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THE NEGATIVE EFFECT OF E-MAILS AT WORK

DOCTORAL DISSERATION

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ABSTRACT

Although the e-mail is considered to be a fundamental element of organizations' communications layout, most researches had focused on the "positive" aspects of using e-mail, which is more likely to imply better proficiency and efficiency. However, this "positive" point of view has led most researchers to ignore negative aspects associated with using e-mails at work.

This paper focuses on e-mail related activities in the workplace, in particular emails that are sent during work hours, and demonstrates the great extent of waste involved in their daily use, not just for private purposes, but also for purposes of work.

The survey includes a thorough statistical analysis referring to 213 employees that were chosen from 15 different large service organization, revealed that e-mails are extensively used by employees for personal purposes and that work-related e-mails are **misused**. In the research, influences parameters were reviewed, among which quantity of "**net connections**", and "**existence of organization culture/policy, satisfaction at work** and **demographic** parameters. The research explores interruptions at work and the extent to, which the e-mail tool contribute to interruptions and diminish our ability to focus on important tasks. The findings show that increasing e-mail usage in the workplace and spending large amounts of time on private emails may be an indicator for **dissatisfaction** at work, in service organizations. Moreover, it emphasizes the importance of implementing greater **control, supervision, training and e-mail boxes separation**. Most importantly however, the research identifies strategic options which HR and IT managers are using with these platforms, which may grants the firm with cost reduction, HR efficiency with better communication inside and outside the organization, better time management and more.

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

Keywords

HRM, ICT, dissatisfaction at work, e-mail at work, service organization, organization culture/policy, net connections, efficiency, cyberloafing.

INTRODUCTION

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 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.

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. The literature relating to web-based tools such as e-mails deals with the change generated by the use of these tools at work and the identification of the global trend associated with the engagement of these tools in the business environment. In particular, researchers have focused on how the frequent changes in the rigorous, aggressive and competitive environment motivated organizations to adopt these technologies with the intention of turning work processes into more proficient and efficient ones. Thus, technology serves as a strategic and tactic mean. By adopting these technologies organizations were not only able to preserve their relative positioning but in some cases gain competitive advantage and market leadership.

Seemingly, 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 and HRM such as: How companies conduct in view of frequent and increasing use of e-mails at work? Are companies aware of intrusions and obstructions caused by this conduct? And mainly, are companies attentive and responsive to the many negative impacts and consequentially tremendously increasing costs related to the ways e-mails are used at work? Conversely to previous researches, this research adopts a different perspective trying to examine how loss of work hours can result from the (mis)use of e-mails during work hours for personal purposes and needs. In regards to that, how dissatisfaction at work may contribute to time waste resulting from e-mail usage at work. 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 satisfaction at work, private e-mails usage at work and work related e-mails on employees' ineffectiveness and organizational efficiency.

TABLE 01 - 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)

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. These researches indicate the number websites, e-mails, and Internet users that were added.

TABLE 2- THE DISTRIBUTION FOR E-MAIL ONLY (2009):

- **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 (81% are spam).

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

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.

To sum up: This research work 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.
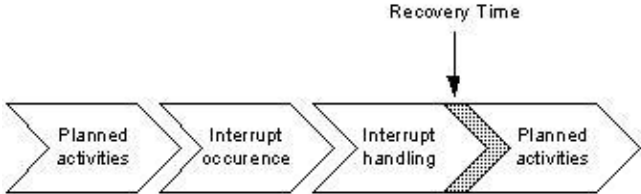
LITERATURE REVIEW

Undoubtedly, the main part of the literature has focused on the "positive" aspects of using web-based tools. We used the term "positive" because, roughly phrased, most of the research have sought to confirm a positive relation between the use of e-mails and the attribute in question, such that higher e-mails usability is more likely to imply better proficiency and efficiency. For example, Powell, (2003); Coulson-Thomas, (2005); Marson and Marson, (2002) show that e-mails have become an integral part of routine lives by providing an efficient form of communication. E-mails use is also found to be positively correlated with knowledge and information sharing and business related interactions (Marson and Marson, (2002); Powell, (2003); Harney, (2001); Buechner, (2001)). Others, for instance St-Pierre and Raymond (2004), found that web data had successfully replaced conservative information tools such as papers, while Smith et al., (2005) and Coulson-Thomas, (2005) suggested that the quality of both organizational social relationships and organizational social climate is determined by employees' productivity and that the latter is related to the use of e-mails. Finally, Spithoven (2003) and Kilpatrick (2000) agree that using e-mails improved workers' morale and helped them complete their tasks more quickly and Fallows (2003) argued that most employees referred to e-mails at work as something that helps them work efficiently and fulfill their tasks.

However, only a few researches were found to deal with the current research's main interest, meaning the negative aspects using e-mail at work have on organizational management and business processes conduct. Much of the research have focused on time waste resulting from private and personal e-mails usage during working hours, for instance Adam, (2002); Websense, (2006) and Arnesen and Weis, (2007). Other negative aspects of e-mails usage considered infrastructure exploitation overload (Adam, 2002; Girrier, 2003; Ingham, 2003; Dawley and Anthony, 2003, "cyberloafing" (Lim, 2002; Zoghbi et al., 2006), and the difficulties for employees to manage their inbox (Dabbish,et al 2005; Kankaanranta, 2005; McShane and Von Glinow, 2003).

Overall, researches agree that although technology has a positive influence on organizational performance and business success mainly by helping employees to simplify their work (Forman et al., 2007), technology also impose direct and indirect costs on organizations because employees spend more working hours on the web regarding non-work related issues (Simmons, 2007). Negative usage of e-mails also may have unethical consequences mainly as a result of cyberloafing (Fallows, 2003 or Lichtash, 2004). Moreover, awareness among companies to the risks involved in these unethical issues resulted in a prosperity of legislation aimed at preventing attempts such as to pull out information of intellectual property, preventing insult and offensive e-mails, and other online violations that can seriously muddy the organization reputation (Ashmore and Herman, 2006 and Jengchung et al., 2008) and by that minimize internal bias and harassment claims (Ha-Redeye, 2007).

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. 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 with similar results.

Surprisingly, the literature provides only little information about attempts to tie organizational policy and culture to e-mails usage. In most cases organizations were

trying to minimize risks by stating and promoting an optimal policy and culture atmosphere. Researchers have been investigating mechanisms of enforcement information technology rules mainly by prohibiting employees from sharing information (Anderson, 2000 and Bohrer et al., 2003) or mechanisms of enforcement by monitoring systems or controlling employee's actions (Wilson, 2006 and Jengchung et al., 2008) and also there is the law aspect (Booth, 2009).

In view of this, as shown by Krasny and Meade (2001) and Vardi, (2001), employees' "web" attitude, perceived culture and policy regarding e-mails usage are often mistakenly considered as private. This is also why research regarding the influence of socio-demographic profile of employees on e-mails usage is rather scarce. Furthermore, evidence suggest that socio-demographic influence varies considerably over time and with regard to other aspects among which are age, gender education level, organization type, subordinates and position at work (I.e Andreassen et al., 2007; Wangberg et al., 2008 and Fallows, 2005).

Thus, conversely to previous researches, this research adopts a different perspective focusing on examining the loss of work hours resulting from the (mis)use of e-mails during work hours for personal purposes and needs. Furthermore, as e-mail traffic and volume become exponentially larger with e-mails being automatically forwarded to many e-mail addressees or mishandle them, both within and without the organization, taking up bandwidth and overloading IT infrastructures, this research aims at exploring how e-mail usage is in fact an unproductive mean of communication that might decrease the organization's efficiency, productivity and capability.

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.

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.

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

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. 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. Organizations must ask themselves two questions: firstly, is the work effective? Secondly, are skills and abilities of employees being exploited to the full?

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 satisfaction at work, private e-mails usage at work and work related e-mails on employees' ineffectiveness and organizational efficiency.

Rational

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. 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._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.

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 and no relation were found regarding e-mail usage.

In addition, 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. 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. 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?
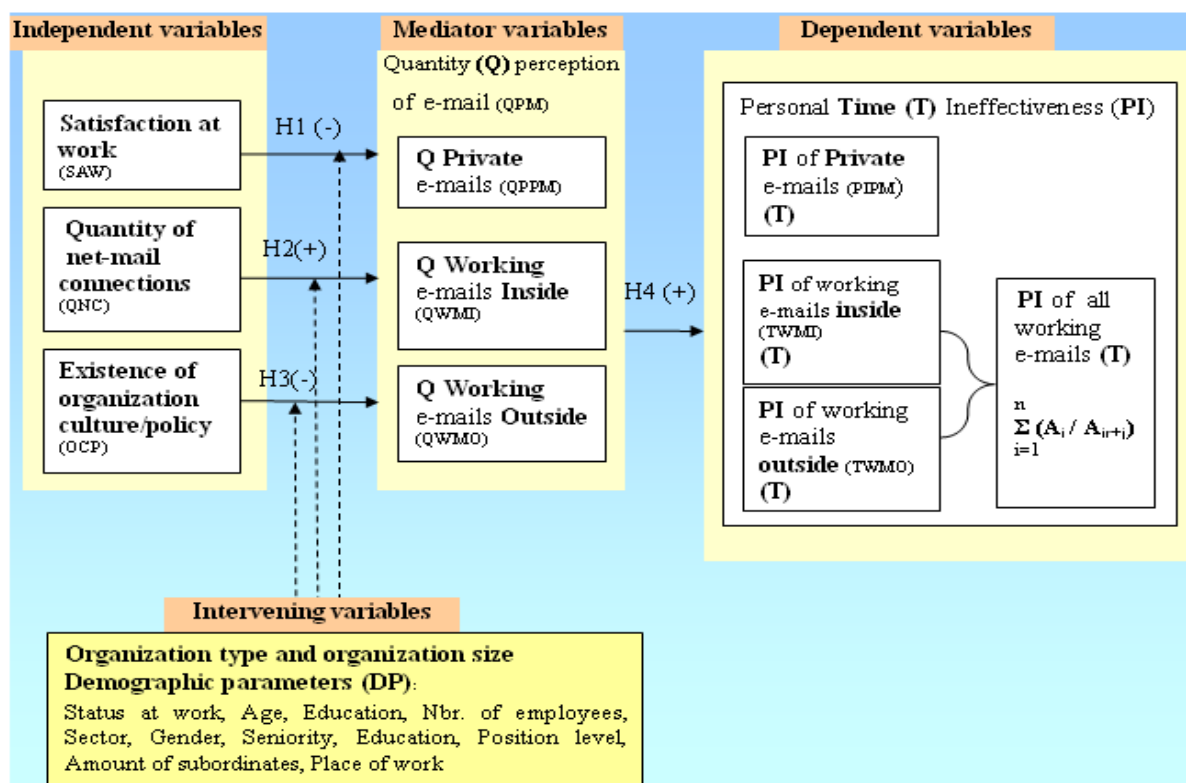
From rational to the research model

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 - P**I (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 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-**Air,j** that were done on e-mails, when "Action type" of e-mail (Air,j) are types of action patterns . The first one is "delay/ignore" marked by "ir" index and "j" for "immediate reaction".

FIGURE 2 –RESEARCH MODEL

Q= Quantity;   **T**= Time spent perception**;**   **PI=** Personal time ineffectiveness
$A_{ir,j}$ = Action type taken for time (**T**) period: "delay/ignorance" marked by "**ir**"
index/**category** and "**j**" marked for "immediate reaction".
A_i / A_{ir+j} = the ratio between A_i and A_{ir+j} expresses the ratio of wasted **time** in each one
of the categories

METHODOLOGY

RESEARCH HYPOTHESES

The current research is a quantitative study, aimed and designed to examine the relationship between variables between independent dependent variables. The discussion in the preceding sections and 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.

VARIABLES

VARIABLES AND SYMBOLS

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

INDEPENDENT VARIABLES

Satisfaction at Work (SAW)

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

Existence of organization culture/policy (OCP)

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)

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

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.

Personal Time Ineffectiveness (PI) represents inefficiency when using e-mails.

In order to measure inefficiency subjects were asked to evaluate how often they mishandled e-mails. The results of a factor analysis indicated that there are two distinct action types (A): Delay/Ignore (ir) and take Immediate Action (j). Although these two dimensions represent two extremes of behavior, it is worth noting that the latter expresses high output but does not necessarily express effectiveness because fast reaction to e-mails might be superficial and not a result of efficiency. Nevertheless, that reaction does "clear the table" while the former (ignoring or deleting) leaves open activity circles through "delay/ignorance". Subjects were asked to state how many times, on a daily average, do they handle e-mails according to the two action types using the following ordinal scale: 1="1-5", 2="6-10", 3="11-15", 4="16-20", 5="21+".

Factor analysis had identified 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 ($A_{ir,j}$). Both are types of reaction patterns. The first one is "**delay/ignorance**" marked by "**ir**" index and "**j**" for "**immediate reaction**".

Marked as $A_{ir,j}$, inefficiency was computed as an average users' response to three statements: Delete ("delete e-mail without reading"), Forward ("forward only to one person who is relevant to the specific mail, and was not addressed") and Ignore ("e-mail that is not relevant to the recipient"). Variable reliability is very high (α= 0.956).

Following this, subjects were also asked to evaluate how long do they spend daily on handling these e-mails. Subjects' evaluations were respectively to handling private e-mails (**PIPM**-Personal Time Ineffectiveness of Private e-mails), e-mails sent to recipients within the organization (**TWMI**-Personal Time Ineffectiveness of working e-mails Inside the organization) and e-mails sent to recipients outside the organization (**TWMO**-

Personal Time Ineffectiveness of working Mails Outside the organization). It is worth noting that no use was made of the time duration wasted on **SPAM** since it was found to be permanent 15-20 minutes among the sample and not as variable sensitive for the research.

PIPM, TWMI and TQMO were measured using an ordinal scale: 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 6 hours", 7= "6+ hours". This scale was transformed according to the middle range of the scale and converted to minutes (0= 0 minutes, 1= 30 minutes, 2= 90 minutes, 3= 150 minutes, 4= 210 minutes, 5= 270 minutes, 6= 330 minutes, 7= 390 minutes) in order to calculate "time means" for these variables.

Estimating employees' overall time spent on e-mails by subjects' response to the question "How many hours during one day do you use for your e-mail at work?"

time spent on work-related e-mails	=	total time spent on e-mails	-	time spent on Private e-mails

Using the above converted ordinal scale was used to compute how much time is used by employees on handling work related e-mails by subtracting total time employees spend on Personal e-mails (PIPM). That can formulate as follows:

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

Using the above $A_{ir,j}$ measure, Personal Ineffectiveness of working e-mails can be computed by multiplying $A_{ir,j}$ by the total time employees spend on work related e-mails.

Finally, total Personal Ineffectiveness (PI) can be measured as the sum of total time spent on private e-mails at work and time spent on vain actions that cause waste of time or loss of work such as delaying or ignoring relevant work related e-mails. Ignoring time spent on handling SPAM, which as stated above is a constant, lead to the following formulation:

$$PI = \sum \left(PIPM + \frac{A_{ir}}{A_{ir} + A_j} \times (\text{time spent on work-related e-mails}) \right)$$

To sum up, the dependent variable, Personal Ineffectiveness, represents the subjective time that each employee estimated regarding handling private e-mails at work and mishandling work-related e-mails.

Quantity Perception of Mail *(QPM)* represents the total amount of e-mails handled by the subjects. The variable dimensions are respectively: Quantity of private e-mails (QPPM), business within the organization (QWMI) and business external to the organization (QWMO). Subjects were asked to estimate how much time they normally spend daily on handling e-mails using the following ordinal scale: 0=none; 1="up to 1 hour"; 2="1-2 hours"; 3="2-3 hours"; 4="3-5 hours"; 5="4-5 hours"; 6="5-6 hours" and 7="more than 6 hours daily".

INDEPENDENT VARIABLES

Satisfaction At Work (SAW) was computed by averaging subjects' response to questions/items 18-23, 30, 67-81 referring to different aspects of work satisfaction (such as relationships with the superiors, wages, efficacy and overall satisfaction) using a 6 level ordinal scale ranging from 1= strongly disagree to 6= strongly agree. Variable Chronbach reliability was α=0.882.

Quantity of Net-Mail Connections (QNC) represents the degree of social connections managed through e-mails. QNC was computed by averaging subjects' response to questions/items 44-47 using an ordinal scale in which 1="1-20", 2="21-40", 3="41-60", 4="61-80" and 5="81+". Variable Chronbach reliability was α=0.879.

Existence of Organization Culture/Policy (OCP) was computed by averaging subjects' response to questions/items 1-8, 10-14, 24-26, 28-29, 70-71 relating to issues such as: the kind of instructions, do the employees know what is permitted, how much the employees do avoid or implement the relevant e-mail policy. Overall Chronbach's α was found to be 0.851.

INTERVENING VARIABLES

The intervening variables were specified in questions/items 105-115. These variables may be moderating and at 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 as follow:

1. Organization type and organization size
2. Demographic Parameters (DP): Status at work, Age, Education, Nbr. of employees, Sector, Gender, Seniority, Education, Position level, Amount of subordinates, Place of work

POPULATION AND SAMPLE

Employees who participated in the study worked in service areas that are not essentially computer based. In these organizations the e-mails are auxiliary tools in the work process.

The study includes two sampling stages: 1) The choice of the organizations participating in the study; 2) The choice of employees in the relevant organizations. Both 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, and with some of the contact people with whom she worked for distributing the questionnaires. 15 different service-organizations located and operating in Israel were chosen from diverse service organizations, among them: Banks, Airline, Cellular company, Health, Municipal, and government ministry service organizations, most of which with more than 500 employees. It is worth noting that all organizations contacted by the researcher showed great interest in the study and were eager to cooperate, indicating the importance of this issue for them.

The final questionnaire was distributed to 402 employees in 15 large service organizations. Only 213 questionnaires were completed and were suitable for research processing. The organizations were chosen according to criteria of organization size and its being a service organization.

Questionnaires were distributed to employees by the organizational contact person according to demographic criteria that were dictated by the researcher including the administrative rank, seniority, gender, and education.

FINDINGS

H1.1: CORRELATIONS EXIST BETWEEN SATISFACTION AND QUANTITY (Q) OF PRIVATE E-MAIL

There is significant negative correlation (r=-0.402, p<0.001) between satisfaction at work (SAW) and the amount of private e-mails handled (QPPM). However, there is also a significant correlation between the QPPM and the time the employee spends on them (p<0.001, r= 0.418). It means that same correlation with the QPPM also exist with the correlation with time spent. It means that the correlation type with the QPPM also exist with time spent correlation. In other words, the pattern of the link with the QPPM 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. The analysis also suggests that QPPM is higher as workers are more professed (β=0.22, p<0.05) and that it is lessening with age (β=-0.139, p<0.05). In spite of the negative correlation between SAW and QPPM, there is a positive significant correlation between the number of private mails and the time the employee spends on them (p<0.001, r= 0.418). It means that the correlation type with the QPPM also exist with the correlation with time spent. In other words, the pattern of the link with the QPPM also applies to the time, and there is a direct negative correlation between SAW and QPPM, and not only through the mediating variable of the time spent engaging with private e-mails. Table 3 show the results of the **regression** for predicting the use of private e-mails according to the level of SAW, while controlling for demographic and other influences, yield that SAW has a significant negative effect over QPPM (β=-0.390, p<.001) which means that more satisfied employees handle less private e-mails at work. The analysis also suggests that QPPM is higher as workers are more professed (β=0.22, p<0.05) and that it is lessening with age (β=-0.139,p<0.05).

TABLE 3 - REGRESSION RESULTS (*PRIVATE E-MAILS ACCORDING TO THE LEVEL OF SAW,* CONTROLLING FOR DEMOGRAPHIC***)**

Adjusted R Square = .286	Beta	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

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. **This confirms hypothesis 1.1.**

H 1.2: CORRELATIONS EXIST BETWEEN SATISFACTION AND Q WORKING E-MAILS INSIDE ORGANIZATION

By examination of satisfaction opposite the time dedicated to internal e-mails send/received amount of e-mails (QWMI). It points out that there is **positive** significant correlation between the QWMI and the time the employee spends on them ($p<0.001$, $r= 0.250$) at work. As shown the relation between SAW and QWMI is less incisive. QWMI was found to be significantly positive correlated only with regard to SAW with the way employees' skills are being used ($r=0.164$, $p<0.05$) and employees' satisfaction from their salary ($r=0.139$, $p<.05$). In fact, regression analysis cannot confirm a significant relation between SAW and QWMI ($\beta=.074$, $p>.10$), and moreover it suggests that QWMI is higher for larger organizations ($\beta=.260$, $p<.001$) and for more professed workers ($\beta=.211$, $p<.05$) and that it is declining with age ($\beta=-.254$, $p<.001$). However, this is statistically significant only in regards to two dimensions of satisfaction at work. Specifically, as employees feel satisfied with the manner of <u>using their skills and capabilities</u> and with their <u>salaries and feel they are properly rewarded</u>, 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.

According to these results **hypothesis 1.2 can partly be confirmed.**

H 1.3: CORRELATIONS EXIST BETWEEN SATISFACTION AND Q WORKING E-MAILS OUTSIDE ORGANIZATION

The relation between SAW and external-organizational working e-mails (QWMO), examination of SAW opposite the duration of time dedicated to external-organizational working e-mails sources and the amount of e-mails, points out **positive** correlation between QWMO and the time the employee spends on them ($p<0.001$, $r= 0.391$). Only one item regarding SAW is significant, which 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 ($r=0.249$, $p<0.001$). 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 SAW (r=0.301, p<0.001). The QWMO and the duration of time for to handle QWMO, after neutralization of time duration in handling those e-mails, decreased the impact of most items, and therefore is a **mediating** variable. Results of the **regression** for prediction of QWMO usage, of which are originated outside the organization, according to the level of SAW, after subtracting the impact of the intervening variables (demographic, and organizational), 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). Examination of SAW opposite the duration of time dedicated to QWMO, points out positive correlation between QWMO, and only one item regarding SAW. 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. According to these **results hypothesis 1.3 can partly be confirmed**.

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.

There are <u>two more conclusions</u> arising from hypothesis 1. The first conclusion is that e-mail can be a quantifiable performance measure. What arises from the current research is that it can be a **quantifiable indicator for satisfaction**, which was not yet discussed. Thus, the second conclusion from hypothesis 1 is that **<u>e-mail can serve as a stressor</u>**. 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.**

H 2.1-2.3: CORRELATIONS EXIST BETWEEN QUANTITY NET- MAIL CONNECTIONS AND QUANTITY OF: 1.PRIVATE 2.INSIDE 3.OUTSIDE E-MAIL

As can clearly be seen quantity net- mail connections (QNC) is significantly positively correlated with both the amount of private e-mails (QPPM) and the time dedicated to the handling QPPM. Regression analysis confirms these relations according to which QPPM is higher as QNC rises (β=.223, p<.001) while controlling for demographic and other influences (none of which are significant).In general, QNC and the amount and time dedicated to the handling of QPPM were found to be significant, even though with low-medium intensity. In general, it indicates that the more increase is in the QNC 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 QNC of organization employees in the e-mail address book predicts the duration of using private e-mails. **This confirms hypothesis 2.1.** Conversely, regression analyses of QNC as predictor of QWMI and QWMO respectively does not support significant relations between them. QWMI was found to be higher as organization are larger (β=.232, p<.001) and as employees are more professed (β=.231, p<.05). QWMI was found to decline with age (β=-.326, p<.001) and was different across organization type and sector. Similarly, QWMO was also higher for more professed employees (β=.213, p<.05) and declining with age (β=-.336, p<.001), however it is also declining with organization size (β=-.111, p<.05). Regarding QWMI, few significant correlations were found even though with weak intensity. That finding, despite its weak intensity does point out positive correlation between the variables. QNC

do not predict the duration in using the QWMI. 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 QWMI. However, in "multiplicity" results connection between QNC and the time devoted to handle them, and have minor effect on QPPM, 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. According to these results **hypotheses 2.2 and 2.3 cannot be confirmed**, but they also mean that as organizations are larger more internal and less external work related e-mails is being handled.

H 3.1-3.3: CORRELATIONS EXIST BETWEEN EXISTENCE OF ORGANIZATION CULTURE/POLICY AND QUANTITY OF: 1.PRIVATE 2.INSIDE 3.OUTSIDE E-MAIL

Regression analysis suggests that existence of organization culture and policy (OCP) is significantly correlated with QPPM. However, QPPM was found to be higher for aspects of individual freedom such as "a right to send/receive private e-mails at work" (β=.605, p<.001) and the inversely phrased "I use e-mail at my work for working purposes only" (β=-.506, p<.001) and is lower as organizational policy is more explicit (β=.461, p<.001). Furthermore, OCP mediates the negative influence of age over QPPM meaning that policy compliance is influenced by age. Further results suggests that QPPM is higher for more professed employees (β=.293, p<.01). In general, OCP which the employees are aware to 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, OCP play a shade role when the employees are asked if they are doing it for working purposes only. **This confirms hypothesis 3.1.**

Conversely, regression analyses of OCP as predictor of QWMI does not support significant relations between them. QWMI was found to be higher as organization are larger (β=.269, p<.001) and as employees are more professed (β=.216, p<.05). QWMI is declining with age (β=-.321, p<.001). Regarding correlation with OCP and QWMI, 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 OCP <u>do not</u> predict the duration in using the e-mails originated from inside the organization. Correlations between 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. According to these results **hypotheses 3.2 cannot be confirmed.**

On the other hand, QWMO was higher as OCP was higher (significant positive relation was found with regard to frequency of using e-mail at work of work purposes and work encouragement with this regard). QWMO was also found to be declining with age (β=-.312, p<.001). 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. According to these results **hypothesis 3.3 cannot be confirmed**.

H4: CORRELATION BETWEEN QUANTITY OF PRIVATE E-MAIL AND PERSONAL TIME INEFFECTIVENESS (PI)

As stated above, personal ineffectiveness (PI) 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. Table 3 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. A deviation with asymmetric 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 4 (H4), some calculations were needed.

The results of the mediator and depended variables **Qi** which is the average amount of received/sent for one employee is describes as follow:

TABLE 3 - THE AVERAGE AMOUNT OF RECEIVED/SENT E-MAIL FOR ONE EMPLOYEE/<u>DAILY</u>

	N	Mean	STD
Amount of **Private** e-mails (Q$_1$)	213	45.26	23.842
Amount of **Working-In** e-mails (Q$_2$)	213	30.94	21.850
Amount of **Working-Out** e-mails (Q$_3$)	213	23.29	20.524
Total Work **(In+Out)** e-mails (Q$_2$+Q$_3$)	213	**53.76**	36.665

During an average working day, approximately 45% of all e-mails handled an average employee are for private purposes. Accordingly, the results of the mediator and depended variables **Ti** are describes in table 4 as follow:

TABLE 4 - THE RESULTS OF THE MEDIATOR AND DEPENDED VARIABLES T$_I$

	N	Mean		Std. Deviation
	Statistic	Statistic	Std. Error	Statistic
1. Time spend on "Private" e-mails (t$_1$)	213	**127.89**	4.852	70.816
2. Average time spend for "Private" e-mails for a working hour.	213	5.84	.338	4.935
3. Time spend on "Working-In" e-mails (t$_2$)	213	**108.31**	4.452	64.982
4. Average time spend for "Working-In" e-mails- for a working hour	213	9.45	.608	8.881
5. Time spend on "Working-Out" e-mails (t$_3$)	213	**71.13**	4.032	58.846
6. Average time spend for "Working-Out" e-mails-for a working hour	213	6.83	.514	7.503
7. Amount of "Working" e-mails With "No action": item 93	212	8.769	.4887	7.1159
8. Amount of "Working" e-mails With "No action": item 100	213	9.718	.5768	8.4182
9. Amount of "Working" e-mails With "No action": item 103	213	11.411	.6065	8.8509
10. Amount of **all** "Working" e-mails With "**No action":** items 93-100	213	29.857	1.5165	22.1328
11. Average Time Waste for a working <u>day</u>	213	**50.943**	2.5876	37.7643

(t_{ac})				
Valid N (listwise)	212			

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

$t_i = t_1 + t_2 + t_3$ = 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:

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

Altogether, more than 5 hours a day (307 minutes) are being wasted on private e-mails or misusing and mishandling work related e-mail communications. This is an astounding figure, simply indicating that, relatively to a 9.5 hours' workday, more than half of the working time is wasted on non-work-related issues.

Further results suggest that total waste time decreases with SAW (r=-.496, p<.001) and conversely work ratio (proportion of time "dedicated" to work) increases with SAW (r=.502, p<.001). 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 the above the Time spend on "Private" e-mails (t1) about three quarter of the total e-mail traffic 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. **These results confirm hypothesis 4.**

SUMMARIZING

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

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. The increasing usage and e-mail availability at work emphasizes the importance of increasing the **control** and supervision of such usage at work. It was found that spending large amounts of time on private e-mails may be an indicator for **dissatisfaction** at work which results e-mails quantity in all aspects (private and working e-mails). Furthermore, possible benefits can be obtained by identifying dissatisfied employees, since dissatisfied employees spent most of their working time in receiving and sending e-mails. Thus, e-mail monitoring can serve as a management control tool for satisfaction and motivation. Regarding the point that there was poor connection between **policy** and private e-mails, the key to a defensible system of e-mail

monitoring is the creation of a comprehensive and communicated policy, which can go a long way towards meeting the "reasonableness" standards imposed on employers, who wish to collect, use or disclose their employees personal information.

In reference to excess overload e-mails, *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. Policy should introduce training to all staff on how to use the e-mail application functions, and must be done in coordination and cooperation of all organization factors.*

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

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

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 findings of the current study have greater validity for Israel, since the profile of web 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.

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