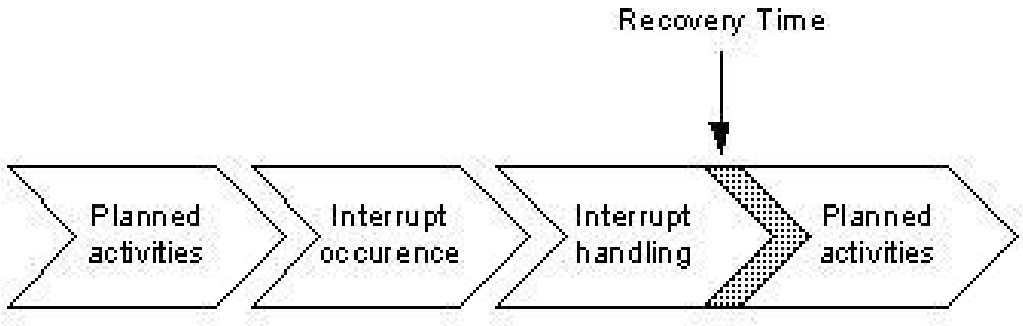
Communication processing may suffer from interruptions. Three types of interruptions were defined: personal visits, telephone calls and e-mails (Solingen, Berghout and Latum, 1998). According to them, communication interruptions showed that roughly 20 percent of employee effort is spent on a variety of interruptions, which last 15-20 minutes per interruption. They concluded that this length of time is approximately 1 to 1.5 hours per day of the developer's time. However, difference between e-mail message and personal visits or phone call exists, and the difference between phone call and personal visits is that they cause immediate interruption, while the e-mail **does not,** because the recipient will deal with the e-mail when he/she will find the time for it (DeMarco and Lister, 1999). Only in 2002, e-mail interruption effect was wildly discussed by Jackson, Dawson and Wilson (2002) who defined "**e-mail interruptions**" as any e-mail that makes employees stop their current activity. Although an e-mail is conceived less disruptive than a phone call, the majority of users are disrupted by e-mails far more than it is expected and e-mails are being answered every 6 seconds on average, which is almost the same amount of time like answering a phone call. Therefore, e-mails are disrupting employees in the almost same level as phone calls, and employees allow themselves to be interrupted by them almost as frequently as phone call.

Any interruption need a "**recovery time**". The term "recovery time" which is the length of time within which a process must be restored after the disruption, and return back to original operation was argued by Jackson et al. (2001). They concluded that the **interruption recovery time** from phone calls is more significant than the recovery time from e-mails. Only a minority of the workers check e-mails

immediately, and do not let a new e-mail message remain unchecked until it was convenient to stop working and check their e-mail.

The e-mail communication tool acts the same, and the fact that e-mail messages do have some disruptive effect by interrupting the user was discussed by Jackson, Dawson and Wilson (2003) who illustrated the three phases of interruption that subtract from the planned activities time process and lose of further time recovering their concentration as follow:

Figure 1: The three phases of interruption



Source: Jackson, T.W., Dawson, R.J. and Wilson, D., 2003

The three phases of interruption including the recovery time in the above research showed that e-mail messages do have some disruptive effect. Findings have shown out, that e-mail inbox was checked for incoming e-mails every five minutes by the majority of employees in Danwood Group employees in the UK. They responded to those arrived e-mails within six seconds, and a recovery time between finishing reading these incoming e-mail and returning to the previous work's task existed. At later stage, Jackson, Dawson, and Smith (2006) have rechecked the recovery time and had similar results.

It is a common knowledge that workers check and respond to their emails almost continuously. E-mail interruption was expanded and employees are more flexible in switching tasks in spite of the increasing recovery time. Though some emails may require very quick responses, continuous email checking may lead to workplace interruptions and overload. In regarding to e-mail interrupting and media multitasking Ophira, Nassb, and Wagnerc (2009) concluded that it is quickly happening everywhere, although processing multiple incoming streams of information is considered a challenge for human cognition

In summary, according to the author point of view, an infinite process starts from e-mail overload, along with ***e-mail interruptions,*** *which make employees suspend their current activity. E-mail and Information Overload became a significant factor, and in spite of the fact that e-mail is dominant in intra organizational communication, e-mail users often receive non-work related messages, which are irrelevant.*

The recovery time from an email interruption should be calculated by recording the amount of time that it took employees to return to their work, at the same work rate at which they left it. These activities shape and impact on the internal and external information exchange interaction.

2.3.2 Quality of e-mails

Not only quantities of e-mails are major factor, which increase overload and interruption, but also the handling or misuse of e-mails, which forced the employees to shift many e-mails, aiming to reduce overload level (Finholt and Sproull, 1990; Markus, 1994; Sullivan, 1995; Frazee, 1996; Johnson, 1997; McCune, 1999). Regardless of e-mail benefits, information overload and its continuing growth has caused some users to become suppress by the received e-mail volume, which can lead to in execution of tasks beyond unachieved deadlines (Balter and Sidner, 2002). Moreover, not only the quantity of e-mail can cause concern but also the quality of the e-mail at work, which may produce incorrect instructions being carried out, and might lead to damaged insufficient and ineffective work performance (Nantz and Drexel, 1995; Davenport, 1997, Balter and Sidner, 2002).

These problems are linked to e-mail when the sender does not comprehend or aware to the context within which the messages are being received (Kimble and Abu Bakar, 2001). The effectiveness of training, aiming to reduce e-mail deficiency was described by Burgess, Jackson and Edwards, (2004) who pointed out that proper training enables employees to write more clearly and correct e-mail messages, and will enable to achieve higher efficiency at work. More results show that by comparing outcome results before and after training operation, the training has been more effective in areas where e-mail use benefited the most from the training.

Another intermediate approach that combines quality and quantity was introduced by Smith et al. (2005) who after displaying analysis of qualitative and quantitative e-

mails, concluded that collaboration of both quality and quality of e-mails causes tasks overload. Todd and Nelson (1993) argued that many employees feel they are victims of information overload (Houlder, 1997; McCune, 1998; Vernon, 1998; Baatz, 1999), which may often result of e-mail abuse. However, empirical published research approaches that combine recovery time following e-mail interruptions were not found yet, and the reason for it could be that e-mail is perceived as causing the minimum interruptions

In summary, the author's opinion is that little has been written about the quality of e-mails inside organizations and how evaluating it. In most cases the greater part of employees are not trained how to become effective users of e-mail. In such unsupportive environments or lack of awareness, and in the absence of basic skills, even the most educated employees also are short of when they express themselves effectively.

2.4 Productivity and Efficiency

2.4.1 Different definitions and approaches

There are several definitions for Productivity and efficiency, which fit service organization. **Productivity** is a measure of output from a production process, per unit of input produces goods and services. Productivity may be conceived of as a metric of the technical or engineering efficiency of production. IT is distinct from metrics of allocate **efficiency**, which take into account both the price of what is produced and the cost of inputs used (Saari, (2006). The term **economic efficiency** refers to the use of resources in order to maximize the production of goods and services (Sullivan and Steven, 2003). Siddharthan, Ahern and Rosenman (2000), defined work efficiency as expected activities from an employee, relevant to the workplace goals, and are measurable in a labor-productivity index. Later studies such as Clements-Croome (2000) give the most accurate definition to show that there are various ways to measure productivity in **service** organizations. They talk about efficiency measurements, which are applicable and suit service organizations. Amongst are absence from work, interruptions at work, output from working groups, combination measures at all organizational levels; visual performance measurement, well-being at

work. Such ability to develop measurement tools, which refer to service organization, might provide response for changes over time in relation to its efficiency. More approaches to the measurement of office productivity were evaluated by Haynes (2007) who addresses a number of effectiveness dimensions. Amongst them are efficiency (ratio of expected resources to those used), quality (subjectively or objectively assessed quality attributes), profitability (ratio of total revenues to total costs), productivity (ratio of quantity of output to input in terms of value/cost), and quality of work life (psychosocial aspects and social response to company).

Most definitions lead to the productivity paradox that exists through the return on investment for information technology (IT), which increased IT investments. However, those investments have not been consistently associated with increased office efficiency. While productivity is the total of output produced relative to the amount of resources, which are measured both using time and money spent that go into the production, efficiency is the value of output comparative to the cost of inputs used productivity. The inputs consist of employees, machines or any production aspect in the creation output of goods and services to produce wealth (Saari, 2006; Taucean, Taroata, and Tamasila, 2008; Thouin, Hoffman and Ford, 2008).

Dawley and Anthony (2003) identify five major productivity issues, which have a direct influence over productivity improvement. Amongst is e-mail that is considered as an improvement tool that assists increasing personal efficiency by reducing the number of other communication methods such as meetings, face-to-face meetings and telephone conversations.

Arnesen and Weis (2007) refer to the growth in private use of the Internet and e-mail at work, which increase the potential liability of both the employee and employer. Developing an organizational culture is essential for reducing this liability and increasing employee productivity, by implementing elements of an effective company policy, and governing the usage of Internet and e-mail. They admit that private e-mails may reduce the output efficiency of employee, but in fact, in some cases the situation may be beneficial to the employer if for example the employee is using on line bank services, which might prevent him from leaving work during the workday. In addition, the ability of resolving some personal issues by using e-mail during the workday may be more likely to expect work longer hours and overtime and increase productivity.

2.4.2 Efficiency process at work

The concept of efficiency at work refers to the process through which input is converted to output in a given period. Defining output is simple in respect to industrial employees, but much more problematic in the case of the service industries such as consultancy, legal or research services, although the principle remains the same (Van der Heel, 2002). The lack of agreement over the answer to the question "What is an efficient employee", as well as most of the dimensions of employee efficiency is manifested in issues surrounding the measurement of job performance. The loose connection reported in the literature, between the diverse performance indices for the same point in time is an example of this. An important aspect in relation to e-mail efficiency is the way employees handle their e-mails.

Burgess Jackson and Edwards (2005) have checked how e-mails are being used at work in large organizations. They concluded that e-mails are an efficient tool. However, defected e-mail handling leads to inefficiencies at work, as employees spent more time dealing with e-mail rather than doing other tasks of their job, causing escalation inefficiency. This handling of defected e-mails is caused mainly because employees are becoming a burden for many other employees that cannot efficiently control their e-mail volume. As a result, they feel pressured to respond quickly to all the mails without being able to sort and glean the important items.

In terms of both effectiveness and efficiency, performance improvements are some of the web tools useful features, resulting from acquiring and sharing information fast and easy, among e-mail users, and becoming possible and transparent then ever before (Deeter-Schmeltz and Norman-Kennedy, 2002; Ronchi, 2003; Poon, 2004). Changes in employee efficiency following the introduction of the web-tools was examined by Parsons (2000) who maintained that, prior to the introduction of such tools, organizations should explore the advantages and disadvantages of its use, and examine whether workers would use them as a work tool or for their entertainment. Evans and Wright (2008) share this idea and add that technology enriches some businesses and makes others become more efficient than in the past. Thus, the disparity between businesses will grow under the influence of technology. However, managers are increasingly facing the burden of e-mail overload from many aspects, such as the time taken to read them, respond and take appropriate action. In addition, some e-mails are sent almost automatically, without first considering whether they

should be sent or not, or whether other means of communication would be more effective.

The latest research conducted by Nucleus Research (2009) has found that organizations that allow their employees to access other communication tools than e-mails such as social-net Facebook at workplace lose an average of 1.5 percent in total employee productivity, which affects efficiency and reduce productivity. Results show that 77 percent of the employees who have an account use Facebook during work hours, some of them as much as two hours during one working day. These results are contradictory to a recent research suggesting that surfing the social-net at work for pleasure actually increases the employees' attention and awareness' levels, and helps make a more productive workforce (Coker, 2009).

In summary, the author opinion is that efficiency is defined in service organizations in close relation to concepts as profitability, economic growth, productivity, surplus value, quality and performance, which are usually expressed in ratio form. It is also relationship between output of goods and services and the inputs of human and non-human resources, which are used in the production process. Both outputs and inputs are measured usually in physical volumes and on which price changes leave it unaffected. The question of efficiency, which is usually referred to as a product of time and money invested with regards to the output, has become more complex and elusive as economies drift from manufacturing products to intangible products such as service or knowledge-based products. In order to define output in service organizations, they should measure employee efficiency. Organizations must ask themselves two questions: firstly, is the work effective? Secondly, are skills and abilities of employees being exploited to the full?

This led to the development of several approaches aimed at evaluating productivity of non-mobile employees, and non-manufacturing organizations. For the most part, these approaches reflect on two issues: whether the work is effective and how well are employees' skills and abilities being used.

Although for the most part technology was believed to enhance productivity and efficiency, there are more and more evidences that web based applications, and as shown by Zelikovich (2007) e-mails in particularly, might harm these important

business objectives. In the long term, efficiency depends on finding new ways to create new things, which requires a combination of technology and processes of change in organizations. One aspect of this is the increase in employee yield and efficiency due to e-mail in organizations that have been clever enough to react rapidly to changing market situations thanks to a more efficient flow of information. Moreover, many firms have found additional ways to improve employee efficiency, and thus gained extra work hours. Efficiency is essential for organizational growth; when competitive organizations increase their efficiency, they will see results in a short period.

However, it can also lead to a more extreme and dangerous effects of abasement and addiction, both of which suggest a psychological legitimate disorder in which the employee addicted to an activity or behavior of e-mail usage that is interfering with their daily functioning and or job-related tasks at work.

2.4.3 Time wasting

Web private activity yielded a new slang term that describes the concept of fraud against the employer organization. The slang term "**cyberloafing**"' labeled by Lim (2002), is sometimes used to describe employees who uses web activities such as surf, play, and talk on the Internet, forward/send and receive private e-mails during work hours at the expense of the employer. That misused lead to classification of a new category of behavior at work of employees using internet and e-mails during working time. The cyberloafing phenomena challenged major management to reduce the occurrences of such abuse activities during working hours (Lim, 2002; Lee, Lee, and Kim, 2003; Anandarajan and Simmers, 2004; Lim and Teo, 2006). In terms of productivity costs, cyberloafing was not clearly evaluated but a further criticism contends between cyberloafing and three classic coercive variables was examined by Zoghbi et al. (2006) who suggest that there are several factors, which in turn, affect cyberloafing. Amongst are the perception of the leader's control and inspection amount over the employees and fear of punishment. In addition, they introduced a model showing that perceived organizational control increases employee's fear of formal punishment. A formal punishment and amount of control decreases cyberloafing, while fear of formal punishment alone does not do it.

Aftab (2003) and Amble (2004) reached similar conclusions, and added that the costs of cyberloafing in organizations in which employees misuse e-mails and web services will increase. This includes the expense incurred by organizations to monitor employees during work hours, as well as the costs of wasted work time.

Not everyone think that cyberloafing is a negative aspect. Nausheen (2006) quoted other research, suggesting that cyberloafing employees are more productive than those who are not using internet and e-mails for private purposes, because they manage their work by different way of task prioritizing and thus better handling it, which reduces their daily stress. Furthermore, most experts believe that cutting off private e-mail access is washing out the baby with the water, which makes them overlook the waste of time aspect. They think that the outcome will produce improved productivity when they use private net than it was intended (Nausheen, 2006).

To summarize, the author's opinion is that increased e-mail usage contribute to the negative aspect caused by cyberloafing, which reduce productivity in the working environment, while using the company computer during work hours. Inadequate conducts of employees, regarding the use of e-mails at work, have been documented to have explicit harmful implications, both from the organizational point of view as well as employees. Such implications might involve conscious harm to business processes and efficient workflow by wasting time, inefficient use of network resources, productivity loss, which may lead to overpaid wages, legal liabilities, lawsuits and many more losses.

2.5 Law, Ethics and Monitoring Aspects Related to Private e-mails Usage

2.5.1 Law

Lately the law also plays a significant role in private e-mail usage and supports employers by allowing them to prohibit the use of it for private purposes at work, including tracking e-mails sent by their employees.

Most of the private e-mails issues were discussed from the employee rights to use it, and many have compared it to the rights of private phone calls at work on employer

expenses (Amongst such as the law in Massachusetts *Laws ch. 272*, Michigan *Laws §750.539c*, Nevad *§200.620*, South Carolina *§16-17-470*, and Washington State *§9.73.030*) in Rasch (2006). Those relationships are examined from the social, legal, and moral implications point of view, and types of employee monitoring. (The Belgian Data Protection Authority, Opinion no. 10/200 of 3 April 2000, Article 29 5401/01/EN/Final/WP 55, 2002, Rasch, 2006; Booth, 2009; Searcey, 2009; Whitaker , 2009).

According to a new study by the American Management Association, company Clearswift (2002) represented in Israel by the Renaissance and the Institute ePolic and AMA, (2006) 22 percent of the companies have terminated the work or fired an employee for an offense related to e-mail. Concerning the law aspect of private e-mail usage at work, Booth (2009) quotes Justice Barry Albin in "Stengart case" that was asked whether private web-based e-mail accounts are also subject to scrutiny, while using company system. His reference to that matter is that it should be subjected to employer review adding, "There is no public policy that compels employers to provide channels of private communications for employees." As a result, if there is no prohibition on the employment agreement, then you cannot assume that private use is prohibited. This is similar to the problem of private phone calls during working hours, which employers have the right to allow or prohibit, completely or partially. The law aspect was wildly discussed, but research on the private usage growing aspects of e-mail at work is still less available.

In this study, many respondents indicated that they were summoned by a court of law regarding this use of private e-mail. Most cases in which the employers store and review employee e-mail, ended with costly lawsuits for both sides and employee termination. In regards to law aspects, Ha-Redeye (2007) refer to unsuitable use of e-mail that may result internal bias and harassment claims by employees who are unwillingly exposed to offensive and inappropriate content. Although private e-mail usage at work is still not a subject that regularly reaches court, firing an employee might appear there as evidence as illegal-termination court case.

The author's view is that the private e-mail usage not only considered as inefficient and unproductive, but also destructive forms of computer abuse and sometimes considered as illegal because of its damages and stealing activities against the employer. The employers were checked from the law point of view because it can also

lead to a more extreme and dangerous effects of abasement, which suggests mental and physical injuries to employees and third parties. They might be harmed by them, and hence impose substantial costs and even losses on the organization due to legal prosecutions and market influences such as prestige loss or reputation damage. Similar offensive e-mails that were sent through organization e-mails could result in a form of a libel suit.

2.5.2 Ethics

E-mail ethics generally focus on the appropriate use of its resources. Some important developments seem to be confirming Górniak's hypothesis (1996) named the "**information ethics**" and the theory of Luciano Floridi known as the "Flourishing Ethics" theory. That led to the new combined ethics ideas by Floridi (2008). There are some critics of supervision interference in ethics issues, which believe that ethics over the employees should be largely left to individual responsibility and community policing. Thus using private e-mails at work evoked ethical problems, which do not mean that only the employees have to act ethically but also the employers who have to respect the employees' privacy. Some employers do not leave it to the employee's ethics or responsibility and add security staff unit to help both employers and employees work hand in hand with the law.

Concerning ethics and employers instructions, Fallows (2003) agrees that employees believed the worst violation of e-mail use was harassment for the employees as well as the company (over 90 percent), even if most of them were circulating by e-mail porno material in particular (over 85 percent). Others, 50 percent felt that personal use of company e-mail was an ethical violation. In spite of the results, all continued to use private e-mails at work. Unethical aspects were also raised by Lichtash (2004), which shows other ethical aspects that contribute to the reduce of productivity at work, such as e-mails amount, which prevent smooth working by being unable to find important items, and pressured to respond quickly to all the mails. Above that, he adds that also, many other unproductive activities can cause inefficiency, and in particular, liability risks such as unethical abuse. The lack of awareness among companies of the risks involved, not only that they lead to escalating productivity losses, they also may become e-crimes, which can expose them and might result in liability risks. These types of e-crimes can be seen in numerous activities, including waste of time resulting from many causes, attempts to pull out information such as intellectual property,

insult and offensive e-mails, and other online violation that seriously muddy the organization reputation (Jengchung et al., 2008).

An additional perspective was introduced by Axelsen (2008) who argued that employer could reduce the potential of using private e-mails by prohibiting employee from sharing information. He added that organizations should stress out that work e-mail could be used for work related purposes only. It is the employee's responsibility to ensure not to forward anything that is considered as private e-mail, and apply a common sense by separating work-related aspects from non-work-related aspects.

To summarize, according to the author's opinion, e-mail usages have also created new ethical problems for the employees and employers who relay on them.

Global networks make it nearly impossible to create consistent repercussions for preventing violating e-mail usage. Suitable ethic behavior must be implemented, so users are encouraged to take on the responsibility and the results from monitoring their e-mail actions. In Israel, users are able to report violations to an appropriate government agency, which then has the task of charging and prosecuting the perpetrators. The fear that many of these critics have is that creating mechanisms to enforce online ethics would be expensive and would restrict the flow of information between users.

2.5.3 Controlling and monitoring private web usage

Employee activity and email monitoring, guarantees employees productivity and company information security. Employee e-mail usage can cause real problems that are difficult to control. Due to lack of established measures and methodologies, the evaluation of emails interface with respect to their impact on task awareness is often limited to manual reports, based on subjective experience. Monitors are designed to protect business from e-mail abuse and misuse. Employers have a legitimate interest in keeping track of how their employees spend their work hours. Controlling or monitoring private e-mail usage in organization is executed with various technology control tools such as firewalls, content management software, log files (Backer, 2004; Rustad and Paulsson, 2005; Jengchung et al., 2008). Such controlling and monitoring technology is supported by human supervisor norms and human resource perspective, which views employees as valuable asset that should be nurtured and invested in.

Employers frequently use procedures to notify other employees of e-mail restrictions and monitoring policies, but usually, they not only explain the extent of the employer is monitoring policy, but also as consequence the employee should not expect privacy when using e-mail at work. Dubash (2008) reveals that IT professionals go through confidential areas such as private files and e-mails of employees using management authorization as an excuse.

Generally, courts have found such notices to be sufficient to meet employers' obligation to inform employees of the policies and the lack of privacy. In spite of the above, several court cases resulted in employer's favor i.e.: Bourke vs.Nissan; Smyth vs. Pillsbury, and Hoars vs. Epson. Blanchard and Henle (2008) discuss the employee aspects regarding colleagues and managers norms perceptions supporting cyberloafing, which, are linked to negligible cyberloafing but not related to solemn cyberloafing. This is a different attitude toward employees controlling norms, which was based on training discussed by Nantz and Drexel (1995). They argue that training and education within organizations, which tends to focus on the hardware and software issues, overlooking the essential communication skills is useless. Training can enhance understanding of e-mail usage in relation to positive and negative consequences. Blanchard and Henle (2008) results also indicate that controlling and monitoring are necessary when e-mail misused exist at work. In such cases, employees' controlling is needed when more workers have to confront with ambiguity, conflict, or to role overload, but when no supervision norms exist, inappropriate behavior can be related to both minor and serious misuse of which policy can control.

To date, Israel courts have not ruled on an employer's right to access the personal emails of an employee, and there is no legal requirement that service providers can provide e-mail account details to employers, who communicate with one another by sending and receiving e-mails.

In summary, the author opinion is that privacy law does not offer a black and white answer to the legal issues that are raised by e-mail monitoring practices. Instead, and like most other privacy law issues, the standard of "reasonableness" rules the day. These internet usage monitoring supports recording and monitoring all users,

computer activities at any time and any place, including confidential data such as private username and passwords, email receiving and sending, MSN/Skype and other applications. Companies perform this monitoring to improve productivity, increase security, reduce misconduct, and control liability risks.

2.6 E-mail Policy and Culture Understanding

2.6.1 E-mails policy

Managing effectively employees' e-mail, ensuring they are using it for business purposes only requires a balanced blend of technology, policy, and culture. Of these three components, the organizational culture is the most important. While technology solutions such as monitoring tools and policies are great deterrents to e-mail misuse, the important one is that employees will conform to the established organizational culture. In fact, it is organizational culture, which breeds the employees' attitudes, dictates how they behave at work, and instills in them a distinct work ethic. Law and ethics show that the least control over the abuse activities of employees can entail to waste and loss of working hours, which reduce productivity and efficiency. As a result, organizations are increasingly recognizing the need to put into effect the privacy policies of e-mail usage in order to diminish time waste consequential from web abuse.

Policy analysis researchers have been investigating mechanisms of enforcement of information technology rules and policy so managers and employees will handle this tool appropriately. Anderson (1996, 2000) proposed a model for security policy, which describes how policy can be used internally by organizations to put into effect their web privacy policies. Later he updated his research and reported that it was successfully implemented in three hospitals. Segalla (2005) referred to the employees' dysfunctional behavior or attitudes checking and using e-mail. The two most interesting stimuli findings were that the employees are not aware to an urgent e-mail waiting for action in the inbox, or to the overload of unnecessary e-mails waiting in the inbox. These feelings ranged from annoyance due to conflict between misinterpretations or poor structured of e-mails, to blame one self for not having replied to them.

The need for policy was shown by Sternman (2000) who conducted a research in two organizations: firm **A** allowed all its employees to use all web opportunities, including

e-mails; firm **B** allowed a limited number of employees to use the web opportunities with certain restrictions. The findings proved that employees in firm A used the web less for private purposes, since they felt they could send e-mails whenever they wanted, as well as talk more freely to their friends about topics that were not connected to work. They allocated about 15 minutes a day to these activities, which was explained by a feeling among these employees that they would be wasting their work time, and their efficiency would be affected if they exceeded this private surfing time. By contrast, employees in firm B have used it for more than 20 minutes a day, at the expense of their work, and said that they did this stealthily since they knew they were being tracked.

Oluleye and Olajire (2001) found in their research that employees of companies, who received instructions regarding the use of the web tools, prior to starting using it, were able to exploit the advantages of it more efficiently, and their output rose. Unlike employees, who received no instructions and were not aware of all the advantages of efficient exploitation that it can provide.

Jengchung et al. (2008) findings apply to the employers who should pay special attention to employee's personality factors such as locus of control and policy. Thus, adjusting clear work procedures and policy can play significant role in establishing an accurate and clear working environment and a supportive work atmosphere, which will assist in minimizing negative results. Failure to improve the awareness of use policy and procedures and its outcomes, and ignoring the benefit of monitoring systems, may lead to misuse.

2.6.2 Alternative tool for policy

Not all organizations have adopted policy in regards to e-mail usage or elimination. In this regard, some approaches focus on a narrow and specific policy to allow individuals to dictate how their information is used, while many others focus on the enforcement of privacy policies created by the organization management (Bohrer, et al., 2003). For employees, it is imperative to understand that employers on private sector can prohibit an employee from sharing information considered private, proprietary, confidential, or intellectual property in any web-base communication tool such e-mail, according to state laws governing regulation of off-the-job conduct (Wilson, 2006).

Today, management is confronting one of the main challenges of managements, which are cyberloafing and the abuse of e-mail tools at work. This problem not only affects operation management, but it also affects the strategic dimensions in organizations. It can affect mainly supply chain design by entails wasted work hours, slow network speed and productivity loss that leads to overpaid wages, legal liabilities, lawsuits and loss of goodwill (Zelikovich 2007).

Later, Wilkins (2008) suggested that organizations must develop and implement e-mails communication methods that will provide and use the appropriate technology solutions. This is in order to gain control of the e-mails complexity and to be prepared for the possibility of discussion and e-mail behavior. He added that it is important to remember that such technologies can be useful as part of an initiative that includes e-mail management. They are useful only if they are used as extra tools, and will not be effective, unless there is a managed program that is along with an overall management strategy of e-mail information. That led employers to establish utilization of monitoring systems for controlling employees' actions, which eventually creates many privacy violation and complications (Jengchung et al., 2008). While arguments used by the Supreme Court having upholding electronic media regulations are not applicable mainly in the context of the Internet, Rohrma`nn (2004) offers a strict law for system regulation that can be functional to regulate cyberspace, even with the inborn technical characteristics. A survey that checked the manager's usage of such systems at work, has discovered that although the employees agree with the management monitoring of e-mail activities, the expected results for reducing the e-mail usage are negative (Siau, Nah, Teng, 2002). This provokes the importance of privacy aspects caused by the use of monitoring systems, and Muhi (2003) points out that the use of the Internet is common in organizations, which find that the availability of needed immediate information makes an enormous contribution. He adds that this helps the employees to perform their tasks with greater efficiency and rapidity because written communications are handled almost exclusively by e-mail, which also help with short breaks for the employees during a long working day. Another point of view was introduced by Hair, Ramsay and Renaud (2006**)** who found that personality factors such as locus of high perception, control and self-esteem significantly increases employees' addictions, which significantly impacts employees' e-mail abuse at work. This has led to a growing number of companies that are using policy to deter

and prevent e-mail abuse. To emphasis its importance, management is using written policy, which is a kind of an agreement for employees to comply with the rule of not engaging with internet abuse activities (Young and Case, 2004).

Some employers have already begun to implement e-mail policies, and even codes to protect trade secrets and other proprietary information. Wilson (2006) and Garrett and Danziger (2008), emphasize the employers need to be clear and upfront about their policies related to private e-mails and blogs, and the rights of their employees. However, Jengchung et al. (2008) have indicated that implementation of these policies does not guarantee the defeat of e-mail misused or addiction.

The author point of view is that employees are accountable for their use of e-mail communications just as they are for other conduct and communications at work. They often consider e-mail informal, and may use it for private purposes, including comments that could come back to haunt the company. An employee might not think twice about sending a dirty joke or using inappropriate language that may offend another employee. The privacy policy is directed to handle e-mails and covers what e-mailing lists we maintain, and what e-mailing options are available, as well as how managers can spread the given policy, and employees can update or change their preferences and performance according it.

It is tempting for any organization to develop a web policy that claims, "our way is the only way," and demand that all other organizations and its employees fall in line or else. However, this approach is not likely to induce much enthusiastic compliance and cultural differences, also need to be recognized and discovered.

2.6.3 Organization culture

There has been a great deal of literature generated over the past decade about the concept of organizational culture, mainly in regards to learning how to change it. Organizational culture is the personality of the organization, and is one of the terms that are difficult to express distinctly, but everyone knows when he or she sense it. Culture can be looked at as a system with feedback from, society, professions, laws, stories, heroes, values of working behavior, policy adoptions, service, etc. The organizational culture is comprised of the assumptions, values, norms and tangible signs (artifacts) of organization members and their behaviors (McNamara 2000).

While this definition gives a simple explanation, Schein (2004) points towards elements of collective learning and teaching a pattern of shared basic assumptions that the group learned, as it solved its external and internal integration problems adaptation, which has worked well enough to be considered valid and, therefore, should be taught when new pattern rises. Both described assumption as a key trait of culture, and in the context of e-mail usage at work, culture may changed along with new procedures. Those should be learnt and obeyed, and become a practice, which is then taken for granted, and become assimilated in the organization's culture.

As already stated, effective management requires a balanced blend of technology, policy, and culture, of which the organizational culture is the most important. In particular improper email use, organization's culture creates considerable liability for both employers and employees such as lawsuits, lost productivity, and other business potential problems. Thus, understanding organization's culture can help as it confronts a changing future, and managers predict how their organization is likely to respond to different situations and assess difficulties that the organization might experience (Christensen and Kristin 2006). They also added that organizational culture affects and regulates the way members of the organization behave feel think and act within the framework and the external organization's policy. To decrease liability, employers must develop an organizational culture that supports responsible e-mail handling. Building a positive organizational culture helps creating a responsible e-mail usage. When the organizational culture is positive, employees are naturally more productive and less apt to waste their time, while a negative organizational culture makes the employees feel as if they are being treated poorly, mismanaged, which leads to disloyalty. As a result, they see no harm in using their e-mails at work in connection to personal usage (Frank, Barrett, Keith and Snider, 2001).

Trim and Tanudjaja (2001) referred to the cultural dimensions which are critical to organization culture and are important aspects of the overall assumptions, values, norms, goodwill and tangible signs assigned to organization employees, management and their behavior. Establishment of organization culture is truly necessary when auxiliary technologies such as e-mail, allow and help to point out faster communication with different customers or potential customers. They agree that this should include employee involvement in developing an email communication policy to all employees, and an understanding by employees of potential liability for abuse of

the policy. Christensen and Kristin (2006) argued that e-mail have improved communication between employees, helped expand the communication ability and established new way in business. While at the same time, this technology has provided great benefits to employers, this is critical in gaining employee's trust, the company's culture and employees' commitment to the company policy.

A stepwise method for a culture approach in organization was developed in the research of Arnesen and Weis (2007) who pointed out the required organizational steps for the development of effective Internet and e-mail policy of employees. There is a need to explain possible liability of employee and employer, and examine the need for responsible employees using Internet and e-mail. Beside that, a change is required, of not only structures and processes, but of organization culture in order to increase the dynamic elements towards desired company policy. Migdadi (2009) drove to not only change an organization's culture by changing its ability to learn, share information and establish culture, but it is essential for organizational culture, which is shaping the face of the organization, to create efficient knowledge and exchange information. This can be done by understanding the linkages between these knowledge attributes and employees' personality and behavior.

In summary, the author's view is that the growing complexity of personal computing environments led to the problem of how to support multi-tasks and handle interruptions at the user interface level. That was upsurge, while organization culture and policy did not catch up along with the galloping technologies.The perceived role of e-mail policy and regulation streams from organization's everyday culture, with significant implications for the implementation, efficiency and future of e-mail policy. In order to reach effectiveness, policy has to fit within the corporate culture and goals, while clearly transferring it is rational in a manner that makes sense to the employees. This leads to different attitudes and behaviors among organizations. In regards to the Israeli's culture, what Israelis perceive as restrictive, might be viewed very different other cultures. In that view when organizations consider the ways e-mail usage should be handled, they ought to remember that there are different ways of doing it, taking into consideration the different cultures involved in the organization. After the policy has been assimilated, it cannot actually be useful until it has been communicated to employees. When attempting to change an organization's culture,

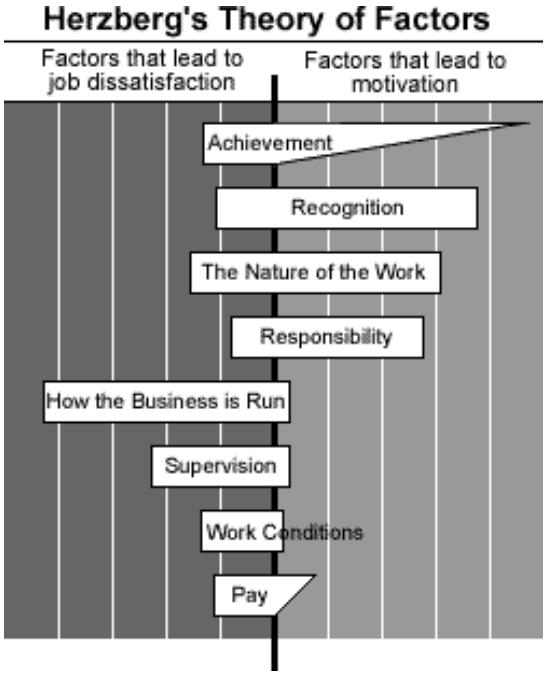
the fundamental unit of starting point, is the task, not the process or culture, because processes, priorities and culture are a response to recurring tasks.

2.6.4 Satisfaction at work

Employee satisfaction has become a major organizational objective, and many researches were written about job satisfaction factors at work, but still there is no universal definition of **job satisfaction**. Organization is a coordinated group of people, who function to achieve a particular goal. Hence, employees have to be motivated in order to perform their job efficiently, to improve their performances and fulfill organization's goals.

Herzberg's (1968) theory defined employee satisfaction as two dimension factors: "hygiene" and "motivation". **Hygiene** issues, such as salary and supervision, increase employees' dissatisfaction in work environment. **Motivators**, such as recognition and achievement, make workers more productive, creative and committed. Incentive motivates employees in the workplace to work resulting in job satisfaction, and the '**motivators**' increase employee job satisfaction, which further increases their efficiency. **Table 2.2** shows the factors that prevent job dissatisfaction.

Table 2.2 factors that prevented job dissatisfaction



Source:www.docstoc.com/docs/10576970/Herzbergs-Two-Factor-Theory

However, a different attitude was presented by Liccione (2007) who said that although Herzberg (1968) asserted that external factors such as compensation only have the effect of preventing individuals from becoming dissatisfied with their jobs, compensation as a primary motivator therefore represents only a marginal strategy for increasing job satisfaction.

Later, more personal characteristics indicators referring to employee's job satisfaction definition were discussed, and exposed both socio-demographic and challenge at work. Such as socio, race and ethnic differences in perceptions Friday et al. (2004); business size Davis (2004); workplace characteristics and disability Uppal (2005); managerial along with leadership style and working conditions (Rad and Yarmohammadian, 2006; Bockerman and Ilmakunnas, 2006).

Newstrom and Davis (2006) suggest that job satisfaction definition can be a multi dimensional concept, which includes a series of encouraging or depressing emotions, perceived in terms of which employees associate them with their jobs. Bowen and Cattell (2008) had added that such definition could be gathered into two main categories: the employee personal characteristics and job characteristics. Another job satisfaction definition observed also by Garcia-Bernal et al. (2005), which concluded that job satisfaction can be determined by four multi-dimensional factors in terms of how employees perceive their jobs: “economic aspects”, “interpersonal relations”, “working conditions”, and “personal fulfillment”.

Thus, attempts at defining “satisfaction” recognize that satisfaction is the “final state of a psychological process” (Garcia-Bernal et al., 2005). Bowen, Cattell, (2008) also agree that relationship between job satisfaction and demographic factors are significantly linked with job satisfaction along with the nature of satisfaction indicators, which are presented in the form of Herzberg (1968)'s motivation theory. Among the characteristics are the opportunity to take responsibility, challenging work and work that do not repeats itself, the degree of supervision, participation in decision-making, social interaction and opportunity for interaction at work, were significantly associated with satisfaction at work.

Interestingly, new approach was presented by Garrett and Danziger (2008) in whom they argue that the lack of job satisfaction, factors have no significant contribution to any increase on web surfing or personal e-mail usage. However, factors are expected

to shape the outcome of personal use, such as general positive perception of the web usage, routine computer-base activities, commitment to work, and restrictions policy. They are considered as strong satisfaction predictors.

Conversely, Garrett and Danziger (2008) found that about 4/5 of those workers do engage in personal Internet usage at work which are not resulting mainly from disaffection factors.

During the period of writing this thesis, the researcher did not encounter any researches referring to the relation between job satisfaction and e-mail usage.

In summary, the author thinks that e-mail usage increased the number of tasks that employees perform, and as consequence, control over those tasks. It is associated with the design of jobs and is an extension of job enlargement. That wonderful communication working too, has changed job definition, enriched organizational development and behavior, mainly improving work processes, so they are more satisfying for employees. High levels of performance and satisfaction should result from a match between the growing needs of an individual and the motivating characteristics of the job being performed. A work challenge is one of the satisfaction factors that repeated it in most researches. Employees may fill less satisfied in their position due to lack of challenge, repetitive procedures, or an over-controlled authority structure. When employees are bored, unmotivated, unchallenged, or unappreciated, they are more likely to use their private e-mails to eliminate their boredom, which indicates they are less satisfied with their jobs.

Satisfied employees tend to be productive, who positively affect productivity, and dissatisfaction among employees negatively affects company bottom line.

2.7 Network

2.7.1 The address-book effect

Many employees tend to be more conservative when deciding whether to send an e-mail copy or not, which results from the concern that e-mails might end up being important to the user in the future. There is more than one list in each employee address books at work and at home. As a result, email addresses in the "address

books" are increasing with the increase of friends, added to the ones existing in the organization. Sometimes one employee has more than one address, which might be at work and at home and more options. To avoid misunderstanding or confusion, most of the time an e-mail is sent to all recipients' e-mail addresses. Usually it is used for storing personal names and addresses, sending reminders, asking for assistance, scheduling appointments, and for handling technical support requirements. But many employees are finding themselves overwhelmed by the sheer quantity of mail received, as well as the amount of limited or zero-value e-mail, unnecessary CC's, and waste of time on personal messages. That network was describe by Latour (2005); Wickramasinghe, Bali, and Tatnall (2007) who tried to explain how networks come together to act coherently as a whole in the organization, and how it might look at open strategies for relating different aspects as one into a network, so that they shape an entirely coherent appearance. Network is a great tool for communication, but is not in essence coherent, and might in fact contain conflicts and inefficiency at work as well as poor work relations, or computer mismatch.

Tang, Mu, and MacLachlan (2008) argue that most researches have explored the process of networking from the micro-level perspective, while less attention has been paid to the macro-level dynamic behavior, patterns of network size (meaning the address-books size) and its influences. They found that size of organization network leads to bigger number of the neighbor traffic circle in an organization, and the larger the network in the organization is, the higher the proportion of traffic will be circled.

This effectiveness is supported by recognition of the importance of human network interactions, with the use of ICT expert system implementation process. This ICT expert system importance is also mentioned by Gorry (2009) who emphasizes that human interactions in network contribute to effectiveness, and therefore organizations see the ultimate goal as the need to exploit technology in new network systems of knowledge management. Both Gorry (2009) and Feng, et al. (2009) agree that management should be aware that expanded technology for increasing network e-mails circulation never grants its reward and it demands a cost when it strengthens employees's abilities.

2.7.2 Net- mail connections

An individual's e-mail address book is a factor that increases internal network. As a result, individual productivity is higher when the social network of involvement is larger, that is when more information flows through each person and his colleagues. This area, which should investigate the network quantity of connections was hardly explored or investigated. Gandal (2005) results show that the greater the number of employees who are using e-mails, the greater the concern of the organization regarding its effect on productivity resulting from the net size traffic circle. In his rare and unique research, he marks an individual internal network as one of the most important factors in generating revenues According to this view, a frequent e-mail usage to large group of recipients listed in the network, might have an inhibiting effect that acts to reduce organizational efficiency. Gandal (2005) concluded that the outcome of the network size that was measured through unique contacts within the firm is an imperative factor in information flow affecting and explaining revenues increase.

These results are correlated with one of the first researches by Nahapiet and Ghoshal (1998) who previously claimed that e-mails are better in relationship-building as network, and organizations would value it more as employees across the company would use it, but maintain the same norms and values in that aspect. The main point is that networks connections embedded in organizational structures, and they are used by employees to collect information and skills from others (Iacobucci, 2007). According them, this is due to the fact, that employees are seeking for encouragement for backing their decision making and a daily work process, in order to improve their relational context with collogues, or to smooth their work handling. Moreover, they use networks to find more information or to identify who has it to improve their information and skills.

In summary, the author opinion is that network and large e-mail address-book was designed to facilitate life. Now, with multiple services interconnecting an individual e-mail address book is a factor that increases internal and external networks. As a result, individual productivity depends on the employee's behavior usage of information "send and receive", and the number of "copies" which also result from

"duplications" to each e-mail. In case they circulate huge quantity of e-mails, which do not contribute to the company's revenue, the company may face higher costs, less revenues and other technological infrastructure expenses.

2.8 Relations between Policy Existence and Productivity

2.8.1 Switch-tasking and productivity

Articles regarding relations between policy existence and productivity are hard to find. Productivity in terms of costs or waste of time was mainly measured and referred to the switch from one task to another for all types of tasks. Organizations are mainly focusing on process improvements that are used to communicate with the entire operations via e-mails and other applications, for better productivity. This attitude results in increasing in access time, allowing the employees new options for improving their productivity (Goldenberg and Bajarin, 2007), and e-mail might be multi-tasking tool with unwanted disturbance if it interrupts the flow of important work, which reduces productivity (Jackson Dawson and Wilson, 2001). Evans, Rubinstein and Meyer (2001) show that switch tasking has hidden costs, which reduce productivity and even adversely affects the brain. It occurs mainly because of repeated patterns for time lost when two tasks of varying complexity and familiarity are switched repeatedly. Similar results were measured recently, which concluded that task changes in which e-mails may be involved, lead to a performance switch cost (Vandierendonck, Christiaen and Liefooghe (2008) adding that multitasking may seem more efficient on the surface, but may be actually more costly for the long run and causes reduction in productivity that minimizes employees efficiency. Later, Liefooghe et al. (2009) pointed that when the amount of preparation time is increased in task switching, a reduction in switch cost effect is exponential.

Productivity and efficiency were argued that from not only the cost and benefit economic point of view, but also the existence of clear policy effects in expected and well-known tasks. This aspect leads to management of responsibility for productivity that extends previously reported training effects in task switches (Koch and Allport, 2006). In addition, management responsibility can be more closely monitored in working memory, which probably resulting formation of an explicit sequence representation (Koch and Hoffmann, 2000; Koch and Allport, 2006; Schneider and Logan, 2006).

In regards to task switching, the absence of training with specific orders affects in task switches and might actively inhibit the previous task. A clear and well formulate training and policy will facilitate the effects in task switches whenever task is predictable (Koch and Allport 2006). Cagley (2009) supports the costly elements, which policy produces but he performance switch cost conversely refers to the negative aspect of over policy context existence such as CMMI (Capability Maturity Model Integration), which can be used as policy guide for effective processes that ultimately improve their performance.

In summary, the author point of view is that major aspects that reduce productivity are those who are related to task complexity, task switching such as reading e-mail in the middle of another flow task, which takes significantly longer because of the multitasking type of working, and caused time costs increased.

2.8.2 Organization learning and training

Training is often conducted to familiarize new employees with the roles and responsibilities of their positions as well as company policies. Spending time on the continuing training opportunities for employees is an important way to keep the organization business running smoothly and effectively. In every company, Human Resources (HR) training for employee-related and legally related topics is mandatory and employee-training methods are identified as risks damage reduction factors to the reputation of the organization (Clardy, 2005). Much was investigated about the organization learning from an organization perspective, rather than from the individual level, which is the basic level of a learning organization (Lee and Roth, 2007; Small and Irvine, 2006; Thomas and Allen, 2006).

Most researches have focused on learning outcomes from formal training, allowing visibility and portability of such long-term outcomes. Formal learning is always organized and structured, and has learning objectives in terms of learning outcomes. It is unlike the informal learning, which is never organized, nor has set objective, and is never intentional from the learner's standpoint. Often, it is referred to as learning by experience or just as own experience. Although 80 percent of workplace learning occurs through informal means, only 20 percent of organizational investment in learning focuses on informal learning. Formal and informal learning methods are

usually compared to each other by different methods (Cross, 2007). Informal learning is presented sometimes as any learning that takes place outside defined study place and usually is followed by the formal or trained learning (Hodkinson et al., 2003; Kremer, 2005; Reardon, 2004; Livingstone, 2001; Slater, 2004). Informal learning is viewed by some as any learning that takes place outside of a classroom settings, and can be unintentionally and merged into daily activity (Hodkinson et al., 2003); while it can also be repeated pattern and can be viewed also as intentional behavior (Simpson, 2006).

The advantage of the intermediate concept lies in the fact that training may occur at the initiative of the individual but also happens as a by-product of more organized activities. Thus, efficiency training at work place in regards to e-mails handling will help reduce e-mail interruptions during daily tasks process (Jackson, Dawson, and Wilson, 2003). The e-mail defects reduction resulting from the effectiveness of formal training for all employees, will allow more effective and efficient use of e-mail (Jackson, Dawson and Wilson, 2003; Burgess et al., 2004).

The author point of view is that organizations need to equip its employees to handle their employee relations and responsibilities competently, such e-mails skills that are becoming a necessity for conducting administrative and office tasks. The problem is that today, many organizations assume that the e-mail usage should be informal learning. Employees should know how to use e-mail to be confidently, grammatically correct, clear, and short enough.

2.9 Demographics Parameters

Demographic traits variables such as level of education, age, gender, and usage behavior characteristics were tested independently in most researches. According to the author widespread investigation in HR literature about use of Internet and e-mail services (see below), these parameters seemed to be un-avoidable. Thus they need more explanation, clarification and commenting – that's coming below.

The author had found that demographic parameters were discussed a lot in literature with diverse results. After revised it, only limited researches were added as written below.

2.9.1 Age

Age is a demographic factor, which is associated with levels of e-mail access that have changed and shifted over time with different averages. Eastman and Iyer (2005) and DeBell and Chapman (2006) discuss the rapid growth use of the web by adults, which has to be analyzed from a different definition on which, older adults should be defined by their cognitive age and not according to their chronological age. Stevens (2008) argued that older people usually process unnecessary information compared to younger individuals, and so information overload is more likely to occur among them. However, Kim et al. (2007) concluded that there is no significant relationship between age and perceptions of information overload. Advanced researches results emphasize age as a potential negative outcome identified regarding web tools usage, mainly from socio-physical component aspect (Castiglione, 2008; Alterovitz and Mendelsohn, 2009; Buse, 2009; Charness and Boot, 2009; Chu and Tsai, 2009; Firth, and Mellor, 2009).

2.9.2 Gender

Gender is a constantly nearby category, which is the first distinction between social gender differences, and suggests a change of the pattern of web use of males and females over time. Gender in relation to web usage was mainly examined from communication differences point of view and revealed that men and women are mostly similar, and gender differences are few and relatively diminutive that could be neglected (Dindia, 2006; Nicholas, 2008).

Additional findings show that women prefer to use private e-mails rather than public discussion, and Fallows (2005) said that men and women communicate online in different ways, about different things, because they value their online communication in different ways. Gender differences in communication and relationship styles were found in many researches. Base on those results, a further research conducted by Garrett and Frohlich (2001) and (Zhang 2005) referred to gender differences in e-mail usage, and explored the types of relationships women and men uphold by e-mail, and

differences in their e-mail messages contents they send. On the other hand, Wong Su Luan, Ng Siew Fung and Hanafi Atan (2008) found no gender differences engaged to accessing amount of time in terms of communication functionalities, and e-mail usage was preferred by both genders followed by a much smaller degree for socializing and leisure.

2.9.3 Education level, organization type, subordinates and position

There are almost no articles engaged with demographic parameters such as education, status at work, organization type, subordinates and position. The few researchers, who referred to those factors, mainly socio-economic parameters, tried to explain the web usage and behavior such as socio-economic status. (Fox 2005 ; Lorence et al, 2006 ; Andreassen et al, 2007 ; Wangberg et al, 2008 ; Anduiza et al, 2008).

As for **type** and **size** of organizations, research findings are mainly from the innovation point of view, its implementation as technological web information resources working tools. In relation to that, Heskett (2009) suggests that organization size must play a significant role in the mix of phenomenon that includes innovation management breakdown. This supports Olson and Bever (2008) research, whose additional findings engaged with large companies, which the enormous majority of stalls are through result of strategic choices made by corporate leaders.

However, subordinates and position differences, regardless of differences in organization size were not found. Mayo-Smit (2007) findings show that almost everyone working with e-mail in most organizations, from the CEO to personal assistants, and managers to the last employee leads to information overload and increasing stressed. Ranking position, education and job description usually combined with status at work and employee's supervising, which might be a guideline to e-mail usage that makes them work inefficiently, and restrict productivity (Simmers and Anandarajan, 2003). They also argue that organizational position is an important aspect influencing judgment on the appropriateness of personal Internet usage. Another aspect related to strong social influence at work engaged to personal Internet usage. Evans and Wright (2008) argue that managers are increasingly facing the burden of e-mail overload, which pointed out not only the time taken to read them, but also the respond compulsion actions. Thus, top position in the organization and

managers are wasting time and distract from more priority and much important top ranked activities.

In summary, the author did not find specific researches that have examined correlation between demographic traits variables and e-mail usage, in spite of the fact that there are a lot, which have findings regarding Internet usage. The demographic traits variables are perhaps the most difficult to evaluate as opposed to economic ones, since they depend largely on value judgments.

When the same e-mails are sent almost automatically by employees to large groups, regardless of their position rank at work, without initially considering its necessity or importance to be or not be sent, that tool is loosing its communication effectiveness and problems start to occur.

To sum up, description and detailed breakdown such as **socio-demographic** parameters was introduced by variety of researchers as detailed in the following table 2.3:

Table 2.3: More of the socio-demographic parameters

Researcher	**Demographic parameter**
Black and Holden, (1996)	education level
Clark, (1996)	health parameters, marital status, number of children, and education level
Koustelios, (2001); Moyes et al., (2006)	age and gender
Evans and Wright (2008)	psychological well-being

Significant differences in web tools results were found among different education levels, employees' gender and age groups along with different efficacy because of using it. However, many researches resulted with contradictory findings in each of the demographic traits variables, which categorized those traits as weak predictors. In spite of that fact, the author opinion is that a short social demographic background should be mentioned.

Overviewing these set of literature sources, the author felt convinced absolutely that these parameters have to be included into the model construction.

2.10 Rational: Critique of the Literature and Identification of Research Gaps

The e-mail as technological tool, formed foundation for organization internal and external communication, which presently serves as daily device in almost every organization large small or undersized. Literature and researches in relation to web-based tools deal mainly with the change generated in the global trend regarding the Internet engagement and much less with e-mail usage in general at work. In particular, those frequent changes in the rigorous, aggressive and competitive environment facilitate adoption by organizations of those technologies, with the intention of making work processes more proficient and efficient. If adoption is implemented for internal and external organizational communication, it would be possible to preserve high competitive status and even accomplish stable competitive advantages, in order to increase efficiency and carry on, and be a leader in the forceful environment.

Apparently, the wider the use of e-mails at work, one should expect higher efficacy resulting from the improvement of the communication and processes in the organization. Those researchers that focus on the positive aspect of using e-mails at work did not reflect on the negative aspect accompanying it. Discussion of that theme brings up much quandary regarding the question: how do companies manage themselves in view of the frequent and increased use of e-mails at the workplaces? Are they aware or insensible to the negative aspects and obstructions? Moreover, the major issues are companies attentive and responsive to the many negative impacts and the tremendous costs increasing consequently from the various factors that are affected by the use of e-mails at work. These points were researched in regards to the business problem of the global internet market in general, and the Israeli market in particular. It should be indicated that the Israeli users are considered as the leading in the world in use of internet and e-mails. A research made by Israel Internet Usage and Population Statistics - Updated September 30, 2009 indicated more than 70 monthly hours at home, yet, no indication was found regarding the amount of inbox numbers.

Undoubtedly, the literature review demonstrates relations mainly to the **positive** aspects of web-based tools, and how it became an integral part of routine lives, by providing an efficient form of communication, and enabling knowledge and

information sharing and business related interactions regarding the average office time spent on.

As for the negative aspects, there are almost no studies that address these issues, and demonstrate how web based tools usage including e-mails are affecting organization and employee work efficiency.

There are diverse references regarding integrated approaches, which do reflect both **integrated positive and negative** aspects, but they mainly refer to the impact of technology on the business or the level of skills, and how it helps employees to simplify their.

Many researches referred to the **unethical** aspects of e-mail usage, mainly from the **cyberloafing** aspect and awareness to risks involved regarding **law** aspects such as attempts to pull out information that is considered intellectual property, insult and offensive e-mails, and other online violation that seriously muddy the organization reputation.

In literature, no relations were found between **policy**, organizational **culture** and e-mail usage, in which organization was trying to minimize risks by creating policy and culture atmosphere.

Additional literature discussed the organizational **culture,** which is truly necessary for organization processes and for defining organizational culture influences and the ability of organization to learn and transfer knowledge

In literature, **satisfaction** at work was wildly discussed from almost all possible aspects of job satisfaction factors, but still there is no one universal definition.

No relations were found for the negative aspect of the **network** as knowledge transfer tool. Researchers, who reviewed it from the positive aspect of relations establishment, deal with the growing challenges of technological knowledge. Weizhe et al 2009 suggest that expert systems, which their effectiveness and success were in debate, are playing a significant role from a knowledge transfer perspective in the network. It results mainly when uses Information and Communication Technologies (ICT). This effectiveness is supported by recognition of the importance of human interactions in network with the use of Expert system's implementation process. This ICT importance is also mentioned by Gorry (2009) who emphasis that human interactions in network contribute to effectiveness and therefore organizations see the ultimate

goal the need to exploit technology in new knowledge management network systems. Both Gorry (2009) and Feng, et al (2009) agree that management should recognize that new technology never grants its reward freely and it demands a cost when it strengthens our abilities.

Undoubtedly, most articles engage with **demographic** parameters, which hold meaningful value components of e-mail usage, although they have changed over time and hold conversely effects, among them age, gender education level, organization type, subordinates, and position at work.

Differently from most of the current researches handling the positive side of using e-mails at work in this research is examining the loss of work hours resulting from the use of e-mails during work hours for personal purposes and needs. Furthermore, the business e-mails that are being sent almost automatically contain many addresses and variety of different substance. Not much research investigated, explored or examined e-mail usage as an unproductive means of communication that might decrease organization efficiency, productivity and capability.

In literature, no relations were found between private e-mails, working e-mails and the ineffectiveness of e-mails at work. Conversely, there are certainly other relations concerning private e-mail and its contribution to ineffectiveness, but there is no integrated model that evaluates the totality of these impacts simultaneously.

It seems that along with wider use of e-mails at work, one should expect higher efficacy resulting from the improvement of communications and business processes in and across organizations. However, this "positive" point of view has led most researchers to ignore negative aspects associated with using e-mails at work.

Questioning these "negative" aspects might lead to question the fundamentals of organizational Information Technology perceptions such as how companies conduct behavior in view of frequent and increasing use of e-mails at work is. Are companies aware of intrusions and obstructions caused by this conduct behavior? Mainly, are companies attentive and responsive to the many negative impacts and consequently tremendously increasing costs related to the ways e-mails are used at work?

The most universally productivity measurement is used through the measure of work productivity, is measured by calculating the ratio of between output to some measure of and input, and done by means of employment or hours task involvement.

Conversely As opposite to previous studies to previous work, this research adopts a different perspective trying to examine how loss of work many hours can result from their lost because of (mis)use of e-mails during work hours for personal purposes and needs.

In addition, while previous studies have shown that e-mail usage for private purposes can be related to aspects of ineffectiveness, this is in fact a first attempt to inclusively model the mutual influence of private e-mails at work and work related e-mails on employees' ineffectiveness and organizational efficiency.

From rational to the research model

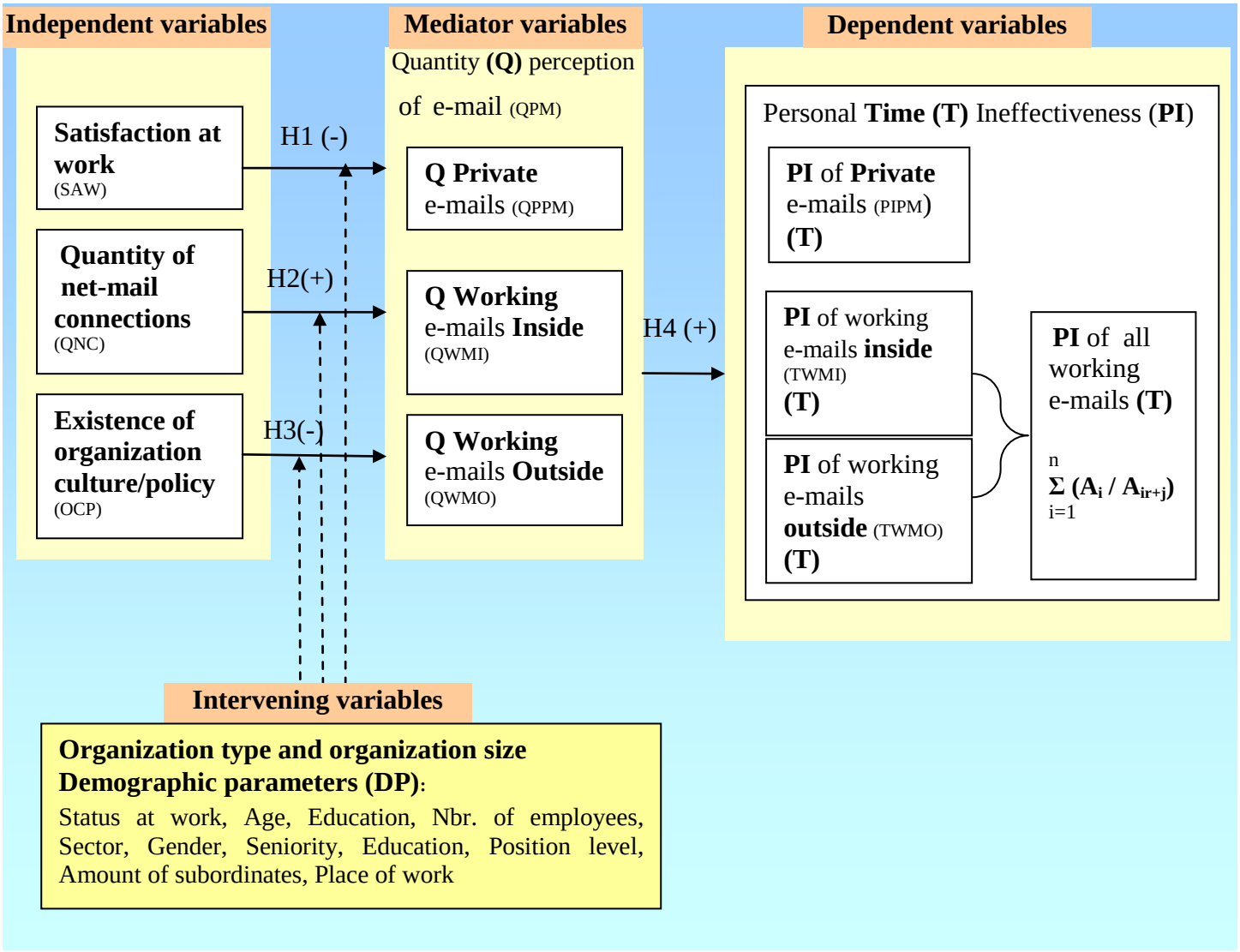
At the beginning, the researcher was interested in investigating the current situation, which has demonstrated that the organizational main attention was on encouraging use of mails as positive business tool, which facilitate processes and shorten times in the organization. Following the literature review, the researcher decided to check what are the parameters that might affect the **Personal Time Ineffectiveness** - PI (dependent variable). For that purpose a model was structured, based on the following parameters:

1. Employee **satisfaction**, which aims at checking whether low satisfaction will elevate the amount of wasted time due to use of private e-mails, and will eventually lead to inefficiency (H1).
2. Since the **quantity net-mail** connections existing in the address book of each employee, at home as well as at work, it is highly probable that a person will send more e-mails that are private to his friends. Therefore, the researcher decided to enter this parameter for checking the relation between the amount of private mails and waste of time and efficiency (H2).
3. According to literature, it seems that a strong **organizational culture** exists, which guarantees high effectiveness and business success, providing it is encouraging the existence of **policy** and work regulations, which direct towards work patterns with adoption of external environment. In this research, the researcher will investigate if organized work patterns exists ensuring efficient and correct work with e-mails in carried out by employees. Whether he is aware to its existence and follow up instructions of not sending private e-mails during work hours for example (H3).

4. In total, the perceived amount of e-mails will be translated to depended variable, **personal time ineffectiveness** (PI), through a calculated index as explained in chapter 4: Data Classification, which will examine the final assumption (H4).
5. All four above assumptions (H1-H4) will be checked in relation to quantity e-mail **perception** in three different aspects:
    - Quantity perception of Private E-mails - i.e., to what level these factors will affect the private e-mail amount, which is controlled mainly by employee and less by the organization.
    - Quantity perception of Working E-mails Inside the organization – i.e., to what level these factors will affect the private e-mail amount, which is controlled by employee and/or organization.
    - Quantity perception of Working E-mails Outside the organization – i.e., to what level these factors will affect the private e-mail amount, which is not controlled by employee and/or organization.
6. When checking the waste of time (PI), the Action Types taken for T-time Period- $A_{ir,j}$ that were done on e-mails, when "Action type" of e-mail ($A_{ir,j}$) are types of action patterns . The first one is “delay/ignore” marked by "ir" index and "j" for “immediate reaction”.

The definitions of the variables are detailed in chapter 4: **Data Classification.**

2.11 Research Model[1]



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[1] **Q**= Quantity; **T**= Time spent perception**;**

PI= Personal time ineffectiveness

$\mathbf{A_{ir,j}}$ = Action type taken for time (**T**) period: "delay/ignorance" marked by "**ir**" Index/category and "**j**" marked for "immediate reaction".

$\mathbf{A_i / A_{ir+j}}$ = The ratio between $\mathbf{A_i}$ and $\mathbf{A_{ir+j}}$ expresses the ratio of wasted **time** in each one of the categories

2.12 Variables and Symbols

Current research is a quantitative study, designed to examine the relationships between independent and dependent variables.

2.12.1 Independent variables

Satisfaction at Work (SAW)

Quantity net- mail connections in e-mail address book (QNC)

Existence of organization culture/policy (OCP)

2.12.2 Mediator variables

Quantity perception of e- mail – sent/received (QPM) as follow:

Quantity of private e-mails sent/received (QPPM)

Quantity of working e-mails – sent/received Inside the organization (QWMI)

Quantity of working e-mails – sent/received Outside the organization (QWMO)

2.12.3 Intervening variables

Organization type (sector) and size (number of employees):

Demographic parameters (DP): Status at work, Age, Education, Gender Seniority, Present task and number of employees in charge

2.12.4 Dependent variables

Personal time ineffectiveness (PI):

Measures ineffectiveness in terms of personal time wasted, by providing an Index according e-mail actions in terms of average handling time that was taken and reported by employee.

2.13 Research Hypotheses

The discussion in the preceding sections, and the consequent relationships as depicted in research model, are summarized in the following hypotheses:

Hypothesis H1: Correlation exists between Satisfaction at Work (SAW) and Quantity perception of Mail (QPM) as follows:

H 1.1: Negative correlation exists between Satisfaction at Work (SAW) and Quantity Private emails (QPPM). The more is the satisfaction at work, the less is the usage of private emails.

H 1.2: Positive correlation exists between Satisfaction at Work (SAW) and Quantity working emails –Inside (QWMI). The more is the satisfaction at work, the more is the usage of working emails –Inside.

H 1.3: Positive correlation exists between Satisfaction at Work (SAW) and Q working e-mails –Outside (QWMO)**.** The more is the satisfaction at work, the more is the usage of working emails –Outside.

Hypothesis H2: Correlation exists between Quantity Net-mail connections (QNC) and Quantity perception of Mail (QPM) as follow:

H 2.1: Positive correlation exists between Quantity Net-mail connections (QNC) and Q Private emails (QPPM). The more is the net-mail connections at work, the more is the usage of private e-mail.

H 2.2: Positive correlation exists between Quantity Net-mail connections (QNC) and Q Working emails –Inside (QWMI). The more is the net-mail connections at work, the more is the usage of working type emails inside.

H 2.3: Positive correlation exists between Quantity Net-mail connections (QNC) and Q working emails –Outside (QWMO). The more is the net-mail connections at work, the more is the usage of working type emails outside.

Hypothesis H3: Correlation exists between Existence of Organization Culture/Policy (OCP) and QPM as follow:

H 3.1: Negative correlation exists between Existence of Organization Culture/Policy (OCP) and Q Private emails (QPPM). The more is the existence of culture/policy, the less is the usage of private emails.

H 3.2: Negative correlation exists between Existence of Organization Culture/Policy (OCP) and Q Working emails –Inside (QWMI). The more is the existence of culture/policy, the less is the usage of working type emails inside.

H 3.3: Negative correlation exists between Existence of Organization Culture/Policy (OCP) and Q working emails –Outside (QWMO). The more is the existence of culture/policy, the less is the usage of working type emails outside

Hypothesis H4: **Positive correlation exists between Quantity perception of Mail (QPM) and Personal Time Ineffectiveness (PI).**

The more is the existence of quantity, the less is the personal time ineffectiveness.

2.14 Research Contribution

The present research has focused on different aspects of e-mail usage at work, mainly on how specific e-mail communication and employee behavior at work influence organization inefficiency. The research has provided a theoretical model that help understanding reasons for e-mail private usage and mainly time wasting and inefficient as a result. In the area of interconnection networks at work, one of the most significant contributions is the introduction of cost-effective and inefficiency resulting from dissatisfaction at work. The use of private e-mails that are not part of work, constitute to happen, which so far was neglected by organizations, and the current research is inquiring how it may indicate on dissatisfaction at work.

Moreover, it also contributes to the understanding of lost of work hours, resulting from the use of business and non-business private e-mails during work hours, and the form of work that causes negative productivity. In addition, it endow with more in depth understanding of various organizational policies and training forms, which will encourage employees to be exposed to more accurate communication practices, that

allow greater efficiency, productivity and less time waste due to proper training work-related e-mail usage and collaboration among colleagues. The research dealt with the subjective aspects of loss of work hours as estimated in the declaration of the employees. The employees, who are the users, see a different component in their total e-mails activity and are estimating each action separately, and not as an entirety of organization behavior depiction. However, this subjective aspect can be examined in opposite to precise measuring, enabled presently at some of the workplaces for intra-organizational purposes.

Chapter 3 - Methodology

3.1 Introduction

The main purpose of this chapter is to review to methodological concepts and methodological processes of this research. As such, it is generally divided into subdivisions: Introduction and establishment of the research's variables and their reliability. In addition, it presents data through descriptive statistic, which includes numeric presentation of the different research variables using simple distribution and center and dispersion indexes. In the methodology chapter, the research tools present factor analysis through which the research indexes were structured. The next part presents the data of the inferential statistics. It includes examination of the research hypotheses as well as other findings through statistical analyses, which are adjusted to the type of the variables and the hypotheses. The last part introduces additional findings. The critical value of the significance level in this research is 0.05, while the range of $0.05 < p < 0.1$ is considered as marginal.

3.2 The Pilot Study

The development of the research tool, e.g. a questionnaire for evaluating measurements of variables, can be generally be described as a long and continues effort to formulate and consolidate a proper version of the questionnaire. This process was spread across two main stages, which involved two pilot studies, as follows described below.

As stated above, the research tool was developed by the researcher to measure the variables that comprise the research model. The legitimacy for using this tool was approved in view of the findings of the two pilot studies, that which were run when beginning to consolidating the data and gathering integrating the concept.

This study adopts hard copy questionnaire to collect empirical data. The targeted subjects of this study are employees who have a full-time job and intranet/internet and e-mail access at work. Only in a few cases, the data was collected by the web-based field survey questionnaire.

The questions examined how many private e-mails the employees get each day; the duration of time, they spend reading these e-mails and transferring them to friends on

their address listbook. All kind of types of private mails (which are nor connected or related to work issues) either inside the organization or e-mails received from the extra-organizational are considered ads private. Regarding the private e-mails, it was clarified that the amount of the double e-mails received depends on the amount of friends that the employee shares with a net. Thus, it turned out that one e-mail, which that sometimes was given a different name was received many times during the rounds among the addressees, all that, which was done at the expense of the work hours.

Regarding e-mails dealing with work issues, it has been examined how many were directly irrelevant for the employees who included them just as additional addresses without contributing a thing to the organization's added value. The personal in depth interviews clarified that more than half the e-mails on work issues that an employee received per day were not supposed to reach that employee. Substantial amount of the e-mails, which were relevant for the employee could have been dealt with over the phone and reach immediate closure through one round. Some of the employees indicated that the fact that they have to answer through the e-mail instead of the telephone does require the use of their resources, and many of them do print the e-mail. So that the use of e-mail leads to a waste of approximately 2.5 work hours per day; meaning an average of 25 percent of the employee's work time is lost due to that examination.

The first pilot was held based on the comprehensive research most of which was used in the final research. That pilot was completed aiming to examine the research tools for their content's validity. The extensive questionnaire was distributed among 10 people who were asked to fill it and express their opinion about the questions. Following their references, some of the questions dealing with the use of chats as substitute for e-mails were eliminated, since the answers were not found to be on the required validity level. In addition, it has been decided that the final research will examine the e-mails data only, without examining the wasting of additional time due to the use of chats or immediate messages software for personal correspondence. It will also not examine waste of additional time due to or surfing on the web for private purposes, whose users have different characteristics and usage scopes and which would be included within the framework of sequel research.

A few months later, the second pilot was held aiming to examine the response of the employees when exposed to the extensive quantitative questionnaire, opening this research and to rechecking out the reliability and the validity of the measuring tools after changes. The said mentioned questionnaire included questions aimed at measuring the perception of wasted time due to the use of e-mails at work. The questionnaire was transferred to 370 employees at a number of big large workplaces of work in which the amount of employees was higher than 1500. The amount of wasted hours found in that pilot research was approximately 40 percent, and points at quite a sharp increase in the scope of wasted hours due to e-mails at work, as opposed to the previous pilot held a months earlier. Questions that were found to be unreliable or invalid based on the Cronbach Test were subtracted and taken out of the comprehensive questionnaire used at the final research.

The **final** research started in December 2007 and included the final questionnaire, which is included in appendix A. The respondents were sampled from big large companies in of the Israeli economy, and were chosen from diverse service organizations, among them: Banks, Airline, Cellular companies, Health, Municipality, and government ministry with service organizations, most of which them with more than 500 employees, participated in the study. These companies represent service organizations in the private sector as well as in the public sector. It should be indicated that these companies were chosen while in some of them the employees do have open access to the general internet but only to that part of the internet, which is defined for the company only.

The original questionnaire included 116 items, out of which 17 were subtracted since they were found as unreliable according to α Cronbach's test, as well as 11 items that were found to be highly correlating to other items, and thus could have been detached. The total number of items in the research was **99**, and only the ones relevant for the research hypotheses were analyzed. The rest will be used for follow-up researches and articles.

After content and validity tests to analyze the levels of validity of the tools, items that reduced the reliability were removed from calculating the average as a variable. To determine the tools reliability, α Cronbach's levels were calculated for each index

separately, and for all the research tools intended to measure a particular variable in general. The survey had sufficient internal consistency to be reliable ($\alpha > 0.7$).

3.3 The Research Population and Sample

Employees who participated participating in the study worked in service organizations, in which it is not essentially computer based on their daily tasks, are not essentially computer based. In these organizations, the e-mail is an auxiliary tool in the work process.

The study includes two sampling stages: 1) The choice selection of the organizations participating in the study; 2) The selection choice of employees in the relevant organizations. Both selections choices were based on a non-probability convenience-type sample. Such sampling relies on prior acquaintance of the researcher with the type of activity in organizations that were chosen by her, and with some of the contact people with whom she worked for distributing the questionnaires. Service-organizations from **15 different** locations (in nine clusters) were chosen from diverse service organizations, among them: Banks, Airline, Cellular companies, Health, Municipalities, and government ministry service organizations, most of which them with more than 500 employees, participated in the study. All the **contact people** in the organizations addressed by the researcher were glad to cooperate, a testifying fact to the importance of the study to them, that the study theme was important to them.

After choosing the organizational concept and the contact people, the researcher clarified to them and dictated the demographic distinctions she wished to implement in the study and asked them to distribute the questionnaires to employees who met them. The selection choice of participants from the researcher's private e-mail address book also met the demographic criteria defined by her.

3.4 Procedures for Data Capture

In each organization, a contact person was chosen based on personal acquaintance. That contact person was asked to distribute the questionnaires having verified that these will be filled properly. Following instructions that contact person was asked to distribute the questionnaires at least among three different departments, and in each organization at least to one manager. The duration for filling up the questionnaire was approximately 20 minutes, and the employees were asked to fill it during their break. Some of the questions were sent through the mail to the employees to be filled

through electronic media, and the most of the rest were distributed through as printed questionnaires.

Two pilot studies were conducted to create the research tool, that were intended to examine the level of validity and reliability of the tool, while consolidating the details that were intended to measure the research variables.

The first step was qualitative pilot study, which included in-depth questions and the second was quantitative. The two pilot studies were needed since the research topic is innovative and born out of an organizational reality, which was identified and manifested in the organizational yield. The goal of that first pilot was to find out how many work hours are lost due to e-mail usage at work, and what the impacting factors are. In addition, that research served as basis for the formulation of the close-end questionnaire for the quantitative research. This enabled the researcher to convert the domain to the empirical level and consolidate the relevant indices that measure the phenomenon from an organizational perspective, rather than from that of the advantages of e-mail usage by individuals in the organization.

The second stage was a pilot research study, which includes two parts:

Part I: It was aimed at locating specific elements that typify the essence of the use of e-mails in the work framework. The in-depth interviews enabled the researcher to develop certain tiers characterizing the daily use of the Internet and e-mail of those employees in large service organizations.

Part II: Based on the previous mentioned studies input, the researcher constructed a 40-item Likert-type scaled survey. After identifying and processing the elements prominent to the employees who participated in the in-depth interviews, the researcher formulated the research questionnaire that comprises six variables scattered over 40 items. The questionnaire was distributed among 370 employees from diverse service organizations. The results of the pilot study were examined on one hand to determine the levels of validity and their reliability, and on the other, in order to expand them to the final research tools. This survey was constructed to address issues that emerged from the Pilot I study: productivity, satisfaction at work, e-mail overloads, training and organization policies, and e-mail usage at work (private and working based).

The third stage**:** Conducting the research on which data collection was taken. Final data was collected during of December 2007 ending February 2008.The researcher expanded the questionnaires distributed in the second pilot study for measuring the six variables. The final questionnaire included 115 items, was distributed among 402 employees in 15 large service organizations. Only **213** questionnaires were completed and were suitable for research processing. The **contact** employee was selected from every organization chosen to participate in the study as the researcher's contact person with the organization, whose role was to distribute the questionnaires according to demographic criteria that were dictated by the researcher including the administrative rank, seniority, gender, and education.

The instructions for completing the questionnaire referred generally to the type of study, its topic, and a request to devote about an hour to their completion. Confidentiality was assured the participants who were informed that the questionnaires were not coordinated with the organization's management, and that their sole use was for research purposes.

The additional questionnaires were distributed by the researcher using e-mail addresses that were in her possession. The questionnaires that were distributed by the contact person were returned to him while those sent by e-mail were returned to the researcher's e-mail address. The data collecting took about three months, following which the researcher began to process the data.

Table 3.1: Summarized the methodology process

Step	Objectives	Organization Type/ Population	Method	Results
1. **Pilot research**	Built research hypothesis	All organization types, Employees on full-time job with e-mail access at work.	A questionnaire with in depth interviews	Justification for the research question and establish preliminary questionnaire
2. 1st pilot	Built research questionnaire: 40 item Likert-type scaled.	10 people who were asked to express their opinion about the questions	The preliminary questionnaire	A questionnaire with 119 item scaled survey.
3. 2nd pilot	Reliability and the validity of the questionnaire	Organization with more than 1500 employees The questionnaire was transferred to 370 employees	SPSS	Final questionnaire: included 115 items
The final research	**Data capture**	**15 different service-organizations with 250+ employees** **Sample of 402 employees**	SPSS	**213 questionnaires** were completed and were suitable for research processing

Chapter 4 - The research procedure

4.1 Variables

Current research is a quantitative study, aimed and designed to examine the relationship between independent and dependent variables.

Independent variables: Satisfaction at Work (SAW), Quantity Net- mail connections in e-mail address book (QNC) and Existence of Organization Culture/Policy (OCP)

Mediator variables: Quantity perception of e- mail – sent/received (QPM) as follow: Quantity of Private e-mails (QPPM), working e-mails Inside the organization (QWMI) and working e-mails Outside the organization (QWMO)

Intervening variables: Organization type and size, demographic parameters (DP): Status at work, Age, Education, Gender, Seniority, Present task and Number of employees in charge.

Dependent variables: Personal Time Ineffectiveness (PI) that measures ineffectiveness in terms of personal according to e-mail actions that reported by the employee.

4.2 Data Analysis

Ordinal variables in the questionnaire, questions/items research, which relate to the duration of e-mails usage, were transferred from the ordinal scale to the interval scale. This was done through reference to the value that is expressed in each scale. The goal was to achieve factual means of the duration in which e-mails were used. For example: the duration of time dedicated to e-mails within the organization was composed of one single question (item 90): "On average, how many hours a day do you dedicate to handle your inside organization mails?" This is an ordinal scale 0-5: 0= "none", 1=" Up to 1 hour", 2= "1 up to 2 hours", 3="2 up to 3 hours", 4= "3 up to 4 hours", 5= "4 up to 5 hours", 6= "5 up to 6hours", 7= "6+ hours". This scale was transformed according to the middle range of the scale.

4.2.1 Factor Analysis

A factor analysis was made in order to prevent multi- colinearity collinearity and reduce the amount of the predictor variables.

That analysis had identified two factors. Table1 describes the two factors reached through the analysis of the dependent variable “Personal Time Ineffectiveness” (PI), according to the action that is being held "**Action type**" of e-mail ($\mathbf{A_{ir,j}}$). Both are types of reaction patterns (questions/items 93-104). The first one is “**delay/ignorance**” marked by "**ir**" index and "**j**" for “**immediate reaction**”.

That is to say, that it is possible to identify two different dimensions in the area of organizational efficacy. These dimensions are the two edges of behavior: one expresses high output but does not necessarily express effectiveness because the fast reaction to e-mails may be superficial and not effective working results. Nevertheless, that reaction does “clear the table” while the second reaction dimension leaves open activity circles through “delay/ignorance”. This is beside the addition time that was mentioned by Thomas et al (2006) that each time that an employee was exposed to an e-mail, they face "recovery time" which is the duration of time within which a process must be restored after the disruption that e-mails are being answered or being reads.

There are variables that belong to the “delay/ignorance” factor but are also mutual to the “immediate reaction” factor: Item 97 “On average day, do you save with no reply during the work day” (r=0.624) and Item 96 “On average day, do you print to action later during the work day” (r=0.557). (See items 93-104, as specified below and in Table 1). That is to say, that in order to make room for fast actions, there is either ignorance of, or printing of some of the e-mails, which results in more time waste. Items 93, 100, 103 were chosen by the researcher as the most relevant for calculation as Personal Time Ineffectiveness” (PI).

In Table 2, that deed, limited and reduced the variable to five list of substance. whose Their contents are: 1. The right to send private e-mails; 2. The frequency of using e-mails at work; 3. Using e-mails for work purposes only; 4.Exsisting of organization policy that control e-mails usage; 5. The management right to tail after employees' actions on the web. Four out of the five of substance contents of the organization's culture were found as significant predictor for "The frequency of using e-mails at work". The only variable that was not found significant is list "5", "The management right to tail the employees" actions on the web" (in 5th column).

4.2.2 Reliability of the final data and data reduction

Table 4 specifies the reliability tests (Cronbach's α) of the research variables after subtraction of items to improve the reliability. The reliability of the variables was found to be quite high except for the variable "Organization Culture-Policy: Norms" (α=0.851). The sub-dimensions analysis of this variable, variable outcome produced the following reliable dimensions: item 28: " In my workplace, it is liable to fire/dismissal a worker who uses the internet on non- job related issues " and same question to worker who uses the e-mail on non- job related issues as item 29. In addition, "usage frequency" in item 4: In which frequency do you use the e-mail at work?" and in item 1: "I use e-mail at my work for working purposes only".

4.3 Data Classification

4.3.1 Dependent variables

The dependent variables Personal Time Ineffectiveness (PI) are inefficient indexes when using e-mails. These indexes were performed through calculations, based on the original variables. Originally these were composed of a separate cluster of questions about the dedicated subjective perception duration of time using (T); the action that is being held. "Action type" of e-mail ($A_{ir,j}$) is composed of two categories that provide an Index according e-mail actions that were taken by the employees, in terms of time usage.

Factor Analysis shown in Table 1 and in paragraph 4.2.1 describes the two factors reached through the analysis of the dependent variable "Personal Time Ineffectiveness" (PI): "ir" serves type of Delay or Ignore action taken and "j" for Immediate Action as follow:

ir= Delay or Ignore action as follow:
- **Delete (delete mail with reading, item 93)** - **Forward 1 (forward only to one person who is relevant to the specific mail, and was not copied, item 100)** - **Irrelevant (e-mail that is not relevant to the recipient, item 103)**

j= Immediate Action as follow:
- **Read (delete manually after reading with no action taken, item 94),** - **Print (print to action later, item 96),** - **Save (save with no reply, item 97),** - **immediately (must reply immediately, item 101),** - **Information (for information only, item 102),** - **Reply all (Reply to all persons who were copied to the e-mail, item 99),** - **Reply (Reply immediately, item 95)**

The "j" actions were not taken as Personal Time Ineffectiveness (PI) in the above calculations.

The reliability for the answers to the questions about the held action ($A_{ir,\ j}$) is very high $\alpha = 0.956$, while all the variables belong to one factor explaining 68.1 percent of the variance. That means that it is possible to calculate the mean of all variables.

Action type of e-mail ($A_{ir,\ j}$) is composed of the answers to questions/items 93-103, which examined amounts of e-mails in each one of the categories (ir or j) of the action type, each one on an ordinal scale: 1="1-5", 2="6-10", 3="11-15", 4="16-20", 5="21+". These numbers were translated into the "mean action time", according to their relative part in the total amount of time spent, dedicated according to their perception.

Questions/items 85, 89 and 91 referring to the total amount/quantity of e-mails **(Q)** in each category (private, business within the organization, business external to the organization respectively), were measured on the ordinal scale 0-5: 0="0", 1="1-20", 2="21-40", 3="41-60", 4="61-80", 5="81+". The time duration is composed of four questions/items. Item 86, 90 and 92 referring to the total duration of time **(T),** dedicated to use in each category (private, business within the organization, business

external to the organization respectively).The sum up of the duration in which private e-mails are used Personal Time Ineffectiveness of Private Mails (**PIPM**), is composed of item 86.The sum of the duration in which internal organizational e-mails are used **TWMI** (Personal Time Ineffectiveness (PI) of working mails inside organization), is composed of item 90. The sum of the duration of using mails that arrive from sources outside the organization **TWMO** (Personal Time Ineffectiveness (PI) of working mails outside organization) is composed of item 92.

The item regarding **SPAM,** which was on the original model and the original questionnaire as item 88 and 89, was found to be permanent 15-20 minutes among the sample and not as variable sensitive for the research. Thus in the present research no use was made of the time duration wasted on SPAM.

Above time measuring, items (**T**) are on the ordinal scale 0-5: 0= "none", 1=" Up to 1 hour", 2= "1 up to 2 hours", 3="2 up to 3 hours", 4= "3 up to 4 hours", 5= "4 up to 5 hours", 6= "5 up to 6hours", 7= "6+ hours". This scale was transformed according to the middle range of the scale: 0=0 hours, 1= 0.5 hour, 2= 1.5 hours, 3= 2.5 hours, 4= 3.5 hours, 5= 4.5 hours, 6= 5.5 hours, 7= 6.5 hours. (The calculation was made in minutes as follow: 0= 0 minutes, 1= 30 minutes, 2= 90 minutes, 3= 150 minutes, 4= 210 minutes, 5= 270 minutes, 6= 330 minutes, 7= 390 minutes). That method, make possible to calculate" time means" for these variables.

The duration of time dedicated for e-mails is composed of a collection of questions according to the kind of e-mails: all kind of private e-mails (from the organization's internal and external sources), business e-mails sorted according to originated from the organization and extra-organizational business e-mails.

Calculations for the dependent variables Personal Time Ineffectiveness (**PI**) were made in order to check the average time spent on each e-mail in each of the categories: private, business within the organization, and business external to the organization respectively.

That was made both through the mediator variables, which referred to the quantity of the three e-mails types as already described, and average declared times perception spends on each e-mails type by <u>each</u> employee.

The index "**i**" reflect the employee number.

$\mathbf{t_{1i}}$ is the average declared times perception spends on **private** e-mail for **one** employee.

$\mathbf{T_1}$ is the average declared times perception spends on **private** e-mail for **all** employees.

$\mathbf{t_{2i}}$ is the average times spend on each working **business** e-mails **within** the organization for **one** employee.

$\mathbf{T_2}$ is the average times spend on each working **business** e-mails **within** the organization for **all** employees.

$\mathbf{t_{3i}}$ is the average times spend on each working **business** e-mails **externa**l to the organization for **one** employee.

$\mathbf{T_3}$ is the average times spend on each working **busines**s e-mails **external** to the organization for **all** employees.

The assumption is that there is no different in attitude towards the way of working e-mails handling; however, there is a different in controlling them.

PI = Total Personal Time Ineffectiveness and will be calculated.

Total time spent on e-mails for **one** employee: $\mathbf{t_i = t_{1i} + t_{2i} + t_{3i}}$

TT= Total Time spent on e-mails by <u>all</u> employee**s**

$\mathbf{Q_{AC}}$ = Total amount according to "Action type" of e-mail ($A_{ir,\ j}$) which was categorized in items 93, 100 and 103.

$\mathbf{t_{AC}}$ = Total time according to "Action type" of e-mail ($A_{ir,\ j}$) which was categorized in items 93, 100 and 103 as time waste for **one** employee.

$T_{\mathbf{AC}}$ = Total time according to "Action type" of e-mail ($A_{ir,\ j}$) for all employees.

$\mathbf{Wt_i}$ = Total wasted time for <u>each</u> employee, n = the number of employees.

Total declared times perception for <u>all</u> employees:

$$\mathbf{PI} = \sum_{i=1}^{n} = Wt_i = \rightarrow$$

$$\mathbf{PI} = \sum_{i=1}^{n} (t_{1i} + t_{aci}) + \text{"spam"} + \text{"recovery time"}$$

Span was found as a minor constant and this is why it was discarded, while **"recovery time"** could not be measured in this research in spite of its existence.

That leaves the calculated declared times perception for **all** employees as:

$$\rightarrow \mathbf{PI} = \sum_{i=1}^{n} (t_{1i} + t_{aci}).$$

In addition, more checks were made through which the overall duration of time inefficiency as "Working time waste proportion" WTWP and is calculated as follow:

$$WTWP = \sum_{i=1}^{n} (A_{ir} / A_{ir+j})$$

$$\rightarrow PI = \sum_{i=1}^{n} (A_{ir} / A_{ir+j}) = T_{ac} / (T_2+T_3)$$

The ratio between “ir” and “ir+j” expresses the ratio of wasted time in each one of the categories. It is an interval changing variable of ratio.

To sum up, the dependent variables are the result of the calculation of subjective time that each employee estimated regarding each one of the actions he performed through the e-mail. The first variable is (PI) is an interval variable of the time duration devoted dedicated for the following actions: (1) vain actions that cause waste of time or loss of work hours marked by "ir" index, in which “ir” serves as type of Delay or Ignore action taken and (2) "j" for Immediate Action.

4.3.2 Independent variables

There are three interval independent variables: (1) questions/items, 18-23, 30, 67-81 referring to Satisfaction At Work (SAW). They are composed of the average of the following variables. (1) Satisfaction, good relationships with the superiors, wages and efficacy that was measured according to orderly scale in which 1= strongly disagree and up to 6= strongly agree; or 1=yes 2=no and 3=don't know. (2) Questions/items 44-47 Quantity of Net-Mail Connections (QNC) were measured according to ordinal

scale in which 1= “1-20”, 2= “21-40”, 3= “41-60”, 4= “61-80” and 5= “81+”. (3) Questions/items 1-8, 10-14, 24-26, 28-29, 70-71 Existence of Organization Culture/Policy (OCP) composed through of averaging of the following variables: the kind of instructions, do the employees know what is permitted, how much the employees do avoid or implement the relevant e-mail or internet policy.

Table 2 specifies the dimensions received through the analysis of the dependent variable’s factors- Existence of Organizational Culture/Policy (OCP).

4.3.3 Intervening variables

The intervening variables were specified in questions/items 105-115.

These variables may be moderator and at in their absence, the connection will be enhanced, or they can be mediating ones at the lack of which the connection will disappear, or be most weakened. They include the variables in item as follow:

1) Question 105: How **many employees** are there in your organization? (Scale)
2) Question 106 : To which economic **sector** your organization is attributed? (Nominal)
3) Question 108: **Age** (Interval)
4) Question 109: **Gender**. (Nominal)
5) Question 110: **Seniorit**y (Interval)
6) Question 111: What is the highest level of **education** you have completed? (Nominal)
7) Question 112: What is your current **position** in the organization? (Nominal)
8) Question 113: How many **employees** are there in your **department**? (Scale)
9) Question 114: In case of holding a management position, how many **subordinate** employee you have? (Scale)
10) Question 115: **Name** of the organization/ (Nominal)
Rest of the unmentioned questions/items that were collected and were not mentioned here, because they will be used in future research.

4.3.4 Mediator variables

The mediating variables constitute the reason for the connection between the two variables. When the impact of the mediator variables is neutralized, the connection is expected to disappear. In this research, there were two types of mediating variables. One referred to the e-mails sent and received between the employees and the organization inside the organization, and deals with issues connected directly or indirectly with work. The second includes e-mails arriving from outside the organization through various groups, with whom the employees or managers have some kind of work relations. Private e-mails are ascribed to the category of "private e-mails" even if these are sent by colleagues or managers inside or outside the organization.

The dependent variables Personal Time Ineffectiveness (PI) were made using the following quantity perception of e-mails (QPM) in each of the categories: private, business within the organization, and business external to the organization respectively. That was made thought the mediator variables, which referred to the quantity of the three e-mails types, which was examined separately: 1. (QPPM- (Quantity Private Perception Mails, 2. (QMWI) – Quantity Working Mails Inside and 3. (QWMO)- Quantity Working mails Outside.

For calculation purposes:

Q_1 present the total private e-mails

Q_2 present the total working business e-mails within the organization.

Q_3 present the total working business e-mails external to the organization.

4.4 Limitations

a. Unfortunately, the employees were not ready to connect to a monitor that may result in accurate outcomes, or any other electronic documentation. Thus, the only possibility that was left was using the evaluation subjective tool, and by this keeping the anonymity of each of the participant employee. Thus, the organization productions, which depend on subjective evaluation and perception stances, were calculated by a mathematic formula that was developed by the researcher, and not actual measured time. Since measurements were not controlled in practice, it is impossible to evaluate the validity and reliability of this formula. In addition,

other evaluators might report slightly different observations and interpretations than those we found. This may results over evaluation or less part of the time.

b. That limitation stemmed through the lack of readiness on the part of the organizations that participated in the research, due to their apprehension that the employees, might perceive it as an attempt of the management to criticize them.
c. There is a slight possibility that measurement of the depended variable e-mails amount (Q) is not unique. This is because the amount of extra-organizational incoming e-mails was separated from the inside e-mails amount and in addition, private e-mails were counted separately. In such case, same e-mail may be counted twice even if employees were asked to pay attention to such possible duplication.
d. The evaluation was made on limited and most common interest range of operation category, which may cause overlap in time calculations even when special attention was dedicated to prevent it.
e. The sample of the organizations participated in the research was constrained, and included only organizations, whose employees agreed to collaborate. In addition, there are not many organizations in Israel with more than 500 employees in each one of the chosen sectors. Choices Selections were based on a non-probability convenience-type sample. Such sampling relies on prior acquaintance of the researcher with the type of activity in organizations that were chosen by her, and with some of the contact people with whom she worked for distributing the questionnaires. 15 different service-organizations were chosen from diverse service organizations. The study does not take into account the differences of industries, which may have different characteristics that might result in different e-mails usage time among employees.
f. It was impossible to examine the differences of the characteristics between the employees who agreed to respond to the questionnaires and those who refused, in order to verify representing sample of all the employees in the organization.
g. Recovery time may take much more in case of complicated tasks, but it was impossible to examine the difficulty and complexity of the tasks involved during the data collection. This may indicates that handling e-mails might take much longer than was indicated in this research.

h. The demographic parts do not include a question, which should examine over-time hours because of privacy difficulty. In most organizations, a working day is nine hours including breaks.

i. Measuring the amount of e-mails in the questionnaire presented as a choice between of quantity increments of 20 e-mails between the categories. This choice was given to the respondents, causing them to answer within specific ranges presented by the researcher. An option, which caused the respondents to specify the exact amount of e-mails, through an open response, could yield other findings.

4.5 Ethical Issues

a. The questionnaires were filled during the employees' breaks and not at the expense of their work hours.

b. Intentionally, no authorization was asked from the organizations to perform the survey for fear of hurting the reliability of the research, which could then be perceived as "research on behalf of the management".

c. The questionnaires were filled anonymously, and promise was given that no information will be transferred to any factor including management, and will be used for research purposes only. That clarification was important for the employees so as not to hurt the reliability of their answers.

d. Industrial organizations as well as organizations with 501- 1000 employees were not included in the sample, since the sample was performed according to the comfort sample method and it was constrained through the readiness of the employees to participate in the research. There are relatively few organizations of that scope in Israel

Chapter 5 - The research findings

5.1 Organizational and Demographic Variables Examination

Total final sample is based on 213 employees, from 15 big service organizations.

Organization Size: Originally, the size of the organization was planned according to seven categories but category 3 (501-1000) was not sampled in the research according to the comfort sample that was performed. The mode is size of 1001-1500 employees.

The deviation was done in 500 differences except the first one 1-500 which was divided to two scales in order to check if any different in small-medium organizations. No organization was with less than 100 employees.

Table 5.1 - Organization Size Groups

N	Organization Size	%
11	Up to 250	5.2%
67	251-500	31.5%
0	501-1000	0
75	1001-1500	35.2%
46	1501-2000	21.6%
14	> 2001	6.6%
213	Total	100%

Organization Sector: The sector that was examined was the service sector.

Originally, the organization sector was planned according to four categories but categories "3" the sector of "industrial" organizations was not included because no services activities that suit this research were performed by them. The three categories "Commerce", "Services" and "Other" was clustered according to their business orientation as describe here and were categorized according the employee decision.

The sector "Commerce" includes **business** companies, which provide different kind of services for a specific segment target market such Lito Group, sport, etc. The sector "Services" includes **private** companies, which provide only services to the mass market such as Cellular mobile operators, bank, airline etc. The sector "Other" includes **government** services, which provide different kind of services such as Ministry and municipality.

The mode of organization sector is the sector "Others", which is 113 employees. The organizations in the sample were divided to three groups, which reflect their activities, the sector that they service and if they are handled by the government or private hands.

Table 5.2 - Organization Sector Group

N	Organization Sector	%
20	Commerce	9.4%
80	Services	37.6%
113	Other	53.1%
213	Total	100%

Gender: There are 69 male and 144 female. The reason for more females is that in major service organizations there are more women than men are.

Age: In Israel, the average age of starting work is 21 (N=1 when it is less than age 20), and 60-65 (women, men) is the average age of pension. This explains the 0.5% (N=1) in the age group of 61+. In the first group (up to 20) and the last group (over 61) only one employee was included in each group. The mode is the age group of 31-40 and includes 62 employees.

Table 5.3 - Age Group

N	Age Group	%
1	LESS 20	0.5%
24	21-30	11.3%
62	31-40	29.1%
48	41-45	22.5%
53	46-50	24.9%
19	51-55	8.9%
5	56-60	2.3%
1	61+	0.5%
213	Total	100%

Education: The employees were clustered into 8 education groups, which are presented in Table 5.4. The mode is Vocational/ Diploma with 61 employees, but another 61 employees (28%) has academic education.

Table 5.4 - Education Group

N	Education	%
3	High school	1.4%
61	Vocational/ Diploma	28.6%
52	Partial academic	24.4%
34	B.A	16.0%
43	Engineer	20.2%
10	M.A	4.7%
8	PHD	3.8%
2	Other	0.9%
213	Total	100%

Organization type: The employees were clustered into 11 organization type groups, which were divided as sub-sector according to their service-oriented sector. The largest group was Education Ministry in Tel-Aviv city, which has 57 employees and 11 more are from the same employer, which is Education Ministry in Jerusalem city. It must be indicated that this organization the "Education Ministry" is one of the largest employer (160,000 employees) in Israel.

Table 5.5 - Organization type Group

N	Organization Type	%
11	Education Ministry-Jerusalem	5.2%
34	Government	16.0%
57	Education Ministry- Tel-Aviv	26.8%
24	Banks	11.3%
9	Sport & Education Centers	4.2%
6	Cellcom -Cellular	2.8%
4	Commerce	1.9%
9	Pelephone-Cellular	4.2%
17	Private companies	8.0%
12	Airline	5.6%
30	Municipality	14.1%
213	Total	100%

Profession: The employees were clustered into seven profession groups according the management current existing levels. The mode is the group of Clerical work, which has 61 employees.

Table 5.6 - Profession Group

N	Profession	%
3	Temporary	1.4%
61	Clerical work	28.6%
35	Professional	16.4%
50	Junior management	23.5%
33	Middle management	15.5%
23	Senior management	10.8%
11	other	5.2%
213	Total	100%

Subordinates: The employees were clustered into five subordinates groups. The mode is less than 10 subordinates and has 90 employees.

Table 5.7 - Subordinates Group

N	Subordinates	%
90	0 up to 10	42.3%
38	11-50	17.8%
50	51-100	23.5%
22	101-150	10.3%
13	151+	6.1%
213	Total	100%

5.2 Mediator and Depended Variables Examination

The frequency tables/graphs are according to the middle intervals.

When variables are not distributed normally and parametric analyses are performed, then during the statistical analysis of these data, it is recommended to perform linear transformations of all data over the identical research participants. This is to enable a more reliable analysis using statistical tools assuming normal distribution. For that purpose, more calculations were made over the subjective research variables, aiming of defining the variables according to the demand of normal distribution, particularly about anomalous upward results, which might divert the results of the statistical analyses.

In order to examine hypothesis (H4), some calculations were needed.

The declared time perception for all employees as the overall duration of time inefficiency of private (T_1) and no-actioned working e-mails (T_{ac}), both for all employees. In order to do so, the average waste time resulting from all working e-mails was calculated (AT_{ac}).

Total declared times perception for all employees:

➔ $\mathbf{PI} = \sum_{i=1}^{n} (t_{1i} + t_{aci})$.

$\mathbf{AT_{AC}}$ = **Average Time Waste for a working day.** The numbers were taken from the variable "e-mails with No action" **(t_{aci})** results, and was calculated as 25% of the usual **average** working time on any working e-mail (Working-In e-mails T2 + Time spend on Working-Out e-mails **T_3**). The value of 25% of the usual **average** working time on any working e-mail was based on employees reporting from the pilot in depth questionnaire.

5.3 Independed Variables Examination

The examination of the independed variables versus the organizations and demographic variables were examined in depth, only versus the first independed variables "Satisfaction at Work" ("SAW"), because of its high influence, which was found during the pilot studies.

The histogram in Graph 2 describes Satisfaction at Work ("SAW") in general, while "6" present high satisfaction from work, and "1" dissatisfaction. The mean of SAW is 3.5 and the standard deviation is 1. The distribution has a right tail.

Table 5 presents the differences between the **organization sizes** regarding satisfaction. According to the marginal significance, it should be noticed that the minimum range of SAW has been found in the organization with 500 employees (mean=3.5218), higher than that with 1,500 employees (mean=3.5193); meaning, that in the smaller organizations the satisfaction measure is slightly higher but not significant. The **organization size** and the number of employees did not affect Satisfaction at Work (SAW) significantly. But in Table 6 the Scheffe comparisons of each one of the organization sizes combinations (Multiple Comparisons) α=0.058 was found between **organization sizes** with 251-500 employees and the one with 1,500 workers, which is not significant statistically (The use of the Exploratory Analysis increased the probability of showing a significant finding, according Bonferoni principle). It should be noted that the lower bound of Satisfaction at Work (SAW) in organization with size of 251-500 employees (3.5218) is higher than upper bound of organization size of 1001-1500, which is 3.5193.

Table 7 presents the differences between **sectors** of different industries of the organizations regarding satisfaction. The satisfaction of the employees (SAW) is the lowest part of the sector "others" group (3.0501) and the highest in the "commerce" group (4.1222). The sector of the organization type significantly influences the satisfaction (SAW). Scheffe comparisons of each one of the organization size combinations (Multiple Comparisons) showed in Table 8, that all the employees in "other" sectors have the lowest satisfaction (SAW) (mean= 3.0501), significantly (α <0.001 each) compared to "commerce" sectors (mean=4.1222) and services (mean=3.9819). There is no significant difference between "commerce" sector and "service" sector (α=0.836). That means that the organization sector directly affects the satisfaction and in such case the satisfaction (SAW) is the mediating variable, which is why the sector cannot serve as mediating variable.

The **age** group was clustered into eight groups as seen in Table 9 When ignoring the single sampled employee in the edge age groups the satisfaction of the employees is the lowest in the age group 51-55 (mean=3.1696) and the highest in the age group 31-

40 (mean=3.67). The age group does not impact the satisfaction SAW and in the variance analysis it has been found that α=0.429 as shown in Table 10

The **gender** groups in Table 11 showed that female are more satisfied (mean=3.5108) versus male (mean=3.4799), but in all, gender does not affect SAW, and in the variance analysis it has been found α=0.841 as shown in Table 12.

Eight clustered **education** groups in Table 13 show that B.A group is the most satisfied group (mean=3.7353) and the lowest satisfaction was found in Vocational/ Diploma group (mean=3.3552), but also shows that education does not affect SAW. In the end, in the variance analysis it has been found that α=0.552 as shown in Table 14 The employees were clustered into seven profession groups and showed in Table 15

The sector of the job **profession** significantly affects the SAW. Scheffe comparisons of each one of the organization size combinations (Multiple Comparisons) showed that "junior managers" are significantly (α=0.019) less satisfied (mean=3.0978) compared to "other employees" (mean=4.4343) as shown in Table 17.

The present profession role and the amount of the number of **subordinates** significantly affect the satisfaction (SAW). In the variance analysis it has been found that α=0.004. The employees were clustered into five groups of subordinates as shown in Table 18. The Scheffe test showed in Table 19 that when there are more than 151 workers (151+ group) subgroups, the satisfaction (mean=4.5641) is significantly higher compared to the rest of the employees subordinates groups (α<0.001).The lowest satisfied group is the one with 101-150 subordinates (mean=3.2475).

Table 20 shows the descriptive measurements of SAW versus **organization type**. The type of the organization impacts SAW. In the variance analysis it has been found that employees who are working at the Ministry of Education organization offices in the area of Jerusalem had the lowest rate of satisfaction (mean=2.46), while the municipality employees had the highest satisfaction rate (mean=4.8). The largest group was that from the Ministry of Education in Tel-Aviv.

5.4 Examining Impact of Intervening Variables on Satisfaction

Satisfaction at work is an explanatory variable, which particularly interested the researcher. It was checked in addition to the other two explaining variables (1) the number of connections in the address book at home and at work (2) clear policy and rules in the organizations regarding the procedures use of e-mails at work. Hence, before examining the hypotheses, a prior examination was done to locate **intervening variables**: Organization type, Sector and size, Demographic Parameters (DP): Status at work, Age, Education, Number of employees, Gender, Seniority, Education, role level, amount of subordinates, the name of the organization meaning, and the place of work (items105- 115). These variables were tested to find what might affect the explaining variable "satisfaction". In such case, the impact is directly on "satisfaction" variables, and not just on the connection between the explaining variables and the dependent variables.

5.4.1 Correlations between Satisfaction at Work and Quantity Perception of e-mail

Correlations Exists between Satisfaction at Work (SAW) and Quantity Perception of e-mail (QPM) as follow:

H 1.1: There is negative correlation between Satisfaction at Work (SAW) and Q Private Perception e-mails (QPPM). The more satisfaction at work, less private emails usage is.

There is significant **negative** correlation ($r=-0.402$, $p<0.001$) between satisfaction at work (SAW) and the amount (Q) of private e-mails (Table 32). This significant correlation of satisfaction at work exists in relation to each one of the satisfaction components (items: 19, 20, 21, 22, 23, 30, 76 and 81) excluding item 18: "I am satisfied with the way in which my place of work uses my skills and capabilities".

However, there is also a **positive** significant correlation between the number of private mails and the time (T) the employee spends on them ($p<0.001$, $r= 0.418$). It means that the correlation type with the private e-mails also exist with the correlation with time spent. In other words, the pattern of the link with the number of private e-mails also applies to the time, and there is a direct **negative** correlation between SAW and the number of private e-mails, and not only through the mediating variable of the time spent engaging with private e-mails.

Since the correlation between the amount of private e-mails and the duration of using private e-mails is high (r=0.418), and **there are not mediating or moderating variables to each other, then it would be sufficient to use one of them to examine the correlation, following neutralization of intervening demographic variables.**

That is to say, that the correlation patterns with the amount of private mails exist also regarding the duration of time, and there is **direct** negative correlation between SAW and the amount of private e-mails, not just through the mediating variable duration of preoccupation with private e-mails. Therefore, the correlation between the amount of private e-mails and the satisfaction at work was examined through neutralization of the time duration in which use is made of private e-mails.

A similar pattern of significant positive correlation was found between the amount of **time** of e-mail usage (in item 86: "How much time do you devote normally to the handling of these e-mails per day?") and between almost all the satisfaction at work variables excluding item 23: "I am satisfied with the relationship between me and my superiors". Here, the amount of e-mails in which time duration was neutralized, was a factor affecting the satisfaction, while the time duration in which amount of e-mails was neutralized was found to have no impact (r=-0.205, p=0.003). With respect to item 76: "I am satisfied with the projects I am in charge of at work" in which the time duration was found to have negative impact, even after neutralizing the amount of e-mails (r=-0.260, p<0.001). However in item 76, the amount of e-mails after neutralization of the time duration was found to have significant impact yet in lesser measure(r=-0.140, p=0.041). That is to say, that satisfaction at work is direct correlated with the time that is spent dealing with private e-mails, and not through the amount of e-mails in almost all items, except for satisfaction with the relationship between employee and his superior, which causes employees to invest more time in long written e-mails, since their amount, has no impact.

The examination of the correlation between amount of e-mails after neutralization of time duration during which the employee is preoccupied with private e-mails, yielded significant result, which points at another impact on satisfaction at work, beyond the existing correlation between amount of private e-mails and the duration of being preoccupied with them. Neutralization of the intervening variables was performed through **multiple regressions**, which included the explaining variable and the intervening variables. The "Organization Sector" variable, which built in three

categories, was defined in two dichotomous variables. One is "others" which includes 53.1% of the cases and the second is “Services” which included 37.6% of the cases.

Table 33 describes the results of the **regression** for predicting the use of private e-mails according to the level of satisfaction at work after subtracting the impact of the intervening variables (demographic and organizational). Despite subtraction of the intervening variables' impact, still "satisfaction at work" has significant negative prediction on the duration of private e-mails usage. That correlation was found to be (β=-0.390, $p<0.001$). In addition was found that the more seniority the "Profession" (β=0.22, $p<0.05$) thus there is greater use of private e-mail. In addition to that, while the older the "age" is (β=-0.139, $p<0.05$), and when establish within the "organization sector" (β=-0.212, $p<0.05$), there is lesser use of private e-mails.

H 1.2: There is positive correlation between Satisfaction at Work (SAW) and Q working e-mails –Inside (QWMI). The more satisfaction in work, the more working type-working emails inside is.

Table 34 examination of satisfaction opposite the time dedicated to internal e-mails send/received amount of e-mails. It points out that there is **positive** significant correlation between the amount (Q) of internal e-mails at work and the time the employee spends on them ($p<0.001$, $r= 0.250$) at work. However, the positive correlation exists only with two items in the satisfaction: item 18: “I am satisfied with the way in which my place of work uses my skills and capabilities” ($r=0.164$, $p=0.016$) and item 22: “I am satisfied with my salary” ($r=0.139$, $p=0.043$). That is to say, that the more the employee is satisfied with the use of his skills at work and his being rewarded for it, he takes care of more internal e-mails at work. He does not dedicate lot of hours for the few e-mails but is going through many e-mails within relatively short time for each one.

The time duration in which the employee goes through the internal e-mails at work, after neutralizing the amount of e-mails (Q), which most probably act in the opposite direction, was found to correlate negatively with the variable 23: “I am satisfied with the relationship between me and my superiors”. Duration of time after neutralizing the amount of e-mails- was found to be a factor that influences satisfaction ($r=-0.041$, $p=0.042$) while the amount of e-mails after neutralizing the duration of time was found to have no impact ($r=-0.075$, $p=0.274$).

Table 35 describes the results of the **regression** for prediction of the e-mails usage, of which are originated inside the organization, according to the level of satisfaction at work, after subtracting the impact of the intervening variables (demographic and organizational). Subtracting the intervening variables' impact on the use of e-mails at work originated from the organization, yielded similar results. Satisfaction does not predict the duration in using the e-mails originated from the organization. That correlation was found to be (β=0.074, $p>0.05$). However, the more "organization size" (β=0.260, $p<0.001$) and "Profession" (β=0.211, $p<0.05$), the less is "Age" (β=-0. 254, $p<0.001$), thus the use of e-mails originated inside the organization is increasing.

H 1.3: There is positive correlation between Satisfaction at Work (SAW) and Q working e-mails –Outside (QWMO). The more satisfaction in work, the more working type-working emails outside is.

Table 36 examination of "satisfaction at work" opposite the duration of time dedicated to external-organizational working e-mails sources and the amount of e-mails, points out **positive** correlation between the amount (Q) of external e-mails at work and the time the employee spends on them ($p<0.001$, $r= 0.391$). Only one item regarding satisfaction is significant, item 18: "I am satisfied with the way in which my place of work uses my skills and capabilities" ($r=0.249$, $p<0.001$). This means that the more the employee is satisfied with the use of his skills at work thus he takes care of more external-organizational work with e-mails.

The duration of time (T) in which the employee goes over e-mails originated from external-organizational source at his workplace, was found to be **positive** correlated with the variable "satisfaction at work" (SAW) ($r=0.301$, $p<0.001$). The satisfaction variable is composed of items, some of which are correlated with the duration of time, in which the employee goes over mails originated from external source. Item 18: "I am satisfied with the way in which my place of work uses my skills and capabilities" ($r=0.336$, $p<0.001$); item 19: "I am satisfied from the challenges that I face in my workplace" ($r=0.266$, $p<0.001$); item 23: "I am satisfied with the relationship between me and my superiors". The duration of time after neutralizing the amount of e-mails was found to be a factor affecting satisfaction ($r=0.362$, $p<0.001$); item 30: "Generally speaking, I am satisfied with my job" ($r=0.339$, $p<0.001$); item 76: "I am satisfied with the projects I am in charge of at work" ($r=0.257$, $p<0.001$).

The amount of e-mails originated from external-organizational source, after neutralization of time duration in handling those e-mails, decreased the impact of most items, and therefore is a **mediating** variable. The factors that changed from significant correlation to lack of correlation are item 19: "I am satisfied from the challenges that I face in my workplace" (r= -0.118, p=0.086) and item 76: "I am satisfied with the projects I am in charge of at work" (r= -0.050, p=0.471).

The duration of time for to handle e-mails originated from external-organizational source, after neutralizing the amount of those e-mails, intensified the impact of most items, and therefore is a **mediating** variable. The factors that changed from insignificant correlations to significant correlation are item 20: "I am satisfied from the importance of my role in my workplace." (r=0.151, p=0.028) and item 21: "I am satisfied from condition of the employment in my workplace" (r=0.135, p=0.049).

Table 37 describes the results of the **regression** for prediction of the e-mail usage, of which are originated outside the organization, according to the level of satisfaction at work, after subtracting the impact of the intervening variables (demographic, and organizational). Subtracting the intervening variables, impact on the use of e-mails at work originated from the outside organization, yielded similar results. Satisfaction predicts the duration in using the e-mails originated outside the organization. That correlation was found to be (β=0.282, $p<0.001$). The satisfaction impacts the duration of using e-mails originated from external source, and the more seniority in "Profession" (β=0.200, $p<0.05$) increasing, thus grows the use of e-mails originated from external source; the older the "age" (β=-0.293, $p<0.001$), thus there is less use of e-mails originated from external source.

5.4.2 Correlations between Quantity Net-mail Connections and Quantity Perception of e-mail

Correlations exist between Quantity Net-mail connections (QNC) and Quantity perception of E-mail (QPM) as follow:

H 2.1: There is positive correlation between Quantity Net-mail connections (QNC) and Q Private Perception e-mails (QPPM). The more net-mail connections at work, the more private e-mail usage is.

Table 38 shows that when examining the correlations between quantity net- mail connections (QNC) and the amount of private e-mails (Q85) and the time dedicated

(T86) to the handling e-mails, a number of significant correlations were found even though with low-medium intensity, excluding the correlation found between reading private e-mails and the amount of private e-mails. That correlation, which yielded the figure $r=0.418$ while $p<0.001$ was found to be significant; that indicates that the more increase in the quantity of e-mail addresses-book at work and at home, thus there is increase in the amount of time devoted to handling them at work. Since the correlation between the amount of private e-mails, and the duration of using private e-mails is high ($r=0.418$), and there are no mediating or moderating variables to each other, then it would sufficient to use one of them to examine the correlation following neutralization of intervening demographic variables. There is **strong** correlation between all the QNC variables as it is shown in the Table 39. In order to **prevent multi-collinearity**, it would be sufficient to choose one item only with the most significant correlation with the other items, which is item 46: "With how many people, on daily basis average, do you form contact through the e-mail at work?" ($r=0.722$ while $p<0.001$).

Table 40 describes the results of the **regression** for predicting the duration of private e-mails usage at work according to the amount of addresses of the organization employees in their e-mail address-book, after subtracting the impact of the intervening variables (demographic and organizational). The amount of addresses of organization employees in the e-mail's address-book, predicts the duration of using private e-mails at work ($\beta=0.223$, $p<0.001$). In addition, in the "Organization Sector" parameter, the use of private e-mails at work is lesser ($\beta=-0.283$, $p<0.05$).

H 2.2: There is positive correlation between Quantity Net-mail connections (QNC) and Q Working e-mails –Inside (QWMI). The more net-mail connections at work, the more working type-working emails inside are.

When analyzing the correlations between quantity net- mail connections (QNC) the amount of e-mails received at the organization, from the employees of the organization (Q89) and the time dedicated (T90) to handle these e-mails, few significant correlations were found even though with weak intensity. Table 41 shows that significant correlations were found between the items that examining the correlation between the amounts of e-mails linked with work and the time dedicated to handle them. That correlation was found to be $r=0.250$ while $p<0.001$ results connection between the number of e-mail addresses in the address book and the time

dedicated to handle them. That finding, despite its weak intensity does point out positive correlation between the variables.

Table 42 describes the results of the **regression** for prediction of the e-mail usage, of which are originated inside the organization, according to the amount of with quantity net- mail connections (QNC). The regression was done including the predicting variable with demographic variables. After subtracting the impact of the demographic variable, no prediction was found with the variable QNC. QNC does not predict the duration in using the e-mails originated from the organization (β=0.643, $p > 0.05$). However, the more "organization size" (β=0.261, $p<0.001$), the "Profession" item (β=0.214, $p<0.05$) and the less is "Organization type" item (β=-0.247, $p<0.05$) "Age" (β=-0.254, $p<0.001$), thus the use of e-mails originated inside the organization is increasing.

H 2.3: There is positive correlation between Quantity Net-mail connections (QNC) and Q working e-mails –Outside (QWMO). The more net-mail connections at work, the more working type-working emails outside are.

When analyzing the correlations between quantity net- mail connections (QNC) and the amount (Q) of working e-mails received at the organization from the external-organization employees (Q91), and the time dedicated (T91) to handle these e-mails, few significant correlations were found even though with weak intensity as indicate in Table 43 ($r=0.391$ while $p<0.001$). Correlation between the amounts of e-mail addresses-book lists at home, linked with items: Item 44: "How may e-mail addresses of your work colleagues, are in your e-mail address book at workplace ($r=0.254$, $p<0.001$). The same applies to Item 45:" How may e-mail addresses of your work colleagues, are in your e-mail address book at home" ($r=0.393$, $p<0.001$). One comparable connection was also found with item 46:" "How many people, on daily average, do you form contact through the e-mail at work?" ($r=0.380$, $p<0.001$) and item 47, which is the number of employees addresses the employees have in their address list at home ($r=0.308$, $p<0.001$). A significant correlation was found between the numbers of employees' addresses, which the employees have in their address list, linked with outside work e-mails and the time dedicated to handle them.

Table 44 describes the results of the **regression** for prediction of the e-mail usage, of which are originated outside the organization, according to the amount of with

quantity net- mail connections (QNC). The regression was done including the predicting variable with demographic variables. After subtracting the impact of the demographic variable, no prediction was found with the variable QNC. QNC does not predict the duration in using the e-mails originated from the organization (β=0.107, $p > 0.05$). However, the more "profession" (β=0.225, $p<0.05$), and the less is "Age" (β=-0.297, $p<0.001$) and "organization size" (β=-0.142, $p<0.05$), thus the use of e-mails originated outside the organization is increasing.

5.4.3 Correlations between Existence of Organization Culture/Policy and Q Private of e-mail

Correlations exist between Existence of Organization Culture/Policy (OCP) and Quantity perception of E-mail (QPM) as follow:

H 3.1: There is negative correlation between Existence of Organization Culture/Policy (OCP) and Q Private e-mails (QPM). The more culture/policy existence, the less private emails usage is.

When analyzing the correlations between existence of organization culture and policy which the employees know and aware of (OCP) and with the (T) time dedicated (T86) to handle private e-mails at work. In Table 45, few **positive and negative** weak correlations were found. It shows that even though the existence of clear and well known policy and procedure of handling e-mails within the organization culture framework, the time dedicate to handle the private e-mails is still high $r=0.418$, $P<0.001$. Those correlations were found between the items that check the time dedicated to read private e-mails at work and the existence of clear and well-known policy and procedure of handling those e-mails within the organization culture framework.

Some correlation were found positive such as item 11:" In my opinion the firm operates wisely by allowing me to use the e-mail for my private uses and needs" ($r=0.265$, $P<0.001$), and some negative such as item 1:" I use e-mail at my work for working purposes only" ($r=-0.316$, $P<0.001$). Another positive correlation was found in item 10: "In my opinion, the employee has the right to send and receive private e-mails" ($r=0.367$, $P<0.001$).

However, some negative correlations were found between existence of organization culture and policy (OCP) with the time dedicated (T86) to handling private e-mails at work, but they are very weak i.e. item 2: r=-0.344, P<0.001. That shows that in some cases namely items 1-3: 1." I use e-mail at my work for working purposes only". 2. "I use Internet at my work for working purposes only" and 3. "In which frequency do you use the Internet at work?" the culture and policy, play a shade role when the employees are asked if they are using either e-mails or Internet for working purposes only. A positive correlation was found in item 10: "In my opinion, it is the employer's right to send/receive private e-mails at work" which point out that even thought the policy exists, the employees consider the right to send and receive private e-mails more powerful that written procedures. Organizations must consider other ways rather than impose procedures. Such ways can be participating the employees and make them part of procedures establishment regarding e-mails handling.

Table 46 describes the results of the **regression** for prediction of the e-mail usage, of which are private e-mails at work, according to the existence of organization culture and policy (OCP). The regression was done including the predicting variable with demographic variables. After subtracting the impact of the demographic variable, prediction was found with the variable OCP with all items. Again, **positive and negative** results were found. Positive prediction was found in item 10 (β=0.322, p<0.001); item 13 (β=0.245, p<0.001) and negative predict was found in item 4 (β=-0.145, p<0.05), and in item 1 (β=-0.269, p<0.001); Item 7 (β=0.054, p> 0.05) does not predict the duration in using the private e-mails at work. In addition the more seniority in "Profession" (β=0.242, p=0.004) increasing, thus grows the use of private e-mails at work.

H 3.2: There is negative correlation Existence of Organization Culture/Policy (OCP) and Q working e-mails –Inside (QWMI). The more is the existence of culture/policy, the less is the usage of working type emails inside.

Table 47 shows analysis of correlations between existence of organization culture/policy (OCP) and the amount (Q) of e-mails received from the employees inside the organization (Q89), and the time dedicated (T90) to handle these e-mails. Few **positive and negative** significant correlations were found, with weak intensity (r=0.250, P<0.001). The positive connection explain that the more the employees are

aware of policy existence, the more they dedicate time to handle them even if weak intensity i.e. item 6, (r=0.177, p=0.01). Conversely, out of the negative correlation findings (item 3,5,6,12,14), we can conclude that the more the employees are aware of policy existence, the less they use e-mails even if weak intensity i.e. item 5, (r=-0.230, p=0.001).

Table 48 describes the results of the **regression** for prediction of the e-mail usage, of which are originating inside the organization, according to the existence and knowledge of organization culture/policy (OCP). The regression was done including the predicting variable with demographic variables. After subtracting the impact of the demographic variable, OCP does not predict the duration in using the e-mails originated from inside the organization with all items. Positive result was found in item 1 (β=0.061, p> 0.05). Item 13 (β=0.078, p> 0.05) and negative result was found in item 10 (β=-0.076, p> 0.05); in item 4 (β=-0.094, p> 0.05) and in item 7 (β=-0.007, p> 0.05).

H 3.3: There is negative correlation between Existence of Organization Culture/Policy (OCP) and Q working e-mails –Outside (QWMO). The more culture/policy existence, the less working type emails outside is.

Table 49 analyzing the correlations between existence of organization culture/policy (OCP) and the amount of working e-mails (Q91) received at the organization, from the external-organizational employees and the time dedicated (T91) to handle these e-mails, significant correlations were found, and with weak intensity (r=0.391, P<0.001). However, significant **positive and negative** correlations were found between some items. The positive correlations were found between the steps and activities taken by the employees in order to avoid management tailing, tracing and supervision and item 8: "Do you take any measures to avoid the employee e-mails detection", time dedicated to handle them (r=0.367, P<0.001). The most significant negative correlations that was found is between existence of known organization culture/policy (OCP) and item 4 the frequency of using e-mail at work "In which frequency do you use the e-mail at work?" (r=-0.138, P=0.05).

Regarding policy that totally forbid private e-mail in item 14: "The firm I work for, forbid using the e-mail for private purposes", a positive and significant correlation was found between organization culture/policy and the time dedicated (T90) to handle

e-mails (Q91) received at the organization, from the external-organizational employee (r= 0.287, P<0.001).

Table 50 describes the results of the **regression** for prediction of the e-mails usage, of which are originated outside the organization, according to the existence of organization culture/policy (OCP). The regression was done including the predicting variable with demographic variables. After subtracting the impact of the demographic variable, OCP predicts the duration in using the e-mails originated from outside the organization with item 1 (β=0.335, p<0.001) and with item 13 (β=0.200, p=0.001).

OCP does not predict the duration in using the e-mails originated from outside the organization with positive and negative; item 10 (β=0.054, p>0.05); item 4 (β=-0.034, p>0.05) and in item 7 (β=0.20, p>0.05). However, the less is "Age" (β=-0.274, p<0.001) thus the use of e-mails originated outside the organization is increasing.

5.4.4 Correlations between Quantity Perception of e-mail and Personal Time Ineffectiveness (PI)

Correlations exist between Quantity perception of Mail (QPM) and Personal Time Ineffectiveness (PI) as follow

H 4: There is positive correlation between (QPM) and Personal Time Ineffectiveness (PI). The more quantity existence, the less personal time ineffectiveness is.

Graph 14 shows that the mean of total working e-mails per day is 53.76 with a standard deviation of 36 e-mails, which is quite wide. That deviation with non-symmetrical right distribution indicates that it should be based on time-spent data and not on the amount of used mails in the subjective answers.

In order to examine hypothesis (H4), some calculations were needed.

The declared times perception for all employees as the overall duration of time inefficiency of private (T1) and no-actioned working e-mails (Tac). In order to do so, the average waste of time resulting from all working e-mails was calculated (ATac).

Total declared personal ineffectiveness time perception for all employees:

$$\rightarrow \mathbf{PI} = \sum_{i=1}^{n} (t_1 + tac).$$

$\mathbf{AT_{AC}}$ = **Average Time Waste for a working day.** Details were taken from the e-mails with "no action" results **(t_{ac})** and calculated as 25% of the usual **average** working time on any working e-mail (Working-In e-mails $\mathbf{T_2}$ + Time spend on Working-Out e-mails $\mathbf{T_3}$). The value of 25% of the usual **average** working time on any working e-mail was based on employees' reports from the pilot test.

The results of the mediator and depended variables **Qi,** which is the average amount (Q) of received/sent for one employee is describes in table 5.8 as follow:

Table 5.8 - The average amount of received/sent e-mails for one employee/daily

	N	Mean		Std. Deviation
	Statistic	Statistic	Std. Error	Statistic
1. Amount of **Private** e-mails **(Q_1)**	213	45.26	1.634	23.842
4. Amount of **Working-In** e-mails (**Q_2**)	213	30.94	1.497	21.850
7. Amount of **Working-Out** e-mails **(Q_3)**	213	23.29	1.406	20.524
10. Total Work **(In+Out)** e-mails **(Q_2+Q_3)**	213	53.76	2.512	36.665

During a working day, one employee attends 100 e-mails on average out of this approximately 45% are for private purposes.

The results of the mediator and depended variables **Ti** are describes in Table 5.9 as follow:

Table 5.9 - The results of the mediator and depended variables Ti

	N	Mean		Std. Deviation
	Statistic	Statistic	Std. Error	Statistic
1. Time spend on "Private" e-mails **(t_1)** Graph 3	213	**127.89**	4.852	70.816
2. Average time spend for "Private" e-mails for a working hour. Graph 4	213	5.84	.338	4.935
3. Time spend on "Working-In" e-mails **(t_2)** Graph 5	213	**108.31**	4.452	64.982
4. Average time spend for "Working-In" e-mails- for a working hour Graph 6	213	9.45	.608	8.881
5. Time spend on "Working-Out" e-mails **(t_3)** Graph 7	213	**71.13**	4.032	58.846
6. Average time spend for "Working-Out" e-mails-for a working hour Graph 8	213	6.83	.514	7.503
7. Amount of "Working" e-mails With "No action": item 93 Graph 9	212	8.769	.4887	7.1159

8. Amount of "Working" e-mails With "No action": item 100 Graph 10	213	9.718	.5768	8.4182
9. Amount of "Working" e-mails With "No action": item 103 Graph 11	213	11.411	.6065	8.8509
10. Amount of **all** "Working" e-mails With "**No action":** items 93-100 Graph 12	213	29.857	1.5165	22.1328
11. Average Time Waste for a working day ($\mathbf{t_{ac}}$) Graph 13	213	**50.943**	2.5876	37.7643
Valid N (listwise)	212			

The sum up according to the mean of the **ti** average results calculation for a working day for one employee:

$\mathbf{t_i}= t_1 + t_2 + t_3$ = 127.89+108.31+71.13=307 minutes ~ **5 hours**.

And;

PI = $(t_1 + t_{ac})$ = 127.89 + 50.943 = 178.833 which is **3 hours**.

Another calculation referred to the ratio regarding duration of working on private e-mails, relatively to the duration of working on mails in general. The advantage in that index is that it neutralizes the subjective individual deviations, which the employees had when estimating the duration of e-mail usage time is:

$\mathbf{t_{ac} / (t_2+t_3)}$ = 50.943 / (108.31 + 71.13) = 50.943 / 179.44 = **28.4%**

Another calculation regarding satisfaction at work and total time spent on private e-mails, referred to the **ratio** regarding the duration of working on private e-mails, relatively to the duration of working on e-mails in general. The advantage in that index is that it neutralizes the subjective individual deviations, which the employees had when estimating the duration of e-mail usage time.

$\mathbf{t_1}$ is the average declared times perception spends on each private e-mail.

"Private Ratio T" = is the ratio, regarding average duration times perception spends on private e-mails, relatively to the duration of working on mails in general.

$\mathbf{t_i = t_1 + t_2 + t_3}$ = Total time spent on e-mails for one employee

Herewith the calculation mode: **"Private Ratio T"** = $\mathbf{t_1 / t_i}$

This is a direct index coming from another direction- the more I use the higher proportion out of the total time with e-mails- more at private e-mails; I am less satisfied at work. Results show in Table 46 that there is a negative significant medium correlation between proportion out of the total time of e-mails usage and satisfaction at work ($r= -0.496$, $p<0.001$). **That is to say, that high private e-mails usage indicates of dissatisfaction at work.**

Graph 14 shows that the mean of "Private Ratio T" per day is 0.41 with a standard deviation of 0.166. **The more the employees are using e-mails, the higher proportion out of the total time with e-mails, and the more at private e-mails, indicate of less satisfaction at work** and vise versa.

The Correlation between "Work Ratio T" and SAW are shown in Table 47. There is a positive significant medium correlation between proportion out of the total time of e-mails usage and satisfaction at work ($r=0.502$, $p<0.001$). That is to say, that **high proportion of work (Inside + Outside) e-mails usage indicates of satisfaction at work.**

Graph 15 shows that the mean of "**Work Ratio T**" per day is 0.58 with a standard deviation of 0.17. The time of ex-organization e-mails are linked with the total preoccupation time with e-mails positively correlates with satisfaction. This is the highest index, which is why it was adopted as index.

Chapter 6 - Discussions

Four decades after the first e-mail was sent in the late 1960s (Bälter, 1998), it is now accepted as one of the most popular ways for communicating, both for private and organizational use. Current estimates are that around 130 billion e-mails are sent daily (World Internet Usage and Population Statistics, September 30, 2009; Symantec, 8.12.09).

Through the decades, e-mail, as a preferable communication channel, has considerably contributed to the changes of organizational structure and behavior. Among these changes are to flatten the hierarchical structure so that it is easier for people to communicate with anyone in the organization and to diminish the influences caused by traditional gatekeepers of communication (e.g. the secretary) so communication is more in the control of the sender (Cheney et al., 2004; (Goldman, 2004).

The positive aspects of e-mail, which helped make it such a successful way of communication, correspond to the speed of information delivery, ease of use, cost-effectiveness, accountability, consistency, and flexibility (it can be saved, printed, forwarded to as many people as we want, edit it and almost any content can be attached to it). Its availability is 24 hours a day, 7 days a week. Usually, in many cases it can be accessed from anywhere in the world and, most of all, it can be sent at the convenience of the writer and read at the convenience of the reader.

However, it is not without flaws. Technically, it is not 100% reliable, and it suffers from deficiencies regarding privacy or confidentiality (SPAM is perhaps the most known and notorious phenomena example). More issues that are technical involved exponentially increasing volume and hence storage, bandwidth and information overload.

As stated by many (Powell, 2003; Coulson-Thomas, 2005 or Marson and Marson, 2002), e-mail has provided an efficient but inexpensive form of communication, which enabled knowledge and information sharing and helped generate and increase business and business related interactions.

While the previous (technical) issues are often seen as IT issues, and usually regarded as trivial or even insignificant, this research is focus on a less tangible aspect of e-mail use, which doubts its effectiveness form the organization and business process point of view.

As stated above, the motivation for this research was driven from the author's realization that a large proportion of the e-mails she receives during work hours are either private or irrelevant. Furthermore, the author received the same private e-mails from different sources, leading to the conclusion that e-mail can be both annoying, time consuming and distracting, and as such can inversely affect her efficiency at work.

This led to the formulation of the research rational. According to it, workers ineffectiveness, or rather the misusage of work hours for private or irrelevant purposes, is by a large degree an outcome of an increasing quantity of e-mails, both private and work related. Furthermore, both workers ineffectiveness and increasing e-mails quantity can be accounted by, and thus serve as indications for workers satisfaction at work, their social network intensity and the presence (or rather the absence) of an organized policy or culture.

The effectiveness of e-mail as an appropriate working tool was questioned by many researchers, though these studies focused on the influence of information management over employees wellbeing, stress, exhaustion and work satisfaction (Ingham, 2003; McShane and Von Glinow, 2003). There is a large bulk of research that supports the positive aspects of e-mail usage as a mandatory tool, which enables employees and management to handle their everyday assignments in a more fluent and efficient manner. It is the widespread conjecture even today (for example Chyna, 2000; Fallows, 2003 or Dabbish et al, 2005) it seems that negative aspects of this incredible tool are relatively neglected.

Studies have shown that in cases where both management and employees have no awareness of the negative effects of e-mail usage and abuse on the normal operation of an organization. E-mail usage can lead to abuse at work, which can even devastate and destroy organization goodwill and some may ended in court (Rasch, 2006; Booth, 2009; Searcey, 2009; Whitaker, 2009). This can happen even when organizations

have proactively formulated e-mail use policy, and adopted inspection tools such as monitoring systems to dissuade and prevent the occurrences of e-mail abuse from happening (Zoghbi et al, 2006).

Furthermore, organizational effectiveness as a term can be considered from different points of view. A positive perception of performance, as in Taylor et al (2008); Mano and Mesch (2009), relates to aspects of increasing workers and organizational potential to provide more and/or better work-related outcomes. On the other hand, a negative approach, such that was presented by Friedman and Currall (2003) or Baruch, (2004) aimed at identifying factors that inversely affect performance such as disputes and misunderstanding (Friedman and Currall, 2003), or a decrease in workers appropriate judgment and evaluation (Baruch, 2004).

In view of the above, this research belongs to the latter approach. It is aiming at examining an array of disordered behaviors related to using e-mail in the workplace which are result of dissatisfaction at work, unclear policy of usage, or lack of awareness regarding the existence of monitoring systems and the effect of network connection, which are reflected through the e-mail address book at work and at home.

Chapter 7 - Conclusions and Implications

The research model was tested and estimated by a survey held among 15 medium and large service provider organizations in Israel, as stated in details in the preface. The sample included only employees (workers or managers) for whom e-mail is not an essential tool for performing their jobs (for example, Call Center receptionists or Hi-Tec companies) but rather as an aiding secondary working tool.

7.1 Conclusions

Hypothesis 1.1: There is negative correlation between Satisfaction at Work (SAW) and Q Private Perception e-mails (QPPM). The more satisfaction at work, less private emails usage is.

The correlation between the amounts of private mails exists regarding the duration of time, and the amount of private e-mails was found to be negative with satisfaction at work (SAW).

In general, satisfaction at work (SAW) was found to be at a medium-high level. No distinguish was done between the initiators of the private e-mails and all kind of private mails, either inside the organization or those received from the external-organizational sources that were considered as private e-mails. On average, employees spend more than 5 hours a day (a working day) attending their various type of e-mails. During this time, employees attend 100 e-mails on average. Satisfaction levels were indifferent to "organization size", but employees' satisfaction at work was higher for "commerce" and "services" organizations in comparison to other organizations. Satisfaction at work (SAW) level was also found to be indifferent to "gender", "age" and "education" while SAW levels of the "sector" of the job "profession" were lowest for Junior Management and highest among managers of more than 150 subordinates. In addition, in "organization type", the "municipality" employees had the highest satisfaction rate while the "ministry of education" organization's offices in the area of Jerusalem had the lowest rate of satisfaction.

Also the examination of the correlation between amount of e-mails after neutralization of time duration during which the employee is preoccupied with private e-mails, yielded significant result which points at another impact on satisfaction at

work beyond the existing correlation between amount of private e-mails and the duration of being preoccupied with them.

The main important conclusion is that as employees satisfaction at the work place is rising, the quantity of private e-mails they attend is declining, and vice versa. This conclusion can also be interpreted backwards, meaning, that an increase in private e-mail being attended by an employee might suggest a decrease of this employee's satisfaction.

Alternatively, this suggests a positive relation between employees' dissatisfaction and private e-mail quantity.

Hypothesis 1.2: There is positive correlation between Satisfaction at Work (SAW) and Q working e-mails –Inside (QWMI). The more satisfaction in work, the more working type-working emails inside is.

Examination of satisfaction opposite the time dedicated to internal e-mails at work and the amount of e-mails, findings suggest that there is a positive correlation between employees' satisfaction and the amount of internal originated e-mails at work. However, this is statistically significant only in regards to two dimensions of satisfaction at work. Specifically, as employees feel satisfied with the manner of using their skills and capabilities and with their salaries and feel they are properly rewarded, they tend to take care of more internal originated e-mails at work. This suggests that the more the employees are satisfied at work they will make more effort in action inside e-mail and will increase the quantity. This leads to higher duration of time related to working e-mails handling, and effected by the impacts of satisfaction at work.

Hypothesis 1.3: There is positive correlation between Satisfaction at Work (SAW) and Q working e-mails –Outside (QWMO). The more satisfaction in work, the more working type-working emails outside is.

Examination of satisfaction at work opposite the duration of time dedicated to external-organizational source working e-mails and the amount of e-mails, points out positive correlation between the amount of external e-mails at work, and only one item regarding satisfaction. When employee feels satisfy with the manner he uses his

skills, capabilities, and with his salary, and feels rewarded, he takes care of more external e-mails at work.

This suggests that the more the employees are satisfied at work they will make more effort in action outside e-mail and will increase the quantity

Duration of time related to working e-mails handling, is affected by the impacts of satisfaction at work.

A secondary result from Hypothesis 1.1-1.3 regarding satisfaction at work arise from the sector of the organization "type", which has significantly impacts on employs satisfaction, and show that the employees in "service" organization sectors have the highest satisfaction at work followed by the organization "type", which was indicated as the "municipality" employees with the highest satisfaction rate. In addition, in the level of "more than 151" in the sector "subordinates", satisfaction is significantly higher compared to the rest levels of the employees in that sector, which may indicate correlation with its variety of rewards and the power over others. I.e. the more subordinates they have, the more satisfied they are, because they consider it a reward for their efforts.

As a first foundation of the research model, hypothesis 1 argues that e-mail, as a quantifiable performance measure, can be associated with employees' emotions and intangible state of mind. As such, the positive relation between an employee's satisfaction at work and the employee's performance is well documented (Garcia-Bernal et al., 2005; Mano and Mesch, 2009; Asad and Dainty, 2005 and more). The main objectives behind work satisfaction research were identifying factors that can help improve overall organizational performance and efficiency, and as such this research is yet another validation of this rational, particularly in regards to assumptions 1.2 and 1.3.

Never the less, there are **two more conclusions** arising from **hypothesis 1**. The first conclusion is that e-mail can be a quantifiable performance measure. This conclusion has also been documented by Kiesler et al., 1985; Weisband, 1992; Straus and McGrath, 1994 and more recently Taylor et al (2008) and Mano and Mesch (2009). What arises from the current research is that it can be a quantifiable indicator for satisfaction, which was not yet discussed.

The second conclusion from hypothesis 1 is that e-mail can serve as a stressor. This was documented in previous studies (Romm and Pliskin, 1999; Taylor et al., 2008). However, Hypothesis 1, and particularly hypothesis 1.1, provides a first documentation of the positive correlation between dissatisfaction at work and private e-mails traffic and quantity.

Hypothesis 2.1: There is positive correlation between Quantity Net-mail connections (QNC) and Q Private Perception e-mails (QPPM). The more net-mail connections at work, the more private e-mail usage is.

Examination of quantity net- mail connections opposite the amount of e-mails and the duration of time dedicated to them, indicates on a positive correlation was found. This significant correlation indicates that as the amount of e-mail addresses at work and at home increase, so is the amount of time devoted to handling them at work.

In general, quantity net- mail connections (QNC) and the amount and time dedicated to the handling of private e-mails were found to be significant, even though with low-medium intensity. In general, it indicates that the more increase is in the amount of e-mail addresses at work and at home, thus there is increase in the amount of time devoted to handling them at work. QNC level was also found to be indifferent to all demographic variable except "organization sector", in which the amount of addresses of organization employees in the e-mail address book predicts the duration of using private e-mails.

Hypothesis 2.2: There is positive correlation between Quantity Net-mail connections (QNC) and Q Working e-mails –Inside (QWMI). The more net-mail connections at work, the more working type-working emails inside are.

Regarding e-mails originated inside the organization, few significant correlations were found even though with weak intensity. That finding, despite its weak intensity does point out positive correlation between the variables. Quantity net-mail connections (QNC) do not predict the duration in using the e-mails originated from the organization. Quantity net-mail connections (QNC) level was also found to be indifferent to some demographic variable except "organization size" and "profession", which predict high use resulting from high quantity of e-mail addresses but, "Organization type" and "Age" predict less usage of e-mails originated inside the organization.

Hypothesis 2.3: There is positive correlation between Quantity Net-mail connections (QNC) and Q working e-mails –Outside (QWMO). The more net-mail connections at work, the more working type-working emails outside are.

When analyzing the quantity net-mail connections (QNC) and the amount of working e-mails received from the external-organizational employees, and the time spent on those e-mails, few significant correlations were found even though with weak intensity. Quantity net-mail connections (QNC) do not predict the duration in using the e-mails originated from the organization. Quantity net-mail connections (QNC) level was also found to be indifferent to some demographic variable except "profession", which predicts high use resulting from high quantity of e-mail addresses but "age" and "organization size" predict less usage of e-mails originated inside the organization.

By analyzing tables 26/28/30 and its variable findings, outcomes conclude that parameters such as "no. of employees", "age", and "position" were found as significant predictors for time wasting. These finding are significant in internal organization levels as well as in the external organization level. However, the variable "public sector" was found as a predictor only in internal organization levels, which is suitable with the statistic analyzing the homogeneous sample.

By read-through, in the summarizing of the quantity net-mail connections (QNC) tables, we can see in Table 24 analyzing the relations between the quantity net- mail connections, resulting out of the address books at work and at home. That includes employees e-mail addresses, and the total time dedicated to the reading of private and work-related e-mails, a significant positive correlations was found when $P<0.01$. Moreover, when checking Table 25, Pearson correlations among QNC items, it results that correlation is stronger when the connections were checked versus private e-mail addresses. This results show a closer and tight look, which requires the organization to stringent the control of the private e-mail addresses provided in the addresses book at work. This limit will enable keeping the efficiency by reducing waste of time during working hours. Table 27 in particular, shows results that delve into the necessity of creating differentiation between amounts of private e-mail addresses versus organization working e-mail addresses. This control and supervision will

enable increasing the employees' efficiency by reducing time wasted initiating quantity of private e-mails addresses, and by that increasing the organization profits.

The significant correlation indicates a positive correlation. However, in multiplicity of e-mail addresses at work results connection between the number of e-mail addresses in the address book and the time devoted to handle them, and has minor effect on the amount of private e-mails, and a weak positive influence on duration of time dedicated to them. That finding, despite its weak intensity does point out positive correlation between the variables. That shows again, that with correct policy of using and handling e-mails, such phenomenon of wasting time snowball may tremendous reduced.

Hypothesis 3.1: There is negative correlation between Existence of Organization Culture/Policy (OCP) and Q Private e-mails (QPM). The more culture/policy existence, the less private emails usage is.

Generally, analyzing the correlation between existence of organization culture/policy (OCP) and quantity perception of mail reveals a negative correlation between all dimensions of the variables.

In general, existence of organization culture and policy, which the employees are aware to the existence of organization culture/policy (OCP) was found to be with few positive and negative weak correlations related to private e-mails. It shows that even though the existence of clear and well-known policy and procedure of handling e-mails within the organization culture framework, the time dedicate to handle the private e-mails is still high. Those correlations were found between the items that check the time dedicated to read private e-mails at work and the existence of clear and well-known policy and procedure of handling e-mails within the organization culture framework. That shows that in some cases, in which the employees are using the e-mails for private purposes, the existence of organization culture/policy (OCP) play a shade role when the employees are asked if they are doing it for working purposes only. When the employee is asked about his opinion regarding the employer right to send/receive private e-mails at work, the reply point out that even thought the policy exist, the employees consider the right to send and receive private e-mails is more powerful than written procedures. Organizations must consider other ways rather than

impose procedures. Such ways can be participating employees and make them be part of the procedures establishment regarding e-mails handling. Existence of organization culture/policy level was also found to be indifferent to all demographic variables except "profession", which shows increase of use of private e-mails at work. That may indicate the some professions can predict high private e-mail usage and organization should pay attention for its reasons, which were not investigated.

Hypothesis 3.2: There is negative correlation Existence of Organization Culture/Policy (OCP) and Q working e-mails –Inside (QWMI). The more is the existence of culture/policy, the less is the usage of working type emails inside.

Regarding correlation with existence of organization culture/policy (OCP) inside organization e-mails, few positive and negative significant correlations were found, all with weak intensity. The positive connection explains that the more the employees are aware of policy existence, the more they dedicate time to handle them even if weak intensity. Conversely, out of the negative correlation findings, we can conclude that the more the employees are aware of policy existence, the less they use e-mails even if the connection is weak. Correlations between existences of organization culture/policy (OCP) do not predict the duration in using the e-mails originated from inside the organization. Correlations between existence of organization culture/policy (OCP) level was also found to be indifferent to some demographic variables except "organization size" and "profession", in which e-mail usage inside the organization and "age" can be predicted, and younger users use more e-mails originated inside the organization.

Hypothesis 3.3: There is negative correlation between Existence of Organization Culture/Policy (OCP) and Q working e-mails –Outside (QWMO). The more culture/policy existence, the less working type emails outside is.

Regarding existence of organization culture/policy (OCP) correlation external-organizational e-mails, few positive significant correlations were found, all with weak intensity. Existence of organization culture/policy (OCP) level was also found to be indifferent to all demographic variables except "age" which show the less is "age" the e-mails usage originated outside the organization is increasing. Through neutralization the demographic parameters through linear regression existence of organization

culture/policy (OCP) vs. "working outside" e-mails, it can conclude that the employees who are adopting the organization culture/Policy have more time to invest in working corresponding and group effort with colleague out side the organization. Regarding "age" topic, older age may indicate the employees are not using external-organizational e-mails as collaboration and working tools.

First, according to this scientific experimental design, one may predict that the variables factors will produce a strong negative effect on the dependent variable. This expectation was not approved in all items. The items that were found with high positive correlation do not strengthen the above, and the hypothesis is rejected. However, the items in this hypothesis that were found with significant negative correlation support our experimental prediction and the hypothesis is accepted.

Second, in order to gauge and support the outcome findings, the conclusion is that if we want to increase organization's efficiency, management and managers who formulate organization culture, policy and procedures, must obtain tough working rules. Those rules must be wide present over the organization net working, which enable exposure to each employee in all positions. Keeping this policy is a mandatory step that should be implemented according to organization type, its area and discipline, and the scope of its activities.

The above results show, that even though the existence of clear and well known policy and procedures of handling e-mails within the organization culture framework, the time dedicate to handle the private e-mails is still high. This implies that e-mail volume, and hence time dedicated to deal with it, is decreasing with proportion to the extent that this policy or cultural convention are enforced. These findings require that the organization procedures within the policy will determine more clear and precise procedures. It also suggests that by implementing a clear, thorough, viable and continuous effort in restraining e-mail traffic and employees legitimacy to deal with them, might aid in keeping employees focused being more productive, which its strict implementation must be distributed among all levels inside the organization

The only variable that was not found significant is the "The management right to tail the employees" actions on the web, which lead to the conclusion that spying after employees is not the right tool to use. That attitude was reflected from the employees'

point of view in the findings, which result in positive correlation between the steps and activities taken by the employees in order to avoid management tailing, tracing and supervision. The findings the correlation with Existence of known organization culture/policy (OCP) shows that as long as the employees are well familiar with the procedures and regulations regarding e-mails handling, the amount of working e-mails is reduced. Therefore, organizations must pay special attention to implement correct procedures, so the employees will be able to save wasted time resulting from unfamiliar handling rules. This is strict when private e-mails are concerned. When publishing policy that totally forbid private e-mails, the time dedicate to handle them is reduced and it enables to handle working e-mails in depth.

With regards to work-related e-mails, the conclusion seems to be an inter management enforcing process in which sending uncontrolled e-mails to multi copied addresses and insufficiently short and clear e-mail messages results in continuously receiving insufficiently clear messages, which leads to increasing waste of time.

As stated above (Axelsen, 2008 or Wilson, 2006), many believe in the ability and the right of the employer to enforce such strict policy, and thus increasing productivity. However, this belief is constantly confronted with issues of "free will" and "freedom of choice", according to which employers have limited control over what and how people (e.g. employees) think. For example, employer efforts in denying employees from 'peeking' at personal e-mails might be difficult to achieve and might costs much more than the added value should produce (Jackson, Dawson and Wilson, 2003). These perceptions were expressed in this research too. Statements like "To my opinion, the employee has the right to send and receive private e-mails" were found positively correlated with e-mail perceived quantity.

<u>Hypothesis 4</u>: There is positive correlation between Quantity perception of Mail (QPM) and Personal Time Ineffectiveness (PI). The more quantity existence, the less personal time ineffectiveness is.

As stated above, PI (personal ineffectiveness) is a derivative of quantity perception of mail (QPM) that expresses the relative time dedicated by the employee to non-efficient activities, such as handling personal e-mail.

This perception is also used in regards to work related e-mails. Bare in mind that sample included only employees for which e-mail was not the main and essential working tool. In view of this, higher relative time dedicated for work related e-mail might also suggest ineffectiveness by Time Working e-mails Inside (TWMI) and Time Working e-mails out-side (TWMO).

Findings suggest that there is a positive correlation between quantity of private e-mails sent/received (QPPM) and personal ineffectiveness with relation to private e-mails (Personal ineffectiveness in private e-mail- PIPM). This is quit intuitive, and suggests that the more private e-mail an employee sends and receives the more ineffective he becomes. Similarly, further results imply that there are positive correlations between work related e-mail quantity, both originated inside and outside the organization (QWMI and QWMO) and personal ineffectiveness in regards to work related e-mails. According to these relations, employees become more ineffective as the volume of work related e-mails increase. Although these findings suggest that there is a linear relation between the two variables, intuitively it does not add up, mainly because employees with small volume e-mail traffic can show better efficiency when e-mail quantity increases.

In general, quantity perception of e-mail (QPM) and personal time ineffectiveness (PI), which was calculated to overall duration of time inefficiency of private (T_1) and no-action working e-mails (T_{ac}) was found to be high with total of 55 working e-mails per day. During a working day, one employee attends 100 e-mails on average out of this approximately 45% are for private purposes. This takes on average more than 5 hours (ti) a day for attending their all types of e-mails. Furthermore, a mean of over 28% of all attended e-mails are irrelevant work related e-mails.

This means that if we add to that the time spend on "Private" e-mails (t_1), about <u>three quarter of the total e-mail traffic</u> attended by employees is either not work related (e.g. private) or irrelevant. Intuitively, this means that about 3 hours (PI) of the daily workday are not efficiently utilized, not to say wasted, by the average employee.

Both negative and positive aspects regarding the amount of total e-mails either send or received might suggest that the relation between e-mail quantity and employee

efficiency is parabolic, meaning efficiency increases as e-mail quantity increases to an optimum after which employees' efficiency decreases.

*It means that according to the author opinion, most probably **dual effect** of the two causes exists. The "Inhibiting" effect caused by "overload" e-mails that acts in reducing organization efficiency and results in "facilitating" effect of the curve to act as an inverted-U. Under certain conditions, e-mails can induce significant and rapid reduction in organization effectiveness.*

If the last comprehension is correct, than the research findings also suggest that for the most part e-mail volume has exceeded this optimum, and as it continues to grow it causes employees' ineffectiveness. After this research was done, similar conclusions were recently documented by Mano and Mesch (2009) and before that by Taylor et al. (2008), according to which the extent, content, and increased volume of e-mail are positively related to work performance.

These results are not consistent with other explanations given by Garrett and Danziger (2008), who shows that dissatisfaction at work place, has no significant influence on personal e-mail use. In contrast, factors which shape the expected outcomes of personal use, and indicates that generalized positive perception such as job commitment are strong predictors.

Amount and quantity of e-mails

The growth in the volume of sent and received e-mails can make it difficult for employees to prioritize, manage and handle them. In order to achieve effective usage of employees' time and increase employees' productivity, management should through analysis of collected data, provide basic guidelines for e-mail usage within the workplace, reducing the conspicuousness of interruptions by restricting the use of e-mail to all type of messages. It does not have to include those who require it for their work, limiting nonessential access.

There are undeniable advantages in communicating by e-mail, but organizations are not quite aware of the problems associated with e-mail use and thus are not enough eager to reduce these inefficiency outcomes. This paper examines how e-mail is used

within large organization in Israel, and highlights the negative usage and inefficiency in the organization that are associated with e-mail. Cyberloafing and e-mail abuse can be effectively mitigate and prevented, mainly by creating culture awareness, educating staff regarding risks and symptoms of e-mail abuse and their responsibilities. It was shown that there are relationships between culture and policy existence and perceived organizational control that contribute to the fear of formal punishment as expected by the employee. Top management can decide on appropriate and suitable knowledge to evaluate contradictory consequences of using private e-mail, and its negative abuse problems. Technological spying tools such as monitors may help in preventing private e-mails and e-mail abuse, but they cannot achieve policy and procedure honor and satisfaction at work especially in large organizations.

Efficiency resulting from e-mails usage

Management has to understand that e-mail tools can be ineffective, unless they are able to translate the awareness or perception of their values into efficiency and improvement in handling the e-mails. The e-mail use is becoming an important tool for online users, not only for working use, but also for social contentment. Organizations nowadays are becoming aware of the problems associated with deficiencies resulting from ineffective way that e-mails are used during working time. The main elements of e-mail inefficiency that were identified, are not only limited to the amount of e-mails that are sent or received, but also to satisfaction at work, net mail connection through mail address-book amount and using existing policy and the quality of the working-related e-mails content. Effective solutions to struggle with these identified factors contribute to the widespread and minimize the negative activities are proposed as the findings of this study. Management obviously should be able to measure its employee's productivity in order to be able to control the inner organization working. It has a bigger input while we are checking big organizations where on one hand employees can cause organization serious loses, while on the other hand, high productivity can increase efficiency and revenue. With external lack of a proper control, employees who are not satisfied with their work are more likely to spend more time on the private e-mails handling, than those who are satisfied. This phenomena that results in a lower productivity, should expedite management to develop a tool with which they will be able to locate unsatisfied employees through high usage of private e-mails. These findings are strong predictors for the tendency of

an employee in the workplace, aiming to increase efficiency. Such preventive measures through satisfaction factors may be more effective than reactive technology or monitoring private e-mails for time wasting and cyberloafing abandoned behaviors that can be spotted in the workplace. This also supports the fact that most employees who are not satisfied at work, regardless of their awareness to policy existence restrictions, will take measures to avoid the management e-mails detection.

Major finding of low productivity were resulting either from dissatisfaction, which can be solved in lot of mixture ways, and widely and comprehensively were discussed in many researches. Regarding the unprofessional e-mail tools usage, management can increase efficiency by increasing the quality of working related e-mails and reducing quantity of private and work-related e-mails that will lead directly (e.g. time) and indirectly (e.g. infrastructure) to cost diminishing. Training and education within organizations which tends to focus on the hardware and software issues by monitoring the employees, with no regard to requisite communication skills is useless. The paradox then is how to blend the control perspective focusing technologies tools along with the human resource perspective relying on efficient communication skills, and e-mail usage and behaviors.

Policy at work

Billions of e-mail users, and more billions of active e-mail accounts, use worldwide. The accepted concept of "all are equal" means that our e-mails are received from various senders and we, in most cases, can neither separate nor prioritize them. This is why the new step has to address the issue of separating the e-mails according to prioritizations rules to arrive into their relevant folders.

Infringement of privacy in the workplace is characterized by limited options series, compared to other situations. In that case it seems that the arrangement does not apply to private technology, as in most cases the employee may install software on a computer or other, which may prevent the violation of privacy.

In most cases, the employer may install software, which may prevent the violation of privacy, and in most cases also affecting private activity, which is performed on employee's PC.

The simplest solution is just to prohibit the use of company e-mail facilities for private messages. However, this would require the monitoring of e-mails and require disciplinary procedures and controlled cross organization policy being set up and implemented. Companies need to have a policy on the private use of e-mail that defend their networks and provides an alternative for employees that they will really on and use. The need to avoid any uncertainty regarding what is sent out in their name and need training that will give correct tools, which should result higher efficiency relating to all type of working e-mails. Once that will be done cross organizations it will lower the time waste outcome that may influence on organizations that have already trained their employees.

Top management should encourage greater emphasis on establishing procedures and policy for conducting correct usage communications, constantly reminding staff to use e-mail only after careful consideration. In addition, teach them how to use the e-mail tool in order to increase efficiency and not to cause the contrary. This research have explored that in most cases employees are not aware of restrictions regarding sent or received private e-mail. In some cases, they are aware of it, but had chosen to ignore it, mainly because of not implement the stated penalize. More than that, top managers are also ignoring policy, which they had dictated. Thus, implemented policy and procedures can significantly reduce some of the e-mail inefficiency and improve the way employees write and use e-mails as essential tool at work.

Management responsibility in connection to OCP

The inefficiency is not only limited to the amount of e-mails that are being sent or received, but also the quality of the e-mail content. This is caused because e-mails are sent almost automatically, while no initial consideration was made whether this specific e-mail should be sent or not. Another major finding indicates that some employees and managers were overloaded with working-related e-mails because of the inappropriate use copied addressees (the cc function). Managers and employees do not pay much attention to the total copied addressees' volume and adds unnecessary addressee easily. No second thought is made if the person who is copied have to receive the specify e-mail and this results in superfluous inefficiency and time wasted. Another reason that causes increase of the total huge unnecessary e-mails volume, results from the element of covering oneself for future references. Other thinks that

"no harm" is done if the addressees will receive the e-mail "just-in-case" for information only. The problem that causes tremendous loses and time waste, was never mentioned as a major problem of time wasted, and top management in the organization is not aware about this issue. Furthermore, there is the problem of duplication, with e-mail communications from various sources, which is more serious. Not only that the addressee dose not need to receive the e-mail and waste time in handling it, they have to waste more time due to this duplication problem. Top management should determine which e-mail defects were most receptive to e-mail training, and discourage the predominant use of duplicated e-mail communication at work. E-mails content also have role in increasing inefficiency mainly because of its unnecessary length that causes time waste. Top management should issue guidelines for e-mail writing style in order to be more efficient including accepted abbreviations. More technologic tools besides monitoring the employees' e-mail can be used in order to define criteria by which the e-mails are filtered, and create e-mail basic structure for simplifying the writing and reading. Another conclusion was that recovery time between finishing reading the e-mail and returning to the previous work task increases time waste and inefficiency when the volume of e-mails increases. When employees are checking e-mail during working hours, all day long (when they receive e-mails), than the recovery time caused by multiplicity e-mail interruption was significantly high. Thus, using an effective time management train, policy and skills such as blocking times of the day for handling e-mails or handling until the employees had come to a point where it is convenient to stop work and open the e-mail. If all will act the same way, than e-mail will be send and received more or less at the same rate.

Infraction of privacy in the workplace is characterized by limited action that results in violation of privacy compared to other situations. Both Weiss, 2009 and Booth, 2009 mentioned that there is no prohibition on the employment regarding law aspects of private e-mail usage at work, and it is similar to problem applies equally to private phone calls at work. Employers have the right to use or prohibit completely or partially private usage.

As already mentioned, firms state that there are billions of e-mail users and more billions active e-mail accounts among employees at work worldwide. There is common medium concept of "all are equal" which means that e-mails, which are received from various senders, in most cases cannot be separate or prioritize. This is

why the first new step towards minimizing the time waste has to be addressing the separating e-mails issue in which once they arrive they should be separated or prioritized into their relevant folders. That should be used not only for any private purpose. Drawing the line should be made in a sensible individual way. Since it becomes harder to distinguish between work-related aspects and private e-mails handling, the employees should be careful about the personal and business information that they are sending through e-mails, and integrate it into organization OCP to meet business and law aspects. They also have to connect to the need to have a policy on the private and work use of e-mails that safeguards their networks and provides an alternative for employees that they will really make use of it.

Regarding abuse through e-mails, gaps do exist in most cases, and governments should draw on best practices and work closely with large organizations and industry to enact enforceable legal protections against these new crimes methods.

Demographic Parameters

Demographic variables were found to have a significant mediating role within research model. The initial results show that negative and positive results, affect groups of employees more than others in some demographic parameters.

As such, age was found to adversely affect both "Private Time Spent", inside generated e-mail volume, externally generated e-mail volume, quantity net- mail connections in e-mail address book (QNC) and an enforcement of existence of organization culture/policy (OCP). Therefore, older workers were less prone to be inefficient, regarding to e-mail handling, than younger workers.

Other significant demographic influences involved workers position.

Position was found to increase inefficiency in regards to "Private Time Spent", quantity net-mail connections in e-mail address book (QNC) and an enforcement of existence of organization culture/Policy (OCP). Simply put, this means that the higher a worker is positioned, the more time and resources he directs to private and irrelevant e-mails, and thus become more inefficient.

The size of the organization was also found to affect e-mail related inefficiency. Larger organizations workers were found to be more efficient (deal less with private

and irrelevant e-mail) than other smaller organizations. Larger organizations handled more internally created e-mail then externally created ones, and were found to be more in accordance with organizational culture and policy (OCP). This is rather intuitive since larger organizations usually implement and maintain large scales infrastructure IT systems, and thus enforce a more holistic and strict organizational policy. However organization size had a negative correlation regarding e-mail originated outside the organization, which may indicate that larger organizations workers is related to the "profession" and role they perform in the organization.(deal less with e-mail originated outside the organization) than other smaller organizations. Same correlation was found in "profession", which strengthens this explanation.

Surprisingly, other demographics like "subordinates" and "education" level did not have a significant role in the model. In addition, they do not predict the independent variable both satisfaction (SAW), quantity net-mail connections (QNC) and organizational culture and policy (OCP). This implies that less educated workers handle e-mail the same as educated ones, and that subordinates both handle e-mail the same. This also suggests that e-mail is rather a technological communication tool rather than a social application. These findings are also surprising in view of the bulk of literature that reviewed workers satisfaction such as Koustelios, 2001 or Clark, 1996 to name a few, and found that workers demographic background has a significant and diverse influence over work satisfaction and other job related performance.

The impacts from different profession roles and positions that employees play, which show that employees' perceptions of obedience and respecting culture and policy by internalizing them are different because of their jobs responsibilities.

Age has negative correlation when it exists. These correlations do not exist in quantity net-mail connections (QNC) and organizational culture and policy (OCP), and private e-mails indicator. All other parameters were found in correlation. They act as predictors in which they examine that difference in periodicities between the young and old, suggesting (not entirely convincingly) that this may explain the difference in the perception of policy when you are young and between young and old people i.e. that time passes slowly for the young and quickly for the old.

7.2 Summary and Implementation Solutions

The research concludes that companies must analyze e-mail usage and must develop useful learning and monitoring tools for organizational knowledge transfer, and e-mail behavior on a daily basis, in order to maximize the cost-benefit value in this respect.

It recommends the possible benefits that could be obtained by identifying dissatisfied employees in the best practice for the use of e-mail, since dissatisfied employees spent most of their working time in receiving and sending e-mails.

The study highlights the difficulties involved, and shows that further research is necessary in this respect. Companies from diverse service organizations or companies, whom operate in various fields, must analyze their working methods according to varied circumstances.

The increasing usage and e-mails availability at work emphasizes the importance of increasing the control and supervision of such usage at work. Moreover, it was found that spending large amounts of time on private e-mails might be an indicator for dissatisfaction at work in non-manufacturing organizations in most advanced countries.

This paper examined the implications of the e-mail from the **production** point of view, **satisfaction** at work, organization **culture** and **addresses quantity** in the address book.

It was concluded that satisfaction at work results less e-mails quantity in all aspects (private and working e-mails). When employer finds out that there is escalation in e-mails amount, mainly the private, it might imply on dissatisfaction at work. It is opposite when it is about amounts of e-mails related to work, where there is precisely decrease in the amount. One might assume that there is a diverse and distraction from required work e-mails to private e-mails in order to increase satisfaction at work. When employee works overtime, it was found that there was huge waste of time. The employee does overtime in order to cope with the work he did not finish due to handling private e-mails. I.e., employees who are expected to finish their tasks, usually work longer hours and overtime. The employees are more likely to do so if they have resolved their personal issues via email during the workday. Allowing

employees to use email can build trust and a greater commitment by the employee to the employer, and most probably will increase satisfaction. Writing usage guidelines without participation of the employees was proved inefficient.

Therefore, organizations management must consider participating employees in drawing the guidelines and a covenant that would be acceptable and implemented by both parties.

Managers had published many regulation procedures and policies, but their ability of using monitoring systems, raise the question where the border is drawn between the employee's right to privacy and the employer rights to monitor the environment created.

Regarding the point that there was poor connection between policy and private e-mails, rises the question, what should an employer policy on e-mail use articulate should be implemented?

The key to a defensible system of e-mail monitoring is the creation of a comprehensive and communicated computer use policy. Such a policy can go a long way towards meeting the "reasonableness" standards imposed on employers, who wish to collect, use or disclose their employees personal information.

Not only can it set out the way in which e-mail monitoring will be conducted, it can also be used to inform employees, thereby ensuring that employer obligations of notification and consent are met.

In reference to excess overload e-mails, many employees are sending email replies late or not at all, or send replies that do not actually answer the questions been asked.

The company must be able to deal professionally with email, by educating employees as to what can and cannot be written and how in an email and watch that employees will not violate the e-mail policy.

The amounts of communicated e-mails and the varied use of e-mails lead to data overload. The misuse of the CC or BC functions in e-mails, to either subordinates

manager or colleagues, is done not only because they should transfer or copy them due to organization needs, but also usually used as covering for their actions. When they interrupt important workflow tasks, e-mails may become unwanted, disturbing and may cause misinterpretation, which subsequently leads to tension between employees or wrong decisions.

Therefore, clear policy and training for the above mention actions must be implemented cross organization. Short and structured address lists can be created according to subjects, in order to prevent mass e-mails delivery. Training and policy information from time to time, as well as creating user templates will assist in reducing huge amounts of e-mails sent. It will reflect on quality content as well, since these training will focus on it too. About 25% economy of e-mails amount will save at least one hour work per day, which is quiet important for the employer.

It must be indicated that the current research did not examine how long it takes to write a business e-mail, but only the time it takes to read them, process them and handle inbox.

If this issue were examined, it would have produced gloomy results related to e-mail writing and time dedicated for it.

Policy should introduce training to all staff on how to use the e-mail application functions, such as setting message priority, email housekeeping with message rules, effective use of user groups and address books, and constructing better-structured messages. This must be done in coordination and cooperation of all organization factors, including employees, which will help in setting up the guidelines for writing and handling e-mails.

This suggestion tried to build and assess the value of a system of e-mail writing knowledge in each organization, which will be tailored according to its needs. The target should be to minimize the non-relevant e-mail, and optimize the process by a possible way of using employees' input details to improve the usage process of e-mail tool.

As for policy regarding e-mails received, a clear outlines should be made regarding restriction of using e-mail related to all messages, particularly regarding reply to all messages. This behavior serves as an indicator, which encourages current task abandonment, in order to check the received e-mail.

That will definitely reduce the cost for interruptions during any task disruptive, which is the time required for the employees to re-orient to where they left off. Reducing the prominence of interruptions can be done by turning off the new email alert dialogue box. organization that do not use e-mails as their primary work tool should outline a policy of checking inboxes, for example 2-3 times a day, in defined periods adjusted to workflow, which will prevent task abandonment.

Changing the intervals at which e-mail applications check for new e-mails can improves efficiency by reducing interruptions.

This is not enough, and employees who are trained properly not only make fewer mistakes, but they can also spot the reasons for errors. Training can change the approach from pointing fingers to identifying the steps needed to improve a situation.

Organizations should look at the positive effects of training on employee e-mail performance, and consider employee development as a targeted investment, into making the front line worker stronger.

Writing e-mail methods are informal study, which can be turned into a formal one, not by using spy software, but by using corporate monitoring program, that examines employees' actions during workday.

It should not be secretive, and it should be able to analyze how much time employee dedicates for writing and managing e-mails, in order to monitor his productivity.

The correct employee training, development and education at the right time provides big payoffs for the employer in increased productivity, knowledge, loyalty, and

contribution. Learning approaches of how to use e-mails correctly, will guarantee a return on the investment in training.

Employees should not be frustrated when using e-mail. They should be able to compose confidently an e-mail that is grammatically correct, clearly communicates their message, follows proper e-mail etiquette and does not take all day to write it.

In addition, they should understand how to quickly organize their e-mail mailbox to prevent that feeling of overwhelm.

The employer has the legal right to monitor, follow up, check, collect and do any action he desires related to work information. Regarding private information, a clear consent should be achieved between employer and employee.

An immediate implementation measure is separation between the private and work e-mails. An effective solution reached outside courtyard is required in Israel, such as an agreement signed between the employee bargaining units and employers, where a clear separation between work-related information and private information will be outlined. Moreover, the agreement should enable the employee to be present when employer views his private information. As results of recent Israeli court verdict regarding e-mail usage at work and this research results they said: "Since the external private inbox is the employee's private possession like his car or his home, the employer is not allowed to perform any surveillance on communication data or content that employee is performing on that inbox. It is forbidden for his to enter the private inbox and view the content of its correspondence".

The significance of the distinction is very clear; the employee should create his private zone on his computer, including private inbox and folders to hold his private information.

The following conclusion may be taken:

The employee's e-mail inboxes can be divided to three types, which determine the conditions that enable the employer to enter them:

1. Professional inbox – that is predesigned for work purpose only, and is forbidden for private usage. On that inbox, the employer is allowed to perform different

actions like monitoring and follow up on its content, mainly its professional documentation.

However, if the employee used it for its private purposes against organization policy, the employer is not allowed to view its content, unless it is about an offensive or criminal behavior of the employee. Even then, the employer must get employee's consent for entering his inbox.

2. Private inbox – the employer can allocate an inbox for his private issues and for managing his private correspondence in two ways:
   A. Mixed inbox – it serves for work and private correspondence. A specific consent of employee is required to allow employee entering his private e-mails as opposite to the professional ones.
   B. Private Inbox owned by the employer – a separate inbox that serves for employee's private purposes, including his only private correspondence, which requires his consent for allowing the employer to enter it.
3. External private inbox owned by the employee – the employer can allow the employee to hold such external private inbox, such as Gmail.

The relative proportion of Internet and e-mail users in Europe is more than double than that in North America. Hence, the research findings afford a basis for developing organizational strategy, and are more significant in Europe than in the USA.

The findings of the current study have greater validity for Israel, since the profile of e-mail and Internet usage in Israel, from where the research sample was taken, is similar to the European rather than the Asiatic or even the American profile, despite the Americans leading in the percentage of usage per person.

It is recommended that a mix of methods be constructed for coping with the usage phenomenon in Israel, and this could provide the basis for implementing the research findings in Europe.

Solution can be developed for many problems that were found in the current research. Most of them are applicable with changes adjusted to organization character, the daily work structure and the specific tasks for each employee.

Before implementation of the conclusions, it would be preferable to perform a mapping in order to locate the unsatisfied employees, and solve this problem with them.

The current research is not supposed to provide the solutions for it, but to alert on the existence of the phenomenon. However, in regards to time management and e-mails amount referring to increasing employee efficiency, several applicable solutions were presented.

The solutions in general are supposed to be implemented in macro organization level down to the micro individual level, in order to save immediate time and money, and to be come more efficient in organization level when using this communication tool.

This might also result in benefiting and making more efficiency in the way the business is run, how the employees are supervised, the work conditions and their cost-benefit results. All are factors that could lead to competitive advantage, satisfaction at work and efficiency of the organization as a whole.

7.3 Future Research

This research represents a preliminary study of the growth of the e-mail usage at work during working hours. It explores the insufficient usage of the e-mail as a tool, which is used by the employees on a daily basis. The investigated results are based on a subjective perception of employee report, which might have some problems involved in scaling results. Thus, future research can use automatic tools for more **accurate results**, which enable establishing an objective tool to measure the employee performance amongst different organization types and sectors.

In addition, based on this research results, more advanced tools with common internet tools and **social networks** such as Facebook, YouTube and other social networks should be added to measure the employee's performance and efficiency. Moreover, no researches were published yet with empirical results regarding recovery time following e-mail interruptions. The reason for it could be that e-mail is perceived as a tool that is causing minimal interruptions.

Following this issue, another subject that was not measured in the current research is how much **time it takes to write** business e-mails in different areas, and how much known material is added to the e-mail. Moreover, there are issues that repeat themselves in every e-mail. The current research examined only the time it takes to read the e-mails, process them, and manage the inbox and the time wasted on these actions. If these issues were investigated, it would have produced gloomy resulted related to e-mail writing and the time dedicated for it.

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Appendixes

Appendix 1: Questionnaire

Note: Some questions are for the next research

QUESTIONNAIR

1. I use e-mail at my work for working purposes only

Strongly disagree ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 Strongly agree

2. I use Internet at my work for working purposes only

Strongly disagree ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 Strongly agree

3. In which frequency do you use the Internet at work?

○ All day long ○ Few times a day ○ 2-3 times per week ○ Other_____

4. In which frequency do you use the e-mail at work?

○ All day long ○ Few times a day ○ 2-3 times per week ○ Other_____

5. Does your firm/organization have policy/procedures about using the e-mail?

○ Yes ○ No ○ I don't know

6. Do you think that your employer is monitoring your e-mail usage?

○ Yes ○ No ○ I don't know

7. Should employers have the right to monitor your e-mail usage?

○ Yes ○ No

8. Do you take any measures to avoid the employer e-mails detection?

○ Yes ○ No ○ Other_____

9. On average day, how many non-work-related e-mails do you send during the workday?

○ None ○ 1-5 ○ 6-10 ○ 11-20 ○ 21-30 ○ 30+

10. In my opinion, it is the employer's right to send/receive private e-mails at work.

Strongly disagree ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 Strongly agree

11. In my opinion the firm operates wisely by allowing me to use the e-mail for my private uses and needs.

Strongly disagree ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 Strongly agree

12. My co-workers think that I should use the e-mail for work purposes only.

Strongly disagree ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 Strongly agree

13. The firm I work for encourages e-mail usage for work related purposes only.

Strongly disagree ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 Strongly agree

14. The firm I work for, forbid using the e-mail for private purposes

○ Yes ○ No

15. Using the e-mail for my personal purposes enhances my efficiency at work.

Strongly disagree ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 Strongly agree

16. Whenever I come back from a vacation and my mailbox is full I:

1. Go over and check every e-mail I got.

2. Skim through and read the important ones

3. Erase most of them

4. Read only the important ones and erase all the rest

5. Other_____

17. I run personal conversation over the phone during work hours

Strongly disagree ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 Strongly agree

18. I am satisfied with the way in which my place of work uses my skills and capabilities.

Strongly disagree ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 Strongly agree

19. I am satisfied from the challenges that I face in my workplace.

Strongly disagree ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 Strongly agree

20. I am satisfied from the importance of my position in my workplace.

Strongly disagree ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 Strongly agree

21. I am satisfied from condition of the employment in my workplace.

Strongly disagree ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 Strongly agree

22. I am satisfied with my salary.

Strongly disagree ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 Strongly agree

23. I am satisfied with the relationship between me and my superiors

Strongly disagree ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 Strongly agree

24. In my workplace, my superiors limit/control the internet usage

○ Yes ○ No ○ I don't know

25. In my workplace, my superiors check my e-mail usage

○ Yes ○ No ○ I don't know

26. In my workplace, it is liable to send and receive private e-mails

Strongly disagree ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 Strongly agree

27. In my workplace, it is liable to fire a worker who uses the internet on non- job related issues

○ Yes ○ No ○ I don't know

28. In my workplace, it is liable to fire/dismissal a worker who uses the internet on non- job related issues

○ Yes ○ No ○ I don't know

29. In my workplace, it is liable to fire a worker who uses the e-mail on non- job or private related issues

○ Yes ○ No ○ I don't know

30. Generally speaking, I am satisfied with my job.

Strongly disagree ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 Strongly agree

31. For how many years have you been using the e-mail?

Less than 2 years 2 – up to 4 years 4 – up to 6 years More than 6 years

32. How many hours during one day do you handle your mail and internet in (work and private together) at home?

None up 1 hour 1 up to 2 hours 2 up to 3 hours 3 up to 4 hours

4 up to 5 hours 5 up to 6hours 6+ hours

33. How many hours during one day do you handle your mail and internet in (work and private together) at work?

None up 1 hour 1 up to 2 hours 2 up to 3 hours 3 up to 4 hours

4 up to 5 hours 5 up to 6hours 6+ hours

Has using the e-mail changed the way of duration of time spend as follow:

34. Talking to people face to face More No change Less

35. Talking to people on the telephone More No change Less

36. Getting out and about More No change Less

37. Pursuing hobbies or interests More No change Less

38. Doing paid or voluntary work More No change Less

Has using the Internet changed how satisfied you feel with your:

39. My general health More No change Less

40. Contact with family and friends More No change Less

41. Involvement with hobbies or interests More No change Less

42. Contribution to community life More No change Less

43. My general lifestyle and well being ○ More ○ No change ○ Less

44. How may e-mail addresses of your work colleagues, are in your e-mail address book at workplace?

○ 1-20 ○ 21-40 ○ 41-60 ○ 61-80 ○ 81+

45. How may e-mail addresses of your work colleagues, are in your e-mail address book at home?

○ 0-20 ○ 21-40 ○ 41-60 ○ 61-80 ○ 81+

46. With how many people, on daily basis average, do you form contact through the e-mail at work?

○ 1-20 ○ 21-40 ○ 41-60 ○ 61-80 ○ 81+

47. With how many people, on daily basis average, do you form contact through the e-mail at home?

○ 0-20 ○ 21-40 ○ 41-60 ○ 61-80 ○ 81+

48. On average, how many e-mails do you read on a daily basis, during the workday?

○ 1-20 ○ 21-40 ○ 41-60 ○ 61-80 ○ 81+

49. To your opinion, what is the percentage of received e-mails that do not need a reply?

○ 1-5% ○ 6-10% ○ 11-20% ○ 21-30% ○ 31-40% ○ 41-50% ○ 51%+

50-58. Questions refer to social networking and will be used in future researches

59. Today, the preferred way to communicate with my colleague at work is through:

○ Phone ○ Secretary ○ SMS ○ e-mails ○ Personal meeting ○ Other_____

60. Today, the preferred way to communicate with my friends is through:

Phone Secretary SMS e-mails Personal meeting Other_____

61. During a working day, I reply immediately to my private e-mails

Strongly disagree 1 2 3 4 5 6 Strongly agree

62. During a working day, I usually reply to my private e-mails

Strongly disagree 1 2 3 4 5 6 Strongly agree

63. During a working day, I usually reply to my private e-mails during my breaks or free time

Strongly disagree 1 2 3 4 5 6 Strongly agree

64. During a working day, I do not reply to my private e-mails if I am busy

Strongly disagree 1 2 3 4 5 6 Strongly agree

65. During a working day, if I am away from my computer, I usually reply my private e-mails immediately upon my return

Strongly disagree 1 2 3 4 5 6 Strongly agree

66. I reply my private e-mails (received at my work) at home only

Strongly disagree 1 2 3 4 5 6 Strongly agree

67. It is important to me to feel popular among my working group at work

Strongly disagree 1 2 3 4 5 6 Strongly agree

68. At my workplace, I am considered as enthusiastic

Strongly disagree 1 2 3 4 5 6 Strongly agree

69. During a working day, I feel tired

Strongly disagree 1 2 3 4 5 6 Strongly agree

70. Sometimes I am late in project or presentations delivery

Strongly disagree 1 2 3 4 5 6 Strongly agree

71. My participation in work activities related my workplace is poor compare to my colleagues.

Strongly disagree ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 Strongly agree

72. At work, most of the time I am extremely busy

Strongly disagree ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 Strongly agree

73. At work, In order to avoid mistakes, I prefer to work slowly

Strongly disagree ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 Strongly agree

74. At work, most of the time I am busy

Strongly disagree ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 Strongly agree

75. At work, my achievements are measured and compared to my colleagues

Strongly disagree ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 Strongly agree

76. I am satisfied with the projects I am in charge of at work

Strongly disagree ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 Strongly agree

77. I usually late to work, compared to my colleagues

Strongly disagree ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 Strongly agree

78. I usually find myself less busy, compared to my colleagues

Strongly disagree ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 Strongly agree

79. At work, I don’t like to participant in conversations, in which my colleagues are mainly complaining

Strongly disagree ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 Strongly agree

80. I usually take lots of breaks during working hours

Strongly disagree ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 Strongly agree

81. I prefer to finish all my tasks as fast as I can

Strongly disagree ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 Strongly agree

82. On average day, how many e-mails do you receive during the workday (private+work)?

○ 1-20 ○ 21-40 ○ 41-60 ○ 61-80 ○ 81+

83. On specific days, do you get e-mails more than usual?

○ Yes ○ No

84. If yes, specify the day

○ Su ○ Mo ○ Tu ○ We ○ Th ○ Fr ○ Sa

85. On average day, how many private e-mails do you receive during the work day?

○ 0 ○ 1-20 ○ 21-40 ○ 41-60 ○ 61-80 ○ 81+

86. How much time do you dedicate normally to the handling of these private e-mails per day?

○ None ○ up 1 hour ○ 1 up to 2 hours ○ 2 up to 3 hours ○ 3 up to 4 hours
○ 4 up to 5 hours ○ 5 up to 6 hours ○ 6+ hours

87. On an average day, how many spam e-mails do you receive during the work day

○ 1-20 ○ 21-40 ○ 41-60 ○ 61-80 ○ 81+

88. How much time do you dedicate normally to the handling of these spam e-mails per day?

○ None ○ up 1 hour ○ 1 up to 2 hours ○ 2 up to 3 hours ○ 3 up to 4 hours
○ 4 up to 5 hours ○ 5 up to 6 hours ○ 6+ hours

89. On average day, how many business e-mails within the organization do you receive during the work day

○ 0 ○ 1-20 ○ 21-40 ○ 41-60 ○ 61-80 ○ 81+

90. How much time do you dedicate normally to the handling of these inside organization e-mails per day?

○ None ○ up 1 hour ○ 1 up to 2 hours ○ 2 up to 3 hours ○ 3 up to 4 hours
○ 4 up to 5 hours ○ 5 up to 6 hours ○ 6+ hours

91. On average day, how many business e-mails outside/external to the organization do you receive during the work day?

○ 0 ○ 1-20 ○ 21-40 ○ 41-60 ○ 61-80 ○ 81+

92. How much time do you devote normally to the handling of these outside the organization e-mails per day?

○ None ○ up 1 hour ○ 1 up to 2 hours ○ 2 up to 3 hours ○ 3 up to 4 hours ○ 4 up to 5 hours ○ 5 up to 6 hours ○ 6+ hours

On average day, how many business e-mails:

93. Do you delete without reading during the work day

○ 1-5 ○ 6-10 ○ 11-15 ○ 16-20 ○ 21+

94. Do you delete manually after reading with no action taken during the work day

○ 1-5 ○ 6-10 ○ 11-15 ○ 16-20 ○ 21+

95. Do you reply immediately during the work day?

○ 1-5 ○ 6-10 ○ 11-15 ○ 16-20 ○ 21+

96. Do you print to action later during the work day?

○ 1-5 ○ 6-10 ○ 11-15 ○ 16-20 ○ 21+

97. Do you save with no reply during the work day?

○ 1-5 ○ 6-10 ○ 11-15 ○ 16-20 ○ 21+

98. Do you forward a group of persons that aren't copied to handle, with no reply during the work day?

○ 1-5 ○ 6-10 ○ 11-15 ○ 16-20 ○ 21+

99. Do you reply to all persons who were copied to the e-mail during the work day?

○ 1-5 ○ 6-10 ○ 11-15 ○ 16-20 ○ 21+

100. Do you forward only to one person who is relevant to the specific mail (and was not copied) during the work day

○ 1-5 ○ 6-10 ○ 11-15 ○ 16-20 ○ 21+

101. You **must** reply immediately during the work day

○ 1-5 ○ 6-10 ○ 11-15 ○ 16-20 ○ 21+

102. E-mails are for information only during the work day

○ 1-5 ○ 6-10 ○ 11-15 ○ 16-20 ○ 21+

103. I received e-mails that are not relevant to me during the work day

○ 1-5 ○ 6-10 ○ 11-15 ○ 16-20 ○ 21+

104. To your opinion, the phone was a better way to communicate in the specific mentioned e-mail during the workday

○ 1-5 ○ 6-10 ○ 11-15 ○ 16-20 ○ 21+

105. How many employees are there in your organization?

○ 1-250 ○ 251-500 ○ 501-1000 ○ 1001-1500 ○ 1501-2000 ○ 2001+

106. To which economic sector your organization is attributed?

○ Commerce ○ Services ○ industrial ○ Other_____

107. What is the level of Internet access available in your organization?

○ On every PC ○ One PC in each department ○ Only one access available for all ○ Other_____

108. Your age group is

○ Less 20 ○ 21-30 ○ 31-40 ○ 41-45 ○ 46-50 ○ 51-55 ○ 56-60 ○ 61+

109. Your gender is

○ Male ○ Female

110. Your seniority is:

Up to 5 years 5-10 11-15 16-20 21-25 26-30 31-35 35+

111. What is the highest level of education you have completed?

High school Vocational/ Diploma Partial academic B.A Engineer M.A PHD Other_____

112. What is your current position in the organization?

Temporary Clerical work Professional Junior management Median management Senior management Other_____

113. How many employees are there in your department?

1-5 6-10 11-15 16-20 21+

114. In case of holding a management position, how many subordinate employee you have?

up to 10 11-50 51-100 101-150 151+

115. Name of your organization:_____

Appendix 2: Graphs

Figure 2 - Central and statistics of the variable "SAW"

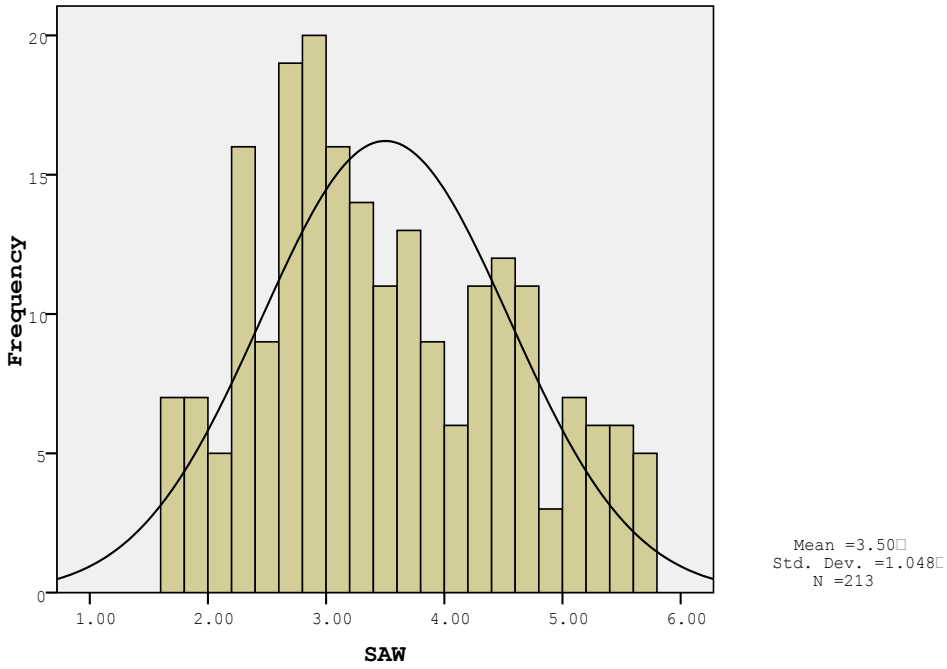
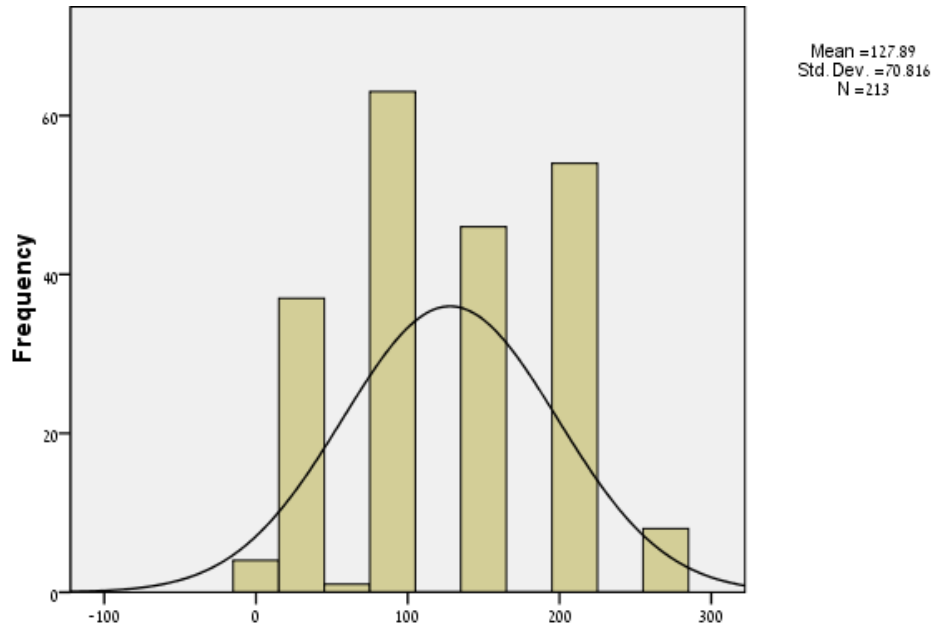
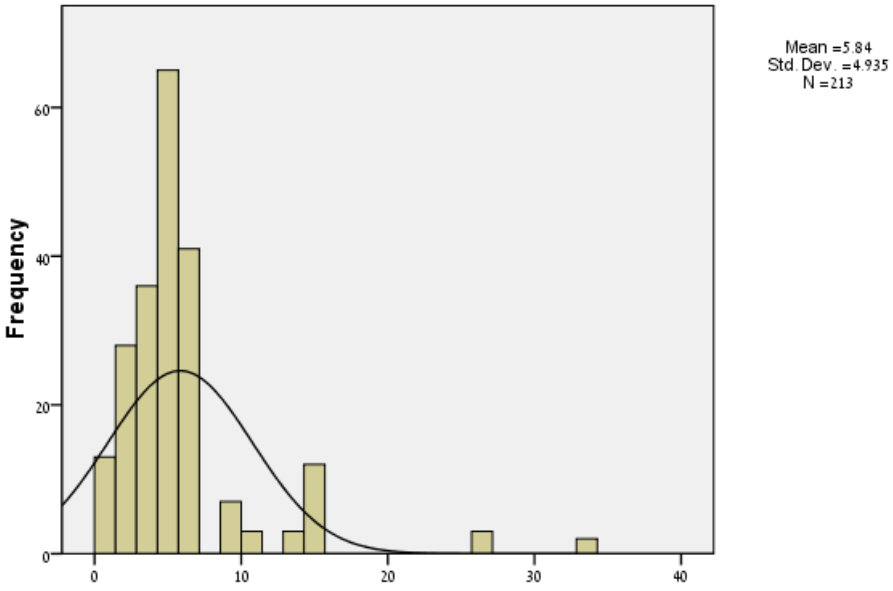


Figure 3 - Time spend on "Private" e-mails (T1)



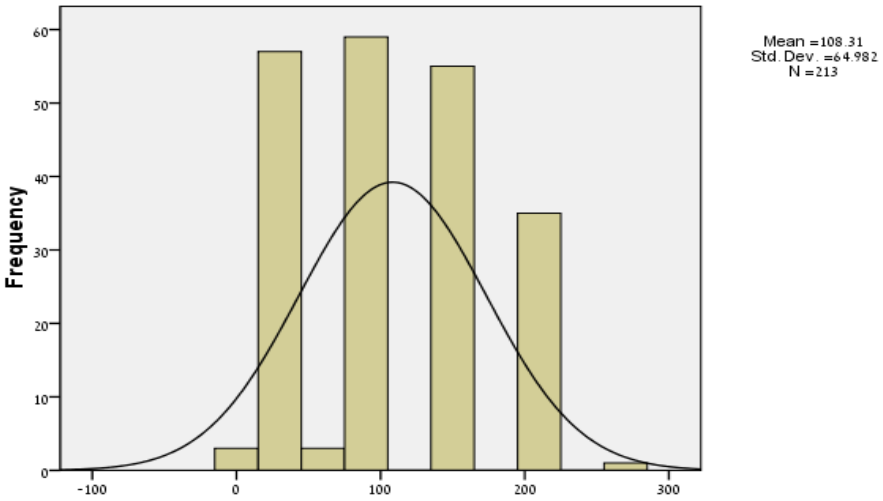
Time spend

Figure 4 - Average time spend for "Private" e-mails for a working hour



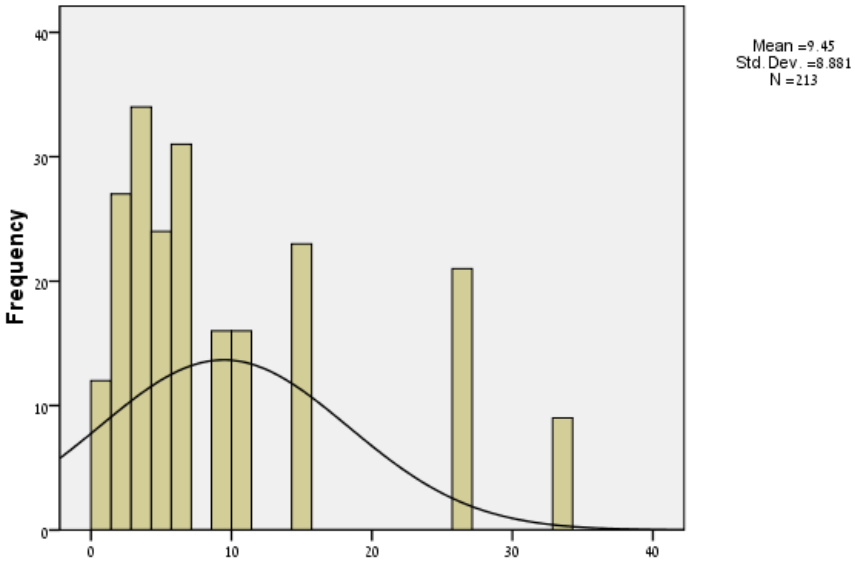
Average time spend

Figure 5 - Time spend on "Working-in" e-mails (T2)



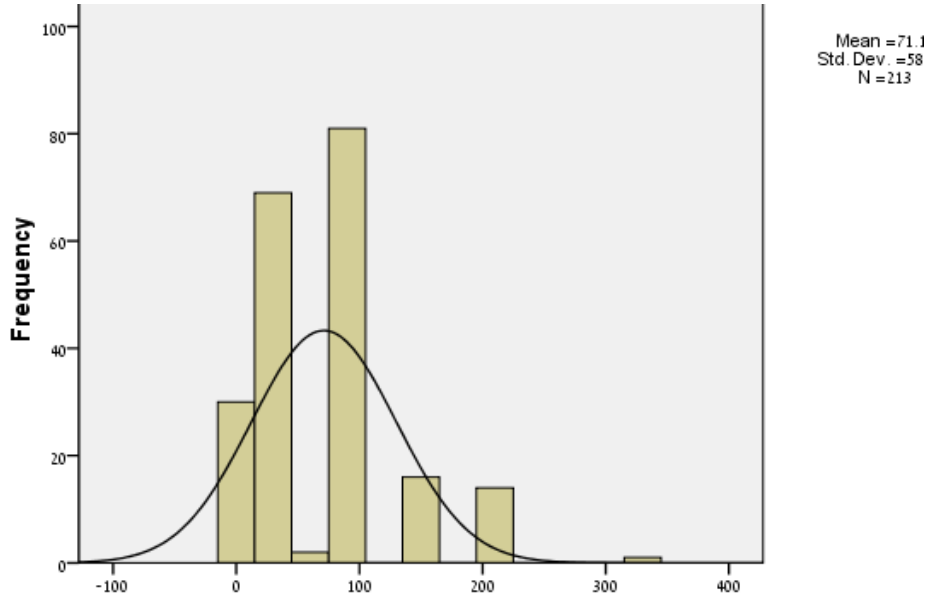
Time spend

Figure 6 - Average time spend for "Working-In" e-mails- for a working hour



Average time spend

Figure 7 - Time spend on "Working-Out" e-mails



Time spend

Figure 8 - Average time spend for "Working-Out" e-mails-for a working hour

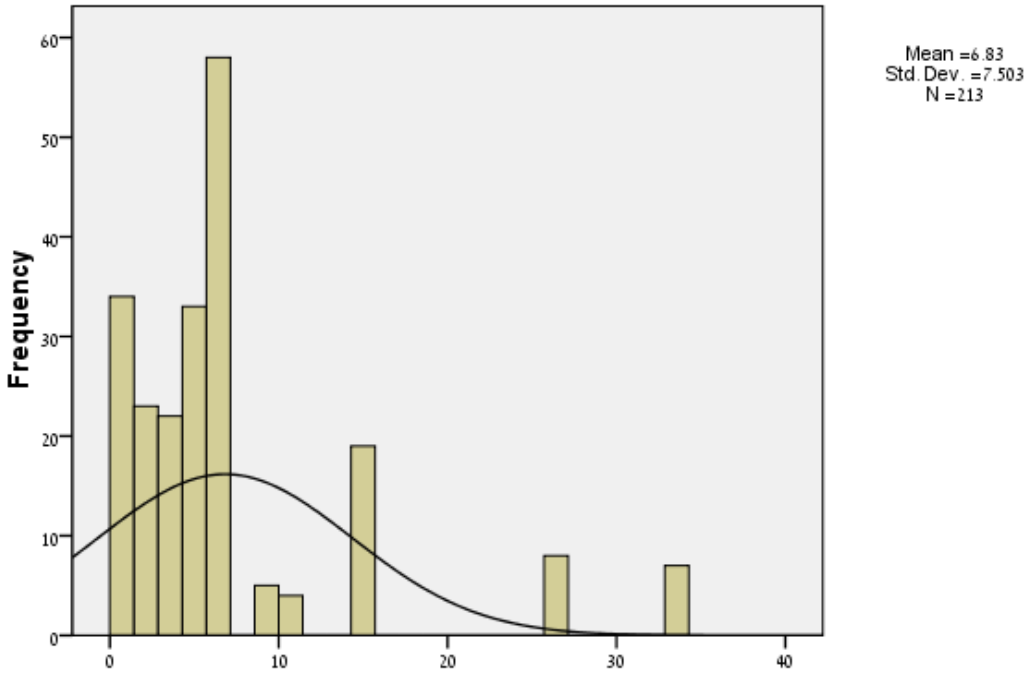


Figure 9 - Amount of "Working" e-mails With "No action" item 93

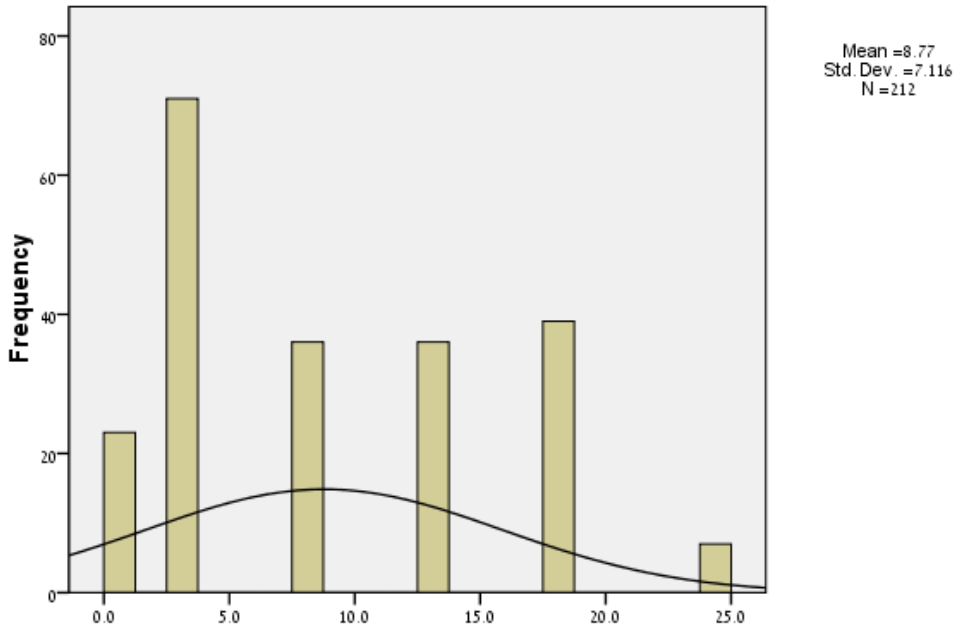
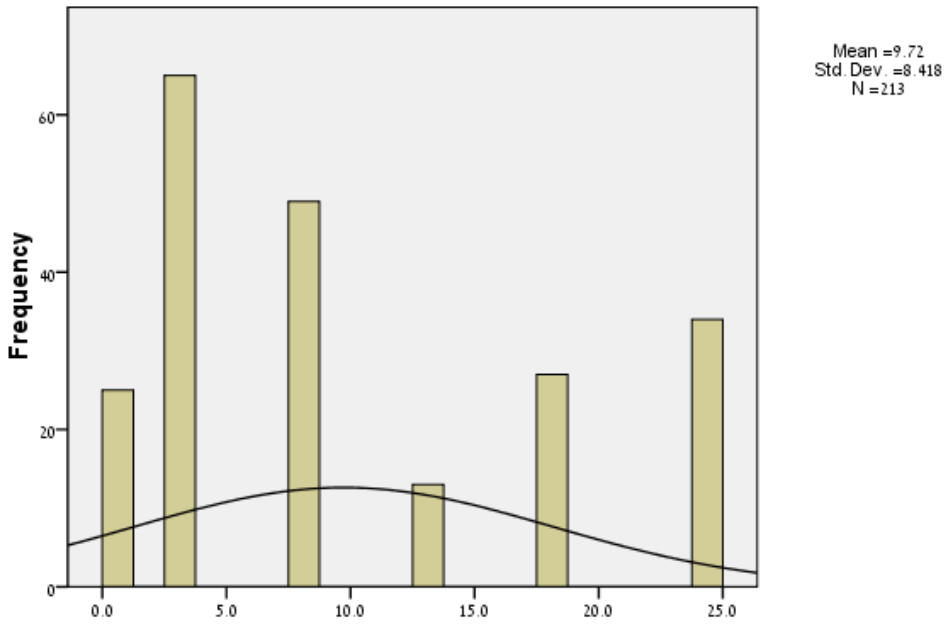
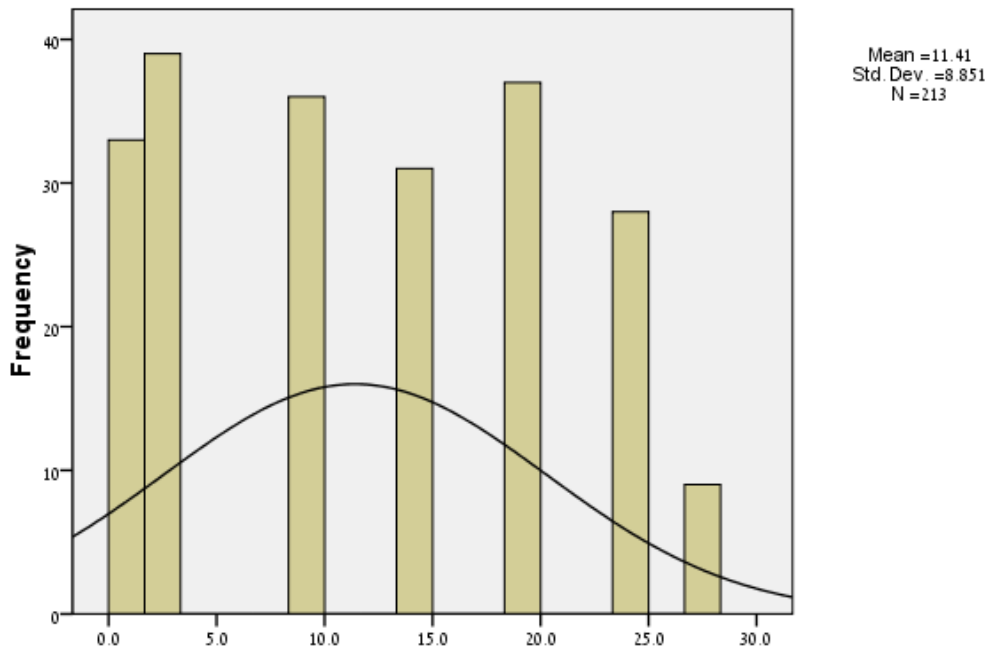


Figure 10 - Amount of "Working" e-mails With "No action" item 100



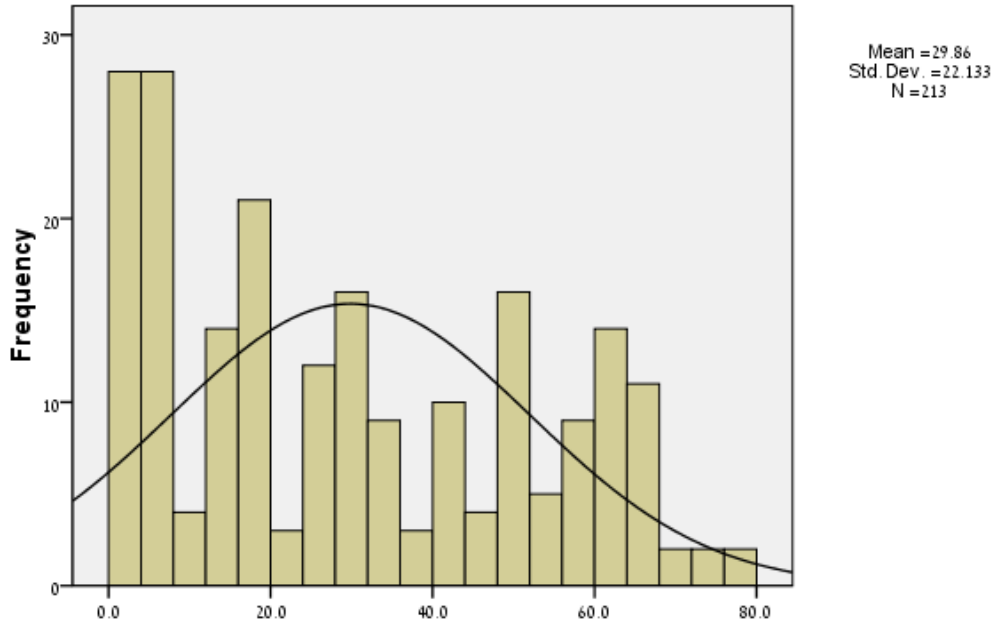
Amount of "Working" e-mails

Figure 11 - Amount of "Working" e-mails With "No action" item 103



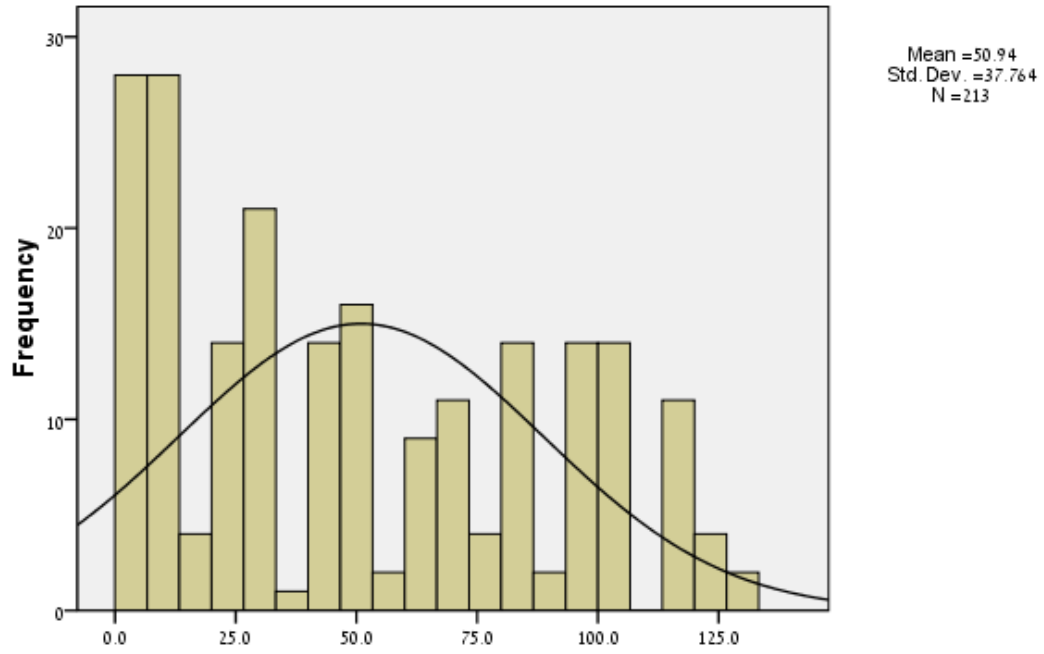
Amount of "Working" e-mails

Figure 12 - Amount of all "Working" e-mails With "No action": (item 93-100)



Amount of all "Working" e-mails

Figure 13 - Average Time Waste for a working day



Time Waste

Figure 14 - Total working e-mails per day for a working day

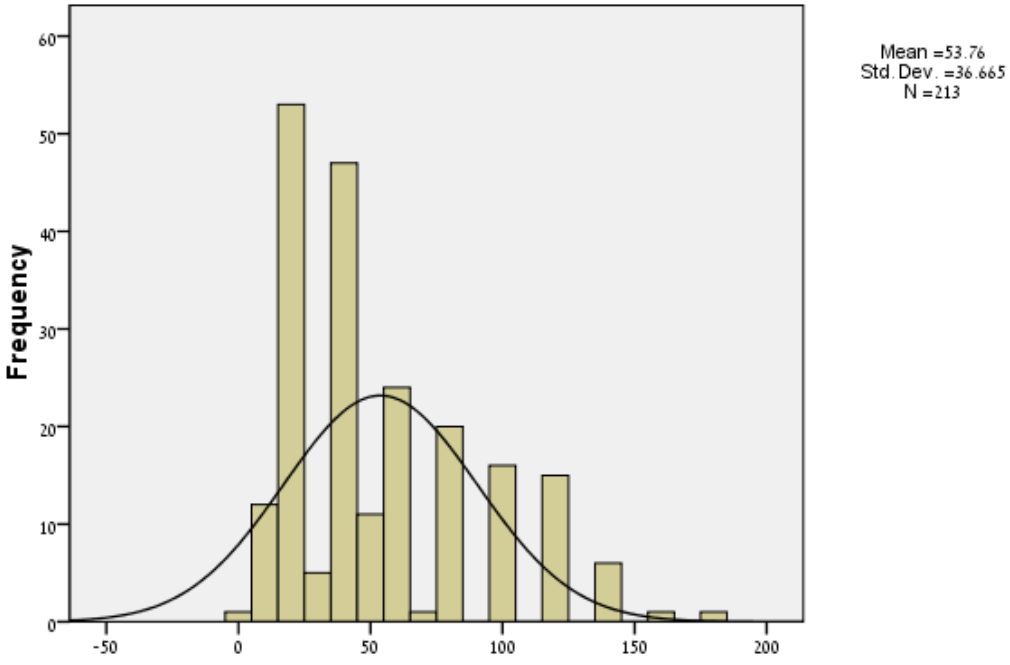


Figure 15 - Central and Statistics of the variable "Private Ratio T"

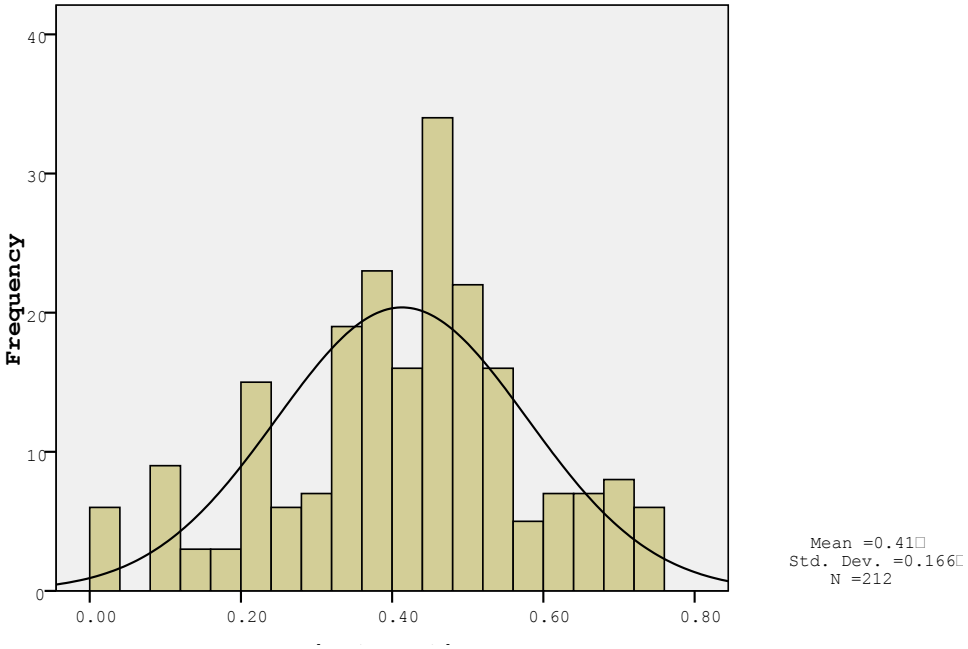
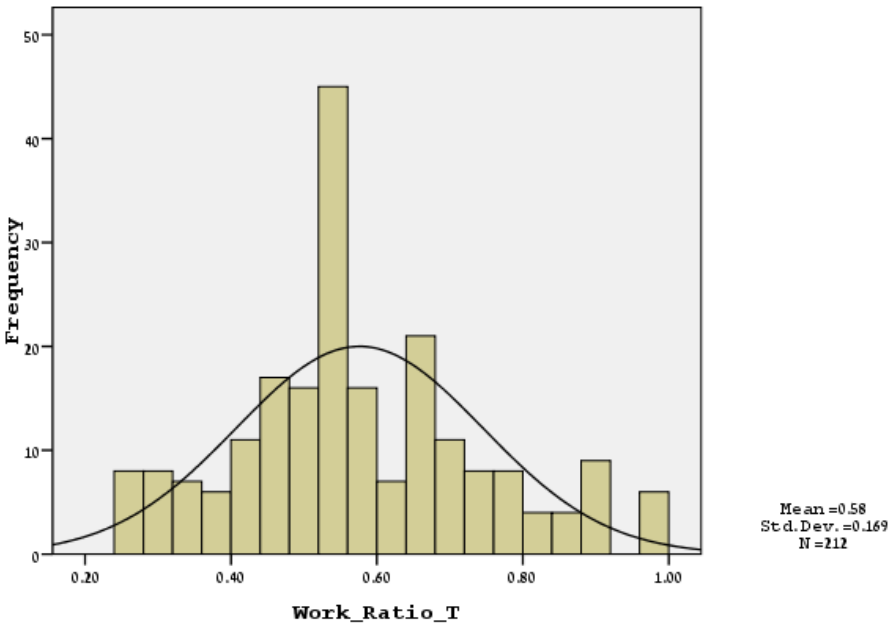


Figure 16 - Central and Statistics of the variable "Work Ratio T"



Appendix 3: Tables

Table 1 - Factor Analysis - Personal Time Ineffectiveness

Items 93, 100, 103 were chosen by the researcher as the most relevant for calculation as Personal Time Ineffectiveness" (PI).

Questions that refer to: On average day, how many business e-mails during the work day do you handle as follow:	Component	
	1	2
	Delay/ Ignore (**ir**)	Immediate Action (**j**)
% of variance explained	64.6%	8.6%
Item 94: delete after reading with no action taken	.846	.259
Item 93: delete without reading during the work day	.808	.328
Item 99: reply to all persons who were copied to the e-mail	.797	.047
Item 102: e-mails are for information only	.764	.403
Item 98: forward a group of persons that aren't copied to handle, with no reply	.764	.371
Item 100: forward only to one person who is relevant to the specific mail (and was not copied)	.721	.491
Item 96: do you print to action later	.687	.557
Item 97: save with no reply	.672	.624
Item 103: I received that are not relevant to me	.601	.473
Item 101: must reply immediately	.082	.894
Item 95: reply immediately	.342	.760
Item 104: the phone was a better way to communicate	.530	.613

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a Rotation converged in 3 iterations.

* Component 1="ir" serves type of Delay or Ignore action taken

** Component 2="j" for Immediate Action.

Table 2 - Factor Analysis - OCP Variables

Rotated Component Matrix (a) of OCP Variables

	Component				
% of Variance (total 65.617)	24.454	13.280	10.429	9.541	7.913
	1. The right to send private e-mails	2. The frequency of using e-mails at work	3. Using e-mails for work purposes only	4.Exsisting policy that control e-mails usage	5.Employer right to tail after employees' web actions
Item 11: In my opinion, the firm operates wisely by allowing me to use the e-mail for my private uses and needs.	.853	-.101	-.126	-.088	-.025
Item 10: In my opinion, it is the employees right to send/receive private e-mails at work	.815	-.178	-.119	.010	.028
Item 12: My co-workers think that I should use the e-mail for work purposes only	-.739	.009	.090	-.126	-.129
Item 4: In which frequency do you use the e-mail at work?	-.038	.868	-.079	.133	-.049
Item 3: I use Intranet at my work for working purposes	-.238	.815	.235	-.072	.025
Item 8: Do you take any measures to avoid the employee e-mails detection	-.236	-.049	.666	.311	.129
Item 14: The firm I work for, do not forbid using the e-mail for private purposes	.494	-.027	.647	.067	.035
Item 1: I use e-mail at my work for working purposes only	-.435	.112	.558	-.198	.014

Item 2: I use Internet at my work for working purposes	-.297	.299	.533	-.109	-.182
Item 6: Do you think that your employer is monitoring your e-mail usage	.038	-.197	.122	.730	-.275
Item 13: The firm I work for, encourages e-mail usage for work related purposes only	.108	-.094	.098	-.704	-.292
Item 5: Does your firm /organization have a policy /procedures about using the e-mail	.265	.271	.070	.509	.074
Item 7: Should employers have the right to monitor your e-mail usage	.108	-.042	.045	.051	.926

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

A Rotation converged in 6 iterations.

Table 3 - Factor Analysis with Rotated Components

	dism-issal due to usage	permit-ting perso-nal usage	perso-nal ethics	supe-rvisi-on by supe-riors	usage freque-ncy	com-pany poli-cy	lack of effica-cy at work	Envir-oment-al ethics
Factor	1	2	3	4	5	6	7	8
Item 29: it is liable to fire a worker who uses the e-mail on non- job or private related issues	0.99	-0.01	0.01	0.06	-0.02	0.05	0.02	0.05
Item 28 it is liable to fire a worker who uses the Internet on non- job or private related issues	0.97	-0.01	0.03	0.08	-0.02	0.07	0.01	0.07
Item 11: In my opinion the firm operates wisely by allowing me to use the e-mail for my private uses and needs	-0.02	0.80	-0.29	-0.09	-0.08	-0.02	0.14	0.20
Item10: In my opinion, it is the employees right to send/receive private e-mails at work	0.02	0.76	-0.30	-0.03	-0.10	0.05	0.06	0.19
Item 2: I use Internet at my work for working purposes only	0.00	-0.14	0.57	-0.01	0.11	-0.12	0.01	-0.01
Item 1: I use e-mail at my work for working purposes only	0.08	-0.20	0.56	-0.04	0.10	-0.08	-0.02	-0.07
Item 8: Do you take any measures to avoid the employee e-mails detection	-0.06	-0.09	0.51	0.11	-0.02	0.30	-0.01	-0.05
Item 24: In my workplace, my superiors limit/control the internet usage	0.13	0.03	0.03	0.98	-0.07	0.14	0.04	-0.07
Item 25: In my workplace, my superiors check my e-mail usage	0.01	-0.09	0.00	0.62	0.02	0.15	0.03	0.10
Item 4: In which frequency do you use the e-mail at work?	-0.06	0.00	0.04	-0.05	0.98	0.09	0.07	-0.12
Item 3: In which frequency do you use the Internet at work	0.03	-0.27	0.36	0.02	0.61	-0.08	0.03	0.09

Item 5: Does your firm/organization have a policy/procedures about using the e-mail	0.02	0.00	0.03	0.04	-0.04	0.59	0.11	0.02
Item 26: In my workplace, it is liable to send and receive private e-mails	-0.10	0.44	-0.16	-0.04	-0.12	0.58	0.00	0.09
Item 13: The firm I work for, encourages e-mail usage for work related purposes only	-0.06	0.07	0.05	-0.13	-0.11	-0.46	0.12	-0.06
Item 6: Do you think that your employer is monitoring your e-mail usage	0.06	0.06	0.03	0.14	0.02	0.31	0.01	0.14
Item 70: Sometimes I am late in project or presentations delivery	0.08	-0.04	0.03	-0.01	0.00	0.02	0.99	0.02
Item 71: My participation in work activities related my workplace is poor compare to my colleagues	-0.04	0.17	-0.04	0.06	0.07	0.01	0.39	0.14
Item 12: My co-workers think that I should use the e-mail for work purposes only	-0.06	-0.33	0.38	0.02	-0.01	-0.10	-0.08	-0.65
Item 14: The firm I work for, do not forbid using the e-mail for private purposes	0.05	0.23	0.23	0.00	-0.05	0.16	0.09	0.37
Item 7: Should employers have the right to monitor your e-mail usage	0.05	0.03	-0.06	0.06	-0.03	0.13	0.08	0.17

Table 4 - Cronbach's α Reliability tests

The variable	Originally Items	Cronbach's Alpha -Base Line	Remained Items	Cronbach's Alpha – Final
Satisfaction at work –**SAW** - Efficiency - (H1)	16-23, 30, 67- 81	0.876	18-23, 30, 67-81	0.882
Net- E-mails Connections – **QNC** (H2)	44-47	.8790	44-47	0.879
Organization Culture- Policy **OCP**: Norms (H3)[2]	1-8, 10-14, 24-26, 28-29, 70-71	0.216	1-8, 10-14, 24-26, 28-29, 70-71	0.851
Organization Culture- Policy: Fire (H3)	28- 29	0.998	28, 29	0.998
Organization Culture- Policy: Allow Private (H3)	10- 11	0.852	10, 11	0.852
Organization Culture- Policy: Personal ethic (H3)	1- 2, 26-27	0.592	1, 2	0.592
Organization Culture- Policy: Supervision (H3)	24-25, 70-71	0.061	24, 25	0.061
Organization Culture- Policy: Freq Use (H3)	3- 4	0.729	3, 4	0.729
Organization Culture- Policy: Policy (H3)	5- 6, 13-14, 26	-0. 119	5, 26	0.547
Organization Culture- Policy: Fire (H3)	70-71	0.552	70, 71	0.552
Organization Culture- Policy: Fire (H3)	7-8, 12, 14, 28-29	-0.392	7, 14	0.149
Q Private: Action speed to mail[3]	61-66	0.471	61, 62	0.818
Q Private: mail influence at worker	34-43	0.750	34-37, 39-41, 43	0.803
(R) Working mails inside	93-104	0.948	93-100,102-104	0.950

[2] including only items with same scale

[3] Parts of the mentioned items and/or variables are not included in the reliability tests. This is because they are related to demographic dimensions of the employees profile and parts of them are nominal variables.

Table 5 - Descriptive measurements of "SAW" vs. Organization Size

Maxi-mum	Mini-mum	95% Confidence Interval for Mean		Std. Error	Std. Deviati-on	Mean	N	**Organizat-ion Size**
5.44	1.67	4.4997	2.8741	.36478	1.20985	3.6869	11	1-250
5.78	1.67	4.1133	3.5218	.14813	1.21250	3.8176	67	251-500
5.44	1.67	3.5193	3.0615	.11487	.99480	3.2904	75	1001-1500
5.67	2.00	3.5209	3.0733	.11111	.75361	3.2971	46	1501-2000
5.11	2.56	4.1410	3.1289	.23424	.87644	3.6349	14	> 2001
5.78	1.67	3.6424	3.3592	.07184	1.04842	3.5008	213	Total

Table 6 - Scheffe Multiple Comparisons of Organization Size- Depended variable "SAW"

95% Confidence Interval		Sig.	Std. Error	Mean Difference (I-J)	Organization Size (J)	Organization Size (I)
Upper Bound		Lower Bound	Upper Bound	Lower Bound		
.9102	-1.1716	.997	.33491	-.13071	251-500	1-250
1.4296	-.6366	.840	.33238	.39650	1001-1500	
1.4637	-.6842	.866	.34552	.38977	1501-2000	
1.3411	-1.2372	1.000	.41479	.05195	> 2000	
1.1716	-.9102	.997	.33491	.13071	1-250	251-500
1.0651	-.0107	.058	.17306	.52721	1001-1500	
1.1332	-.0922	.142	.19712	.52048	1501-2000	
1.1229	-.7576	.985	.30252	.18266	> 2000	
.6366	-1.4296	.840	.33238	-.39650	1-250	1001-1500
.0107	-1.0651	.058	.17306	-.52721	251-500	
.5925	-.6060	1.000	.19280	-.00673	1501-2000	
.5870	-1.2761	.857	.29972	-.34455	>2000	
.6842	-1.4637	.866	.34552	-.38977	1-250	1501-2000
.0922	-1.1332	.142	.19712	-.52048	251-500	
.6060	-.5925	1.000	.19280	.00673	1001-1500	

.6388	-1.3145	.885	.31423	-.33782	> 2000
1.2372	-1.3411	1.000	.41479	-.05195	1-250 >2000
.7576	-1.1229	.985	.30252	-.18266	251-500
1.2761	-.5870	.857	.29972	.34455	1001-1500
1.3145	-.6388	.885	.31423	.33782	1501-2000

Table 7 - Descriptive measurements of SAW vs. Organization Sector

Maximum	Minimum	95% Confidence Interval for Mean		Std. Error	Std. Deviation	Mean	N	**Organizat-ion Sector**
5.44	1.67	4.5836	3.6608	.22045	.98587	4.1222	20	Commerce
5.78	1.67	4.2013	3.7626	.11020	.98567	3.9819	80	Services
5.67	1.67	3.2159	2.8844	.08368	.88951	3.0501	113	Other
5.78	1.67	3.6424	3.3592	.07184	1.04842	3.5008	213	Total

Table 8 - Scheffe Multiple Comparisons of Organization Sector depended variable "SAW"

95% Confidence Interval		Sig.	Std. Error	Mean Difference (I-J)	Organization Sector (J)	Organization Sector (I)
.7169	-.4364	.836	.23391	.14028	Services	Commerce
1.6316	.5125	.000	.22697	1.07207(*)	Other	
.4364	-.7169	.836	.23391	-.14028	Commerce	Services
1.2688	.5948	.000	.13671	.93180(*)	Other	
-.5125	-1.6316	.000	.22697	-1.07207(*)	Commerce	Other
-.5948	-1.2688	.000	.13671	-.93180(*)	Services	

* The mean difference is significant at the .05 level.

Table 9 - Descriptive measurements of SAW vs. Age Group

Maxi-mum	Mini-mum	95% Confidence Interval for Mean		Std. Error	Std. Dev.	Mean	N	**Age Group**
4.56	4.56	.	.	.	.	4.5556	1	LESS 20
5.11	1.67	3.8315	3.0111	.19829	.97140	3.4213	24	21-30
5.78	1.67	3.9287	3.4118	.12925	1.01775	3.6703	62	31-40
5.78	1.67	3.6440	3.0597	.14520	1.00598	3.3519	48	41-45
5.78	1.67	3.8696	3.2416	.15648	1.13918	3.5556	53	46-50
4.67	1.67	3.6447	2.6945	.22615	.98575	3.1696	19	51-55
5.33	1.89	5.1868	1.7021	.62756	1.40326	3.4444	5	56-60
4.67	4.67	.	.	.	.	4.6667	1	61+
5.78	1.67	3.6424	3.3592	.07184	1.04842	3.5008	213	Total

Table 10 - Descriptive (Anova) measurements of SAW vs. Age Group

Sig.	F	Mean Square	df	Sum of Squares	
.429	1.004	1.104	7	7.728	Between Groups
		1.099	205	225.300	Within Groups
			212	233.028	Total

Table 11 - Descriptive measurements of SAW vs. Gender Group

Maxi-mum	Minim-um	95% Confidence Interval for Mean		Std. Error	Std. Deviati-on	Mean	N	**Gender Group**
5.78	1.67	3.7547	3.2051	.13771	5.8388	3.4799	69	Male
5.78	1.67	3.6761	3.3455	.08363	1.00352	3.5108	144	Female
5.78	1.67	3.6424	3.3592	.07184	1.04842	3.5008	213	Total

Table 12 - Descriptive (Anova) measurements of SAW vs. Gender

Sig.	F	Mean Square	df	Sum of Squares	
.841	.040	.045	1	.045	Between Groups
		1.104	211	232.983	Within Groups
			212	233.028	Total

Table 13 - Descriptive measurements of SAW vs. Education

Maxi -mum	Mini mum	95% Confidence Interval for Mean		Std. Error	Std. Dev.	Mean	N	**Education**
5.78	2.33	8.3442	-1.2331	1.11296	1.92771	3.5556	3	High school
5.56	1.67	3.6346	3.0758	.13967	1.09089	3.3552	61	Vocational/ Diploma
5.78	1.67	3.6567	3.0570	.14937	1.07711	3.3568	52	Partial academic
5.78	1.67	4.0563	3.4143	.15776	.91992	3.7353	34	B.A
5.67	1.67	4.0259	3.4108	.15238	.99922	3.7183	43	Engineer
5.44	2.22	4.0652	2.7348	.29407	.92992	3.4000	10	M.A
4.78	1.67	4.4714	2.3897	.44018	1.24501	3.4306	8	PHD
3.78	3.67	4.4281	3.0163	.05556	.07857	3.7222	2	Other
5.78	1.67	3.6424	3.3592	.07184	1.04842	3.5008	213	Total

Table 14 - Descriptive (Anova) measurements of SAW vs. education

Sig.	F	Mean Square	df	Sum of Squares	
.552	.843	.932	7	6.524	Between Groups
		1.105	205	226.504	Within Groups
			212	233.028	Total

Table 15 - Descriptive measurements of SAW vs. Profession

Maxi-mum	Mini mum	95% Confidence Interval for Mean		Std. Error	Std. Dev.	Mean	N	**Profession**
4.56	2.56	6.5379	1.0917	.63289	1.09620	3.8148	3	Temporary
5.67	1.67	3.8055	3.2175	.14684	1.11829	3.5115	61	Clerical work
5.56	1.67	3.8008	3.3103	.12069	.71401	3.5556	35	Professional
5.44	1.67	3.4080	2.7876	.15437	1.09158	3.0978	50	Junior management
5.44	1.67	3.8108	3.1387	.16499	.94782	3.4747	33	Median management
5.78	2.33	4.3188	3.3140	.24225	1.16178	3.8164	23	Senior management
5.33	3.11	4.8975	3.9712	.20785	.68934	4.4343	11	Other
5.78	1.67	3.6424	3.3592	.07184	1.04842	3.5008	213	Total

Table 16 - Descriptive (Anova) measurements of SAW vs. Profession

Sig.	F	Mean Square	df	Sum of Squares	
.004	3.299	3.405	6	20.429	Between Groups
		1.032	206	212.599	Within Groups
			212	233.028	Total

Table 17 - Scheffe Multiple Comparisons of Job Profession depended variable, "SAW"

95% Confidence Interval		Sig.	Std. Error	Mean Difference (I-J)	Job Profession (J)	Job Profession (I)
2.4601	-1.8534	1.000	.60150	.30332	Clerical work	Temporary
2.4506	-1.9321	1.000	.61114	.25926	Professional	
2.8823	-1.4482	.965	.60386	.71704	Junior management	
2.5366	-1.8565	.999	.61260	.34007	Median management	
2.2344	-2.2376	1.000	.62360	-.00161	Senior management	
1.7530	-2.9921	.990	.66169	-.61953	other	
1.8534	-2.4601	1.000	.60150	-.30332	Temporary	Clerical work
.7356	-.8237	1.000	.21744	-.04406	Professional	
1.1167	-.2892	.616	.19605	.41372	Junior management	
.8310	-.7575	1.000	.22151	.03675	Median management	
.5927	-1.2025	.960	.25033	-.30493	Senior management	
.2751	-2.1208	.272	.33409	-.92285	other	
1.9321	-2.4506	1.000	.61114	-.25926	Temporary	Professional
.8237	-.7356	1.000	.21744	.04406	Clerical work	
1.2606	-.3450	.653	.22389	.45778	Junior management	
.9647	-.8030	1.000	.24650	.08081	Median management	
.7169	-1.2386	.988	.27269	-.26087	Senior management	
.3803	-2.1379	.398	.35115	-.87879	other	
1.4482	-2.8823	.965	.60386	-.71704	Temporary	Junior management
.2892	-1.1167	.616	.19605	-.41372	Clerical work	
.3450	-1.2606	.653	.22389	-.45778	Professional	
.4400	-1.1939	.840	.22785	-.37697	Median management	
.1991	-1.6364	.252	.25595	-.71865	Senior v	
-.1235	-2.5497	.019	.33832	-1.33657 (*)	other	
1.8565	-2.5366	.999	.61260	-.34007	Temporary	Median management
.7575	-.8310	1.000	.22151	-.03675	Clerical work	
.8030	-.9647	1.000	.24650	-.08081	Professional	
1.1939	-.4400	.840	.22785	.37697	Junior management	
.6478	-1.3311	.957	.27594	-.34168	Senior management	

.3086	-2.2278	.294	.35369	-.95960	other	
2.2376	-2.2344	1.000	.62360	.00161	Temporary	Senior management
1.2025	-.5927	.960	.25033	.30493	Clerical work	
1.2386	-.7169	.988	.27269	.26087	Professional	
1.6364	-.1991	.252	.25595	.71865	Junior management	
1.3311	-.6478	.957	.27594	.34168	Median management	
.7174	-1.9533	.838	.37241	-.61792	other	
2.9921	-1.7530	.990	.66169	.61953	Temporary	Other
2.1208	-.2751	.272	.33409	.92285	Clerical work	
2.1379	-.3803	.398	.35115	.87879	Professional	
2.5497	.1235	.019	.33832	1.33657(*)	Junior management	
2.2278	-.3086	.294	.35369	.95960	Median management	
1.9533	-.7174	.838	.37241	.61792	Senior management	

* The mean difference is significant at the .05 level.

Table 18 - Descriptive measurements of SAW vs. Subordinates

Maxi-mum	Mini-mum	95% Confidence Interval for Mean		Std. Error	Std. Dev.	Mean	N	**Subordina-tes**
5.67	1.67	3.6576	3.2461	.10354	.98227	3.4519	90	0 up to 10
5.78	1.67	4.1048	3.3805	.17873	1.10179	3.7427	38	11-50
5.78	1.89	3.5392	2.9408	.14888	1.05274	3.2400	50	51-100
5.22	1.67	3.6427	2.8522	.19007	.89149	3.2475	22	101-150
5.44	3.00	5.0960	4.0323	.24410	.88012	4.5641	13	151+
5.78	1.67	3.6424	3.3592	.07184	1.04842	3.5008	213	Total

Table 19 - Scheffe Multiple Comparisons of Subordinates depended variable "SAW"

95% Confidence Interval		Sig.	Std. Error	Mean Difference (I-J)	(J) Subordinates	(I) Subordinates
.3149	-.8966	.694	.19489	-.29084	11-50	0 up to 10
.7641	-.3404	.840	.17768	.21185	51-100	
.9490	-.5403	.948	.23959	.20438	101-150	
-.1833	-2.0412	.009	.29889	-1.11225(*)	151+	
.8966	-.3149	.694	.19489	.29084	0 up to 10	11-50
1.1765	-.1711	.255	.21680	.50269	51-100	
1.3340	-.3436	.500	.26987	.49522	101-150	
.1846	-1.8274	.173	.32368	-.82141	151+	
.3404	-.7641	.840	.17768	-.21185	0 up to 10	51-100
.1711	-1.1765	.255	.21680	-.50269	11-50	
.7936	-.8085	1.000	.25773	-.00747	101-150	
-.3493	-2.2989	.002	.31362	-1.32410(*)	151+	
.5403	-.9490	.948	.23959	-.20438	0 up to 10	101-150
.3436	-1.3340	.500	.26987	-.49522	11-50	
.8085	-.7936	1.000	.25773	.00747	51-100	
-.2213	-2.4119	.009	.35240	-1.31663(*)	151+	
2.0412	.1833	.009	.29889	1.11225 (*)	0 up to 10	151+
1.8274	-.1846	.173	.32368	.82141	11-50	
2.2989	.3493	.002	.31362	1.32410(*)	51-100	
2.4119	.2213	.009	.35240	1.31663(*)	101-150	

* The mean difference is significant at the .05 level.

Table 20 - Descriptive measurements of SAW vs. Organization type

Std. Dev.	N	Mean	**Organization type**
.40006	11	2.4646	Education Ministry-Jerusalem
1.17982	34	3.0000	Government
.77903	57	3.1267	Education Ministry- Tel-Aviv
.51579	24	3.3750	Banks
1.27898	9	3.5556	Sport & Education Centers
.88448	6	3.5741	Cellcom –Cellular
1.25216	4	3.6111	Commerce
.86919	9	3.6914	Pelephone-Cellular
.78487	17	3.8120	Private companies
1.01393	12	4.0000	Airline
.74262	30	4.7976	Municipality
1.04842	213	3.5008	Total

Table 21 - Time spend on "Private" e-mails (T1)

Time spend on Private e-mails

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	4	1.9	1.9	1.9
	30	37	17.4	17.4	19.2
	60	1	.5	.5	19.7
	90	63	29.6	29.6	49.3
	150	46	21.6	21.6	70.9
	210	54	25.4	25.4	96.2
	270	8	3.8	3.8	100.0
	Total	213	100.0	100.0	

Table 22 - Average Private e-mails-for a working hour

Average Private e-mails-for a working hour

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	4	1.9	1.9	1.9
	0.4285714	1	.5	.5	2.3
	0.8571429	2	.9	.9	3.3
	1.2	6	2.8	2.8	6.1
	1.5	1	.5	.5	6.6
	2	13	6.1	6.1	12.7
	2.1428571	14	6.6	6.6	19.2
	3	15	7.0	7.0	26.3
	3.6666667	6	2.8	2.8	29.1
	3.8571429	15	7.0	7.0	36.2
	4.3333333	3	1.4	1.4	37.6
	4.7142857	17	8.0	8.0	45.5
	5	25	11.7	11.7	57.3
	5.4	17	8.0	8.0	65.3
	5.5714286	3	1.4	1.4	66.7
	6	15	7.0	7.0	73.7
	6.6	26	12.2	12.2	85.9
	9	7	3.3	3.3	89.2
	11	3	1.4	1.4	90.6
	13	1	.5	.5	91.1
	13.5	2	.9	.9	92.0
	15	12	5.6	5.6	97.7
	27	3	1.4	1.4	99.1
	33	2	.9	.9	100.0
	Total	213	100.0	100.0	

Table 23 - Time spend on "Working-In" e-mails (T2)

Time spend on Working-In e-mails

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	3	1.4	1.4	1.4
	30	57	26.8	26.8	28.2
	60	3	1.4	1.4	29.6
	90	59	27.7	27.7	57.3
	150	55	25.8	25.8	83.1
	210	35	16.4	16.4	99.5
	270	1	.5	.5	100.0
	Total	213	100.0	100.0	

Table 24 - Average time spend for "Working-In" e-mails- for a working hour

Average Working-In e-mails-for a working hour

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	3	1.4	1.4	1.4
	0.8571429	1	.5	.5	1.9
	1.2	8	3.8	3.8	5.6
	1.6666667	1	.5	.5	6.1
	2	22	10.3	10.3	16.4
	2.1428571	4	1.9	1.9	18.3
	3	22	10.3	10.3	28.6
	3.6666667	1	.5	.5	29.1
	3.8571429	11	5.2	5.2	34.3
	4.7142857	7	3.3	3.3	37.6
	5	12	5.6	5.6	43.2
	5.4	5	2.3	2.3	45.5
	6	28	13.1	13.1	58.7
	6.4285714	1	.5	.5	59.2
	6.6	2	.9	.9	60.1

	9	16	7.5	7.5	67.6
	11	16	7.5	7.5	75.1
	15	23	10.8	10.8	85.9
	27	21	9.9	9.9	95.8
	33	9	4.2	4.2	100.0
	Total	213	100.0	100.0	

Table 25 - Time spend on Working-Out e-mails

Time spend on Working-Out e-mails

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	30	14.1	14.1	14.1
	30	69	32.4	32.4	46.5
	60	2	.9	.9	47.4
	90	81	38.0	38.0	85.4
	150	16	7.5	7.5	93.0
	210	14	6.6	6.6	99.5
	330	1	.5	.5	100.0
	Total	213	100.0	100.0	

Table 26 - Average Working-Out e-mails-for a working hour

Average Working-Out e-mails-for a working hour

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	30	14.1	14.1	14.1
	1.2	4	1.9	1.9	16.0
	1.6666667	2	.9	.9	16.9
	2	12	5.6	5.6	22.5
	2.1428571	9	4.2	4.2	26.8
	3	22	10.3	10.3	37.1
	5	31	14.6	14.6	51.6
	5.4	2	.9	.9	52.6
	6	55	25.8	25.8	78.4
	6.6	3	1.4	1.4	79.8
	9	5	2.3	2.3	82.2
	11	4	1.9	1.9	84.0
	15	19	8.9	8.9	93.0
	27	8	3.8	3.8	96.7
	33	7	3.3	3.3	100.0
	Total	213	100.0	100.0	

Table 27 - Amount of Working e-mails With No action (item 93)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	23	10.8	10.8	10.8
	2.5	71	33.3	33.5	44.3
	8.5	36	16.9	17.0	61.3
	13.5	36	16.9	17.0	78.3
	18.5	39	18.3	18.4	96.7
	24	7	3.3	3.3	100.0
	Total	212	99.5	100.0	
Missing	System	1	.5		
Total		213	100.0		

Table 28 - Amount of Working e-mails With No action (item 100)

Amount of Working e-mails With No action (item 100)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	25	11.7	11.7	11.7
	2.5	65	30.5	30.5	42.3
	8.5	49	23.0	23.0	65.3
	13.5	13	6.1	6.1	71.4
	18.5	27	12.7	12.7	84.0
	24	34	16.0	16.0	100.0
	Total	213	100.0	100.0	

Table 29 - Amount of Working e-mails With No action (item 103)

Amount of Working e-mails With No action (item 103)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	33	15.5	15.5	15.5
	2.5	39	18.3	18.3	33.8
	8.5	36	16.9	16.9	50.7
	13.5	31	14.6	14.6	65.3
	18.5	37	17.4	17.4	82.6
	24	28	13.1	13.1	95.8
	28	9	4.2	4.2	100.0
	Total	213	100.0	100.0	

Table 30 - Amount of all Working e-mails With No action (items 93-100)

Amount of all Working e-mails With No action (items 93-100)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	10	4.7	4.7	4.7
	2.5	18	8.5	8.5	13.1
	5	9	4.2	4.2	17.4
	7.5	19	8.9	8.9	26.3
	11	4	1.9	1.9	28.2
	13.5	14	6.6	6.6	34.7
	18.5	4	1.9	1.9	36.6
	19.5	17	8.0	8.0	44.6
	21	1	.5	.5	45.1
	23.5	2	.9	.9	46.0
	24.5	7	3.3	3.3	49.3
	25.5	3	1.4	1.4	50.7
	27	2	.9	.9	51.6
	29.5	5	2.3	2.3	54.0
	30.5	11	5.2	5.2	59.2
	35	2	.9	.9	60.1
	35.5	7	3.3	3.3	63.4
	39	2	.9	.9	64.3
	39.5	1	.5	.5	64.8
	40	1	.5	.5	65.3
	40.5	9	4.2	4.2	69.5
	45	1	.5	.5	70.0
	45.5	3	1.4	1.4	71.4
	49	1	.5	.5	71.8
	50	1	.5	.5	72.3
	50.5	12	5.6	5.6	77.9
	51	2	.9	.9	78.9
	55	1	.5	.5	79.3
	55.5	4	1.9	1.9	81.2
	56	8	3.8	3.8	85.0

	56.5	1	.5	.5	85.4
	61	9	4.2	4.2	89.7
	61.5	5	2.3	2.3	92.0
	66.5	11	5.2	5.2	97.2
	70.5	2	.9	.9	98.1
	72	2	.9	.9	99.1
	76	2	.9	.9	100.0
	Total	213	100.0	100.0	

Table 31 - Average Time Waste of Working e-mails with No action for a working hour

Average Time Waste of Working e-mails with No action for a working hour

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	10	4.7	4.7	4.7
	4.2656495	18	8.5	8.5	13.1
	8.5312989	9	4.2	4.2	17.4
	12.796948	19	8.9	8.9	26.3
	18.768858	4	1.9	1.9	28.2
	23.034507	14	6.6	6.6	34.7
	31.565806	4	1.9	1.9	36.6
	33.272066	17	8.0	8.0	44.6
	35.831455	1	.5	.5	45.1
	40.097105	2	.9	.9	46.0
	41.803365	7	3.3	3.3	49.3
	43.509624	3	1.4	1.4	50.7
	46.069014	2	.9	.9	51.6
	50.334664	5	2.3	2.3	54.0
	52.040923	11	5.2	5.2	59.2
	59.719092	2	.9	.9	60.1
	60.572222	7	3.3	3.3	63.4
	66.544131	2	.9	.9	64.3
	67.397261	1	.5	.5	64.8

	68.250391	1	.5	.5	65.3
	69.103521	9	4.2	4.2	69.5
	76.78169	1	.5	.5	70.0
	77.63482	3	1.4	1.4	71.4
	83.606729	1	.5	.5	71.8
	85.312989	1	.5	.5	72.3
	86.166119	12	5.6	5.6	77.9
	87.019249	2	.9	.9	78.9
	93.844288	1	.5	.5	79.3
	94.697418	4	1.9	1.9	81.2
	95.550548	8	3.8	3.8	85.0
	96.403678	1	.5	.5	85.4
	104.08185	9	4.2	4.2	89.7
	104.93498	5	2.3	2.3	92.0
	113.46628	11	5.2	5.2	97.2
	120.29131	2	.9	.9	98.1
	122.8507	2	.9	.9	99.1
	129.67574	2	.9	.9	100.0
	Total	213	100.0	100.0	

Table 32 - Pearson Correlations SAW vs. Private E-mail

Pearson Correlation Sig. (2-tailed) *N* (*df* for partial)	Pearson Q85_Private (Quantity)	Pearson T86_Private (time)	T86_Private (time) controlled for Q85_Private (Quantity)	Q85_Private (Quantity) controlled for T86_Private (time)
SAW (*mean*)	-.402(**) .000 213	-.397(**) .000 213	-.276(**) .000 210	-.282(**) .000 210
Item 18 I am satisfied with the way in which my place of work uses my skills and capabilities.	-.102 .137 213	-.074 .280 213	-.035 .613 210	-.079 .254 210
Item 19 I am satisfied from the challenges that I face in my workplace	-.331(**) .000 213	-.342(**) .000 213	-.237(**) .000 210	-.221(**) .001 210
Item 20 I am satisfied from the importance of my role in my workplace	-.402(**) .000 213	-.428(**) .000 213	-.313(**) .000 210	-.272(**) .000 210
Item 21 I am satisfied from condition of the employment in my workplace	-.289(**) .000 213	-.385(**) .000 213	-.304(**) .000 210	-.152(*) .026 210
Item 22 I am satisfied with my salary	-.304(**) .000 213	-.291(**) .000 213	-.189(*) .006 210	-.210(*) .002 210
Item 23 I am satisfied with the relationship between me and my superiors	-.274(**) .000 213	-.220(**) .001 213	-.121 .079 210	-.205(*) .003 210
Item 30 Generally speaking, I am	-.323(**) .000	-.315(**) .000	-.176(*) .010	-.256(**) .000

satisfied with my job 213		213	210	210
Item 76 I am satisfied with the projects I am in charge of at work	-.346(**) .000 213	-.295(**) .000 213	-.260(**) .000 210	-.140 (*) .041 210
Item 81 I prefer to finish all my tasks as fast as I can	-.261(**) .000 213	-.337(**) .000 213	-.276(**) .000 210	-.282(**) .000 210
Private E-mail (Item 86)	.418(**) .000 213			

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

Table 33 - Regression results - Dependent Variable Private Time spend, predicted by SAW and controlled variables

Adjusted R Square = .286	Beta (Standardized Coefficients)	t	Sig.
SAW	-.390	-5.802	.000
Organization Size	-.114	-1.804	.073
Age	-.139	-2.255	.025
Gender	.015	.247	.805
Education	.024	.365	.716
Profession	.220	2.789	.006
Subordinates	.097	1.243	.215
Organization type	.041	.363	.717
Organization Sector	-.212	-1.992	.048

A Dependent Variable: T86_Private

Table 34 - Pearson Correlations SAW vs. Work Inside

Pearson Correlation Sig. (2-tailed) *N* (*df* for partial)	Pearson Q89 Work Inside (Quantity)	Pearson T90 Work Inside (time)	Q89 - Work Inside (Quantity) controlled for T90 Work Inside (time)	T90- Work Inside (time) controlled for Q89 Work Inside (Quantity)
SAW (*mean*)	.024 .730 213	.092 .180 213	.001 .991 210	.089 .196 210
Item 18 I am satisfied with the way in which my place of work uses my skills and capabilities.	.164(*) .016 213	.126 .066 213	.138(*) .044 210	.089 .196 210
Item 19 I am satisfied from the challenges that I face in my workplace	-.061 .377 213	.035 .616 213	-.072 .298 210	.052 .456 210
Item 20 I am satisfied from the importance of my role in my workplace	.072 .297 213	.026 .701 213	.067 .329 210	.009 .899 210
Item 21 I am satisfied from condition of the employment in my workplace	-.040 .566 213	-.025 .721 213	-.035 .617 210	-.015 .825 210
Item 22 I am satisfied with my salary	.139(*) .043 213	.041 .553 213	.133 .053 210	.006 .926 210
Item 23 I am satisfied with the relationship between	-.041 .549	.125 .069	-.075 .274	.140(*) .042

me and my superiors	213	213	210	210
Item 30 Generally speaking, I am satisfied with my job	-.020 .769 213	.074 .282 213	-.040 .562 210	.082 .237 210
Item 76 I am satisfied with the projects I am in charge of at work	-.027 .698 213	.002 .981 213	-.028 .685 210	.009 .901 210
Item 81 I prefer to finish all my tasks as fast as I can	.024 .730 213	.092 .180 213	.001 .991 210	.089 .196 210
Work Inside E-mail (Item 90)	.250(**) .000 213			

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

Table 35 - Regression results - Dependent Variable Working inside Time spend, predicted by SAW and controlled variables

Adjusted R Square = .188	Beta (Standardized Coefficients)	t	Sig.
SAW	.074	1.035	.302
Organization Size	.260	3.875	.000
Age	-.254	-3.870	.000
Gender	.006	.095	.924
Education	-.012	-.167	.867
Profession	.211	2.516	.013
Subordinates	.070	.835	.405
Organization type	-.188	-1.583	.115
Organization Sector	-.188	-1.654	.100

Dependent Variable: T90_Working_in

Table 36 - Pearson Correlations SAW vs. Work Outside

Pearson Correlation Sig. (2-tailed) *N* (*df* for partial)	Q91 Working out (Quantity)	T91 Working out (time)	Q91- Working out (Quantity) controlled for T91 Working out (time)	T91- Working out (time) controlled for Q91 Working out (Quantity)
SAW (*mean*)	.023 .744 213	.301(**) .000 213	-.109 .115 210	.318(**) .000 210
Item 18 I am satisfied with the way in which my place of work uses my skills and capabilities.	.249(**) .000 213	.336(**) .000 213	.136(*) .048 210	.268(**) .000 210
Item 19 I am satisfied from the challenges that I face in my workplace	-.001 .989 213	.266(**) .000 213	-.118 .086 210	.289(**) .000 210
Item 20 I am satisfied from the importance of my role in my workplace	-.105 .126 213	.097 .157 213	-.156(*) .023 210	.151(*) .028 210
Item 21 I am satisfied from condition of the employment in my workplace	-.026 .702 213	.114 .097 213	-.078 .260 210	.135(*) .049 210
Item 22 I am satisfied with my salary	.043 .532 213	.107 .120 213	.001 .984 210	.098 .155 210
Item 23 I am satisfied with the relationship	.023 .735	.362(**) .000	-.138(*) .045	.383(**) .000

between me and my superiors 213	 213	 210	 210
Item 30 Generally speaking, I am satisfied with my job 213	-.032 .639 213	.339(**) .000 213	-.191(**) .005 210	.382(**) .000 210
Item 76 I am satisfied with the projects I am in charge of at work 213	.056 .413 213	.257(**) .000 213	-.050 .471 210	.256(**) .000 210
Item 81 I prefer to finish all my tasks as fast as I can 213	-.049 .481 213	.013 .854 213	-.058 .400 210	.034 .618 210
Working-out (Item 91)	.391(**) .000 213			

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

Table 37 - Regression results - Dependent Variable Working outside Time spend, predicted by SAW and controlled variables

Adjusted R Square = .183	Beta (Standardized Coefficients)	t	Sig.
SAW	.282	3.915	.000
Organization Size	-.128	-1.897	.059
Age	-.293	-4.447	.000
Gender	-.052	-.798	.426
Education	-.132	-1.917	.057
Profession	.200	2.374	.019
Subordinates	.018	.209	.835
Organization type	-.028	-.231	.818
Organization Sector	-.125	-1.099	.273

Dependent Variable: T91_Working_out

Table 38 - Pearson Correlations QNC vs. Private E-mail

Pearson Correlation Sig. (2-tailed) N (df for partial)	Pearson Q85- Private (Quantity)	Pearson T86-Private (time)	T86 - Private (time) controlled for Q85-Private (Quantity)	Q85 - Private (Quantity) controlled for T86 - Private (time)
Item 44 How may e-mail addresses of your work colleagues, are in your e-mail address book at workplace	.115 .095 213	.145(*) .034 213	.108 .118 210	.060 .384 210
Item 45 How may e-mail addresses of your work colleagues, are in your e-mail address book at home	.241(**) .000 213	.257(**) .000 213	.177(**) .010 210	.152(**) .027 210
Item 46 With how many people, on daily basis average, do you form contact through the e-mail at work	.236(**) .001 213	.245(**) .000 213	.165(**) .016 210	.152(**) .027 210
Item 47 With how many people, on daily basis average, do you form contact through the e-mail at home?	.100 .147 213	.049 .477 213	.008 .907 210	.087 .206 210
Private E-mail (Item 86)	.418(**) .000 213			

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

Table 39 - Pearson Correlations among QNC Items

	Item 44	Item 45	Item 46	Item 47
Item 45 How may e-mail addresses of your work colleagues, are in your e-mail address book at <u>home</u>	.595(**) .000 213			
Item 46 With how many people, on daily basis average, do you form contact through the e-mail at work	.722(**) .000 213	.695(**) .000 213		
Item 47 With how many people, on daily basis average, do you form contact through the e-mail at <u>home</u>?	.513(**) .000 213	.711(**) .000 213	.632(**) .000 213	

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

Table 40 - Regression results - Dependent Variable Private Mails Time spend, predicted by QNC and controlled variables

Adjusted R Square = .183	Beta (Standardized Coefficients)	t	Sig.
QNC: With how many people are you connecting on a daily basis via e-mail (average) at work	.223	3.286	.001
Organization Size	.021	.311	.756
Age	-.107	-1.644	.102
Gender	.020	.306	.760
Education	.017	.246	.806
Profession	.106	1.275	.204
Subordinates	.093	1.130	.260
Organization type	.106	.899	.370
Organization Sector	-.283	-2.452	.015

Dependent Variable: T86_Private

Table 41 - Pearson Correlations QNC vs. Working Inside E-mail

Pearson Correlation Sig. (2-tailed) *N* (*df* for partial)	Pearson Q89 Work Inside (Quantity)	Pearson T90 Work Inside (time)	Q89-Work Inside (Quantity) controlled for T90 Work Inside (time)	T90-Work Inside (time) controlled for Q89 Work Inside (Quantity)
Item 44 How may e-mail addresses of your work colleagues, are in your e-mail address book at workplace	.116 .091 213	.087 .206 213	.060 .383 210	.098 .156 210
Item 45 How may e-mail addresses of your work colleagues, are in your e-mail address book at home	.198(**) .004 213	.024 .728 213	-.027 .699 210	.198 .004 210
Item 46 With how many people, on daily basis average, do you form contact through the e-mail at work	.136(*) .048 213	-.027 .699 213	-.063 .361 210	.147 .032 210
Item 47 With how many people, on daily basis average, do you form contact through the e-mail at home?	.270(**) .000 213	.093 .176 213	.027 .692 210	.256 .000 210
Work Inside E-mail (Item 90)	.250(**) .000 213			

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

Table 42 - Linear Regression QNC vs. Working Inside E-mail

	Unstandardized	Standardized	T	Sig.

Adjusted R Square = .185	Coefficients		Coefficients		
	B	Std. Error	Beta	B	
QNC: With how many people are you connecting on a daily basis via e-mail (average) at work	.052	.082	.044	.643	.521
Organization Size	.232	.062	.261	3.761	.000
Age	-.326	.085	-.254	-3.858	.000
Gender	-.006	.232	-.002	-.024	.981
Education	-.008	.075	-.007	-.103	.918
Profession	.231	.091	.214	2.537	.012
Subordinates	.091	.111	.069	.821	.413
Organization type	-.824	.400	-.247	-2.061	.041
Organization Sector	-.721	.402	-.210	-1.794	.074

a Dependent Variable: T90-Working inside

Table 43 - Pearson Correlations QNC vs. Working Outside E-mail

Pearson Correlation Sig. (2-tailed) *N* (*df* for partial)	Pearson Q91 Work Out (Quantity)	Pearson T91 Work Out (time)	Q91- Work Out (Quantity) controlled for T91 Work out (time)	T91- Work Out (time) controlled for Q91 Work out (Quantity)
Item 44 How may e-mail addresses of your work colleagues, are in your e-mail address book at workplace	.254(**) .000 213	.129 .059 213	.223 .001 210	.034 .626 210
Item 45 How may e-mail addresses of your work colleagues, are in your e-mail address book at home	.393(**) .000 213	.207(**) .002 213	.347 .000 210	.062 .365 210
Item 46 With how many people, on daily basis average, do you form contact through the e-mail at work	.380(**) .000 213	.144(*) .036 213	.355 .000 210	-.006 .930 210
Item 47 With how many people, on daily basis average, do you form contact through the e-mail at home?	.308(**) .000 213	.175(*) .010 213	.264 .000 210	.062 .366 210
Working-out (Item 91)	.391(**) .000 213			

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

Table 44 - Linear Regression QNC vs. Working outside E-mail

Adjusted R Square = .131	Unstandardized Coefficients		Standardized Coefficients	t	
	B	Std. Error	Beta	B	Sig.
QNC: With how many people are you connecting on a daily basis via e-mail (average) at work	.112	.074	.107	1.511	.132
Organization Size	-.111	.056	-.142	-1.984	.049
Age	-.336	.077	-.297	-4.369	.000
Gender	-.240	.211	-.077	-1.138	.256
Education	-.113	.068	-.118	-1.654	.100
Profession	.213	.083	.225	2.575	.011
Subordinates	.017	.101	.015	.171	.865
Organization type	-.641	.363	-.219	-1.767	.079
Organization Sector	-.558	.365	-.185	-1.529	.128

a Dependent Variable: T91_Working_out

Table 45 - Pearson Correlations OCP vs. Private E-mail

Pearson Correlation Sig. (2-tailed) *N* (*df* for partial)	Pearson Q85 Private (Quantity)	Pearson T86 Private (time)	T86- Private (time) controlled for Q85 Private (Quantity)	Q85-Private (Quantity) controlled for T86 Private (time)
Item 1 I use e-mail at my work for working purposes only	-.211(**) .002 213	-.316(**) .000 213	-.089 .199 209	-.258 .000 209
Item 2 I use Internet at my work for working purposes only	-.175(*) .010 213	-.344(**) .000 213	-.033 .634 209	-.305 .000 209
Item 3 In which frequency do you use the Internet at work?	-.213(**) .002 213	-.334(**) .000 213	-.080 .247 209	-.280 .000 209
Item 4 In which frequency do you use e-mail at work?	-.026 .706 213	-.045 .513 213	-.005 .939 209	-.040 .567 209
Item 5 Does your firm/organization have policy/procedures about using the e-mail?	-.016 .811 213	.183(**) .008 213	-.112 .106 209	.215 .002 209
Item 6 Do you think that your employer is monitoring your e-mail usage	.069 .314 213	.136(*) .048 213	.013 .852 209	.119 .086 209
Item 7 Should employers have the right to monitor your e-mail usage?	.066 .334 213	.054 .431 213	.052 .448 209	.026 .706 209
Item 8 Do you take any measures to avoid the employee e-mails	-.017 .810	-.006 .931	-.012 .860	-.001 .984

detection?	213	213	209	209
Item 10 In my opinion, it is the employer's right to send /receive private e-mails at work.	.086 .211 213	.367(**) .000 213	-.087 .208 209	.372 .000 209
Item 11 In my opinion the firm operates wisely by allowing me to use the e-mail for my private uses and needs	-.044 .520 213	.265(**) .000 213	-.179 .009 209	.314 .000 209
Item 12 My co-workers think that I should use the e-mail for work purposes only.	-.009 .891 213	-.222(**) .001 213	.100 .149 209	-.244 .000 209
Item 13 The firm I work for, encourages e-mail usage for work related purposes only	-.148(*) .031 212	-.131 .057 212	-.104 .132 209	-.076 .270 209
Item 14 The firm I work for, forbid using the e-mail for private purposes	-.219(**) .001 213	-.027 .697 213	-.225 .001 209	.070 .310 209
Private E-mail (Item 86)	.418(**) .000 213			

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

Table 46 - Linear Regression OCP vs. Private E-mail

Adjusted R Square = .247	Unstandardized Coefficients		Standardized Coefficients	t	
	B	Std. Error	Beta	B	Sig.
OCP-item 10: In my opinion, it is the employer's right to send/receive private e-mails at work	.605	.120	.322	5.050	.000
OCP-item 4: In which frequency do you use the e-mail at work?	-.273	.117	-.145	-2.336	.020
OCP-item 1: I use e-mail at my work for working purposes only	-.506	.122	-.269	-4.147	.000
OCP-item 13: The firm I work for, encourages e-mail usage for work related purposes only	.461	.115	.245	4.016	.000
OCP-item 7: Should employers have the right to monitor your e-mail usage?	.101	.119	.054	.844	.400
Organization Size	-.113	.070	-.113	-1.622	.106
Age	-.112	.093	-.077	-1.199	.232
Gender	.158	.253	.040	.623	.534
Education	-.044	.086	-.035	-.517	.606
Profession	.293	.100	.242	2.919	.004
Subordinates	-.011	.129	-.007	-.085	.933

a Dependent Variable: T86_Private

Table 47 - Pearson Correlations OCP vs. Working Inside E-mail

Pearson Correlation Sig. (2-tailed) *N* (*df* for partial)	Pearson Q89 Work Inside (Quantity)	Pearson T90 Work Inside (time)	Q89- Work Inside (Quantity) controlled for T90 Work Inside (time)	T90- Work Inside (time) controlled for Q89 Work Inside (Quantity)
Item 1 I use e-mail at my work for working purposes only	-.038 .577 213	-.071 .303 213	-.019 .780 209	-.063 .359 209
Item 2 I use Internet at my work for working purposes only	-.028 .690 213	-.077 .263 213	-.005 .941 209	-.072 .295 209
Item 3 In which frequency do you use the Internet at work?	-.225(**) .001 213	-.089 .196 213	-.206 .003 209	-.035 .617 209
Item 4 In which frequency do you use e-mail at work?	-.099 .150 213	-.088 .198 213	-.077 .263 209	-.066 .339 209
Item 5 Does your firm /organization have policy/procedures about using the e-mail?	-.230(**) .001 213	.064 .352 213	-.264 .000 209	.130 .060 209
Item 6 Do you think that your employer is monitoring your e-mail usage	.177(**) .010 213	.061 .379 213	.167 .015 209	.017 .805 209
Item 7 Should employers have the right to monitor your e-mail usage?	-.168(*) .014 213	-.072 .297 213	-.152 .027 209	-.031 .652 209
Item 8 Do you take any measures to	.094 .171	.032 .643	.093 .179	.009 .897

avoid employee's e-mails detection?	213	213	209	209
Item 10 In my opinion, it is the employer's right to send /receive private e-mails at work.	-.036 .600 213	.011 .875 213	-.046 .506 209	.020 .768 209
Item 11 In my opinion the firm operates wisely by allowing me to use the e-mail for my private uses and needs	-.129 .059 213	-.010 .889 213	-.133 .054 209	.024 .733 209
Item 12 My co-workers think that I should use the e-mail for work purposes only.	.223(**) .001 213	-.006 .931 213	.237 .001 209	-.065 .345 209
Item 13 The firm I work for, encourages e-mail usage for work related purposes only	.033 .635 212	-.032 .645 212	.042 .544 209	-.041 .551 209
Item 14 The firm I work for, forbid using the e-mail for private purposes	-.254(**) .000 213	.067 .333 213	-.277 .000 209	.139 .043 209
Work Inside E-mail (Item 90)	.250(**) .000 213			

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

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

Table 48 - Linear Regression OCP vs. Working Inside E-mail

Adjusted R Square = =0.183	Unstandardized Coefficients		Standardized Coefficients	t	
	B	Std. Error	Beta	B	Sig.
OCP-item 10: In my opinion, it is the employer's right to send/receive private e-mails at work	-.127	.111	-.076	-5.86	.253
OCP-item 4: In which frequency do you use the e-mail at work?	-.158	.108	-.094	-1.454	.148
OCP-item 1: I use e-mail at my work for working purposes only	.102	.113	.061	.899	.370
OCP-item 13: The firm I work for, encourages e-mail usage for work related purposes only	.131	.106	.078	1.229	.220
OCP-item 7: Should employers have the right to monitor your e-mail usage?	-.011	.111	-.007	-.100	.920
Organization Size	.269	.065	.301	4.151	.000
Age	-.321	.086	-.248	-3.716	.000
Gender	-.020	.235	-.006	-.086	.932
Education	.041	.079	.036	.516	.606
Profession	.216	.093	.200	2.317	.022
Subordinates	.086	.119	.065	.721	.472

a Dependent Variable: T90_Working_in

Table 49 - Pearson Correlations OCP vs. Working Outside E-mail

Pearson Correlation Sig. (2-tailed) *N* (*df* for partial)	Pearson Q91 Work Out (Quantity)	Pearson T91 Work Out (time)	Q91- Work Out (Quantity) controlled for T91 Work Out (time)	T91- Work Out (time) controlled for Q91 Work Out (Quantity)
Item 1 I use e-mail at my work for working purposes only	-.141(*) .040 213	.093 .176 213	-.192 .005 209	.163 .017 209
Item 2 I use Internet at my work for working purposes only	-.079 .252 213	.149(*) .029 213	-.149 .030 209	.199 .004 209
Item 3 In which frequency do you use the Internet at work?	-.267(**) .000 213	.030 .663 213	-.302 .000 209	.155 .025 209
Item 4 In which frequency do you use e-mail at work?	-.135(*) .050 213	-.138(*) .044 213	-.087 .207 209	-.093 .178 209
Item 5 Does your firm/organization have policy/procedures about using the e-mail?	.051 .455 213	.167(*) .015 213	-.018 .793 209	.157 .023 209
Item 6 Do you think that your employer is monitoring your e-mail usage	.185(**) .007 213	.141(*) .040 213	.142 .039 209	.075 .276 209
Item 7 Should employers have the right to monitor your e-mail usage?	-.151(*) .027 213	.008 .907 213	-.166 .016 209	.076 .271 209
Item 8	.223(**)	.367(**)	.096	.315

Do you take any measures to avoid the employee e-mails detection?	.001 213	.000 213	.166 209	.000 209
Item 10 In my opinion, it is the employer's right to send /receive private e-mails at work.	.164(*) .017 213	.032 .641 213	.163 .018 209	-.038 .583 209
Item 11 In my opinion the firm operates wisely by allowing me to use the e-mail for my private uses and needs	.026 .708 213	-.104 .131 213	.072 .298 209	-.125 .071 209
Item 12 My co-workers think that I should use the e-mail for work purposes only.	.002 .980 213	-.036 .598 213	.020 .778 209	-.038 .583 209
Item 13 The firm I work for, encourages e-mail usage for work related purposes only	-.087 .209 212	-.145(*) .035 212	-.033 .634 209	-.121 .079 209
Item 14 The firm I work for, forbid using the e-mail for private purposes	.059 .394 213	.287(**) .000 213	-.059 .396 209	.291 .000 209
Working-out (Item 91)	.391(**) .000 213			

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

Table 50 - Linear Regression OCP vs. Working outside side E-mail

Adjusted R Square =0.259	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta	B	Std. Error
OCP-item 10: In my opinion, it is the employer's right to send/receive private e-mails at work	.079	.093	.054	.853	.395
OCP-item 4: In which frequency do you use the e-mail at work?	-.049	.091	-.034	-.544	.587
OCP-item 1: I use e-mail at my work for working purposes only	.493	.095	.335	5.206	.000
OCP-item 13: The firm I work for, encourages e-mail usage for work related purposes only	.294	.089	.200	3.298	.001
OCP-item 7: Should employers have the right to monitor your e-mail usage?	.029	.093	.020	.318	.750
Nbr. of employees	-.090	.054	-.115	-1.669	.097
Age	-.312	.072	-.274	-4.319	.000
Gender	-.147	.197	-.047	-.746	.457
Education	-.033	.066	-.034	-.502	.616
Position	.142	.078	.149	1.818	.071
Subordinated	.080	.100	.068	.798	.426

a Dependent Variable: T91_Working_out

Table 51 - Correlation between "Private Ratio T" and SAW

	SAW
Private Ratio T	-.496(**) .000

Table 52 - Correlation between "Work Ratio T" and SAW

	SAW
Work Ratio T	.502(**) .000

Table 53 - Central and dissipation measurements of the research variables

	N	Min	Max	Mean		Std. Deviation	Skewness		Kurtosis	
Private Ratio T	212	.00	.72	.4130	.01140	.16605	-.341	.167	.021	.333
Work Ratio T	212	.26	1.00	.5762	.01162	.16915	.349	.167	-.053	.333
Work Waste Ratio T	212	.00	39.32	7.8476	.38317	5.57899	1.598	.167	4.842	.333
Work Waste T	213	.00	148.50	61.0399	2.83598	41.38971	.437	.167	-1.005	.332
Valid N (listwise)	212									