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The Impact of Information Overload on Management in Workplace

(Case Study: Universities in Gaza, IUG, Al-Azhar and Al-Aqsa)

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DISSERTATION

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قال تعالى

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

رَبِّ أَوْزَعْنِي أَنْ أَشْكُرَ نِعْمَتَكَ الَّتِي أَنْعَمْتَ عَلَيَّ
وَعَلَى وَالِدَيَّ وَأَنْ أَعْمَلَ صَالِحًا تَرْضَاهُ وَأَدْخِلْنِي
بِرَحْمَتِكَ فِي عِبَادِكَ الصَّالِحِينَ

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صَدَقَ اللَّهُ الْعَظِيمُ

DEDICATION

This Research is lovingly dedicated to my respective parents who have been my constant source of inspiration. They have given me the drive and discipline to tackle any task with enthusiasm and determination. Without their love and support this project would not have been made possible.

Researcher

Rasha W. Abu Rouk

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ABSTRACT

This study aimed to show the impact of information overload on the management in the workplace on five main dimensions (fulfillment of job responsibilities, planning, occurrence of stress, personal, information management, and individual factors) using the descriptive analytical method to study the impact of Information Overload. The study was applied in Islamic University (IUG), Al-Azhar University and Al-Aqsa University of Gaza as a case study for the Palestinian higher education institutions in Gaza Strip.

The questionnaire used as a data collection tool. The study population was (434) who are all administrative and academic administrative staff of the three mentioned universities' employees, but the researcher has excluded academics, administrative and secretarial due to lack of direct effect on the subject of the study. (207) questionnaires were distributed and all were retrieved and analyzed by the SPSS program for statistical analysis.

Results of the analysis of the questionnaire data demonstrate significant effect of information overload on the fulfillment of job responsibilities, occurrence of stress, and planning, and a significant effect of personal information management and individual factors on information overload.

The research recommended that the effects of information overload should not be neglected and to keep pace with the latest developments in the world of information technology and communications to facilitate overcome of information overload, and advice to human resource managers to screen existing and potential employees if the ability to deal with work related information is an important requirement. Also the research recommended that understanding the phenomenon of information overload should be a part of employee training and education programs especially for those who are identified as being at risk of experiencing overload.

ملخص الدراسة

هدفت هذه الدراسة إلى توضيح أثر الحمل الزائد للمعلومات على الإدارة في مكان العمل لدراسة على خمسة متغيرات رئيسية هي (تحقيق المهام الوظيفية، التخطيط، حدوث الإجهاد، إدارة المعلومات الشخصية، والعوامل الفردية) باستخدام المنهج الوصفي التحليلي. وطبقت الدراسة في كل من الجامعة الإسلامية، وجامعة الأزهر، وجامعة الأقصى في غزة كدراسة حالة لمؤسسات التعليم العالي الفلسطينية في قطاع غزة. استخدمت الباحثة الاستبانة كأداة لجمع البيانات، وتكون مجتمع الدراسة من (434) موظف إداري وإداري أكاديمي من الجامعات الثلاث المذكورة، ولقد استنتجت الباحثة الإداريين والسكرتاريا وذلك نظراً لعدم تأثيرهم المباشر على موضوع الدراسة. وتم توزيع (207) استبانة تم استردادها جميعاً، ثم تحليلها باستخدام برنامج التحليل الإحصائي (SPSS).

أظهرت نتائج تحليل بيانات الاستبانة وجود تأثير للحمل الزائد للمعلومات على تحقيق المهام الوظيفية، وحدث الإجهاد، والتخطيط، ووجود تأثير لإدارة المعلومات الشخصية والعوامل الفردية على الحمل الزائد للمعلومات.

وأوصت الدراسة بأنه لا ينبغي إهمال آثار الحمل الزائد للمعلومات، كما أنه يجب مواكبة أحدث التطورات في عالم تكنولوجيا المعلومات والاتصالات لتسهيل التغلب على الحمل الزائد للمعلومات، وأوصت مديري الموارد البشرية لفحص العاملين الحاليين والمحتملين إذا كانت القدرة على التعامل مع المعلومات المتعلقة بالعمل هي مطلب مهم. كما أوصت بأن يكون فهم ظاهرة الحمل الزائد للمعلومات جزءاً من برامج تعليم وتدريب الموظف وخصوصاً أولئك الذين هم عرضة للمعاناة من الحمل الزائد للمعلومات.

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ACRONYMS

IO	Information Overload
MIS	Management Information Systems
ICTs	Information and Communication Technologies
IPC	Information Processing Capacity
IPR	Information Processing Requirement
PIM	Personal Information Management
IUG	Islamic University of Gaza
RSS	Rich Site Summary
IFS	Information Fatigue Syndrome

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Chapter 1

General Framework

1.1 Introduction

1.2 Research Problem

1.3 Research Questions

1.4 Research Objectives

1.5 Research Importance

1.6 Research Variables

1.7 Research Hypotheses

1.8 Research Scope and Limitations

1.1 Introduction

Information has become the driving force of most people's lives and the world that once, during the age of industry, was ruled by natural sources, is now run by information that seems infinite. To survive in the workplace or simply to function in the society we are obliged to assimilate a huge amount of information (Salim, 2003).

In this research information is used to refer to all of the data, information, and knowledge used by individuals in conducting their work duties and it includes numeric, alpha numeric, textual, or graphical types derived from internal or external sources verbally or in hard or soft copy forms which may be pulled by the individual or pushed to the individual (Bakker, 2007; Eppler and Mengis, 2004).

Developments in information and communication technology have facilitated the generation of management information considerably. Thus, managers are confronted increasingly with an information flood which provides more information than managers are able to process. This results in an information overload, which, while being advantageous, also carries considerable problems for both consumers and manager (Meyer, 1998).

The problem of having too little information has been transformed into a problem of having too much information and has generated feelings of deficiency in the face of constantly increasing information flows. Initially, information overload was understood as the side effect of "sensation overload", humans' deficiency in front of the inflows of new information and diminishing ability to reflect on the changes in environment (Iastrebova, 2006).

Information overload is not a new phenomenon: the potential for it has existed ever since information became an important input to any human activity. For example, once the scientific disciplines began to clearly emerge in the seventeenth to the nineteenth centuries, it gradually became impossible for anyone to keep abreast of all of the work in what had been called 'natural philosophy'. In some fields, the degree of specialization is so high that, even within the same discipline, people are unable to

keep abreast of all sub-areas and, in fact, may be completely unable to understand some of them (Wilson ,2001).

The concept of information overload is referred to in a variety of ways, depending on the perspective context in which it is experienced. Researchers from different fields have identified the factors which contribute to information overload based on their interpretation of the problem such as psychology, information system management, computer science, marketing, organisational studies and accounting (Jackson and Farzaneh, 2012).

The problem of information overload is widely recognized today. Living in an “information society”, we are bombarded with information whether or not we actively seek it. We are all affected by the increasing number of sources from which information emanates. Who does not receive unwanted information through the letter box almost daily? Growing numbers of television channels provide more viewing choice and result in burgeoning programme guides to be ploughed through in the often elusive search for an interesting programme to watch amongst the escalating dross churned out. Newspapers, radio and television often disseminate the same news items with such an intensity of coverage that one can soon develop a perception of information overload but here one can choose to ignore that information. In the workplace, however, information is seen as the key to success for organizations and many people have to deal with an overwhelming amount of information from many sources as part of their job. People cannot afford to ignore information in the workplace. “Professional and personal survival in modern society clearly depends on our ability to take on board vast amounts of new information. Yet that information is growing at an exponential rate” (Edmunds and Morris, 2000).

The machines we have invented to produce, manipulate and disseminate information generate information much faster than we can process it. It is apparent that an abundance of information, instead of better enabling a person to do their job, threatens to engulf and diminish his or her control over the situation. It is now widely recognized that stress can be experienced from a feeling of lack of control. We can unwittingly allow information technology to become the driver instead of harnessing it as tool to enhance rather than diminish our lives. The problem of information

overload is obviously not going to recede and solutions need to be found to enable people to reduce the amount of information overload they experience (Edmunds and Morris, 2000).

This research tend to study the impact of information overload on the management in the workplace particularly on managers in the Islamic University (IUG), Al-Azhar University and Al-Aqsa University of Gaza, and to examine the nature and negative effects of “information overload”, exacerbated by organizational design issues and rapid advances in information and communication technology.

1.2 Research Problem

Developments in information and communication technology have facilitated the generation of management information considerably. Thus, managers are confronted increasingly with an information flood which provides more information than managers are able to process. This results in an information overload, which, while being advantageous, also carries considerable problems for both consumers and manager (Meyer, 1998).

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The problem of this research identified to examine the impact of information overload on management in the universities of Gaza Strip (Islamic University of Gaza, Al-Azhar University, and Al-Aqsa University).

In order to identify the reality of the problem of information overload in the universities targeted by this research, the researcher conducting field interviews with a number of managers at these universities, and through these interviews the interviewees confirmed the existence of the problem of information overload in these universities, although the problem varied depending on a number of different factors.

1.3 Research Questions

In view of the outlined object of the research, the following questions summarizes the research problem:

1.3.1 Main Question

The main research question would like to be answered with this research is:

What is the impact of information overload on management in the universities of Gaza Strip (Islamic University of Gaza, Al-Azhar University, and Al-Aqsa University)?

1.3.2 Sub-questions:

In order to answer the main question the researcher deem it necessary to qualify it in the following sub-questions:

- a. What is the impact of information overload on the fulfillment of job responsibilities?
- b. What is the impact of information overload on the planning process?
- c. What is the impact of information overload on the occurrence of stress?
- d. What is the impact of personal information management on information overload?
- e. What is the impact of individual factors on information overload?

1.4 Research Objectives

The objective of studying this topic is to highlight the impact of information overload on the management in the universities of Gaza Strip (Islamic University of Gaza, Al-Azhar University, and Al-Aqsa University) and access to the following objectives:

- a. To examine the impact of information overload on the fulfillment of job responsibilities.
- b. To examine the impact of information overload on planning.
- c. To examine the impact of information overload on the occurrence of stress.
- d. To examine the impact of personal information management on information overload.
- e. To examine the impact of individual factors on information overload.
- f. To measure the demographic factors effects such as gender, age, education level, education major-area-of-study, years of experience, managerial level, job category, palace of work, department, time in current position, overtime work hour and sources used to find information on information overload.

1.5 Research Importance

The importance of this study stems through the following:

- a. The importance of this research lies in the fact that it is dealing with an important phenomenon, where the contribution of this study is an attempt to avoid or cope with the problem of information overload, which supports the performance of managers, leads to enhance their abilities and enable them in improving their strategies and plans.
- b. At the scientific and academic level, it is hoped that this research will contribute to the development of scientific knowledge about information overload and its implications and how to address them in positive ways, especially as it leaves psychological, social and physical, in addition to administrative and managerial implications.

- c. It is hoped that this research will benefit officials at universities and similar service organizations drew their attention to the problem of information overload so that they can reduce or mitigate it.
- d. The scarcity of researchers who discussed the subject of information overload makes the research a new addition to the library of the Islamic University of Gaza.
- e. This research could serve as a background for future research attempt in the topic of information overload.
- f. Through this research, the researcher will be able to obtain a Master's degree in business administration which add a new knowledge and broad prospects and is important for development in her field.

1.6 Research Variables

1.6.1 Independent Variable

Information overload.

1.6.2 Dependent Variables

- 1- Fulfillment of job responsibilities.
- 2- Planning.
- 3- Occurrence of stress.
- 4- Personal information management.
- 5- Individual factors (Education, Experience, Skills, ...).

Figure (1.1) shows the research variables.

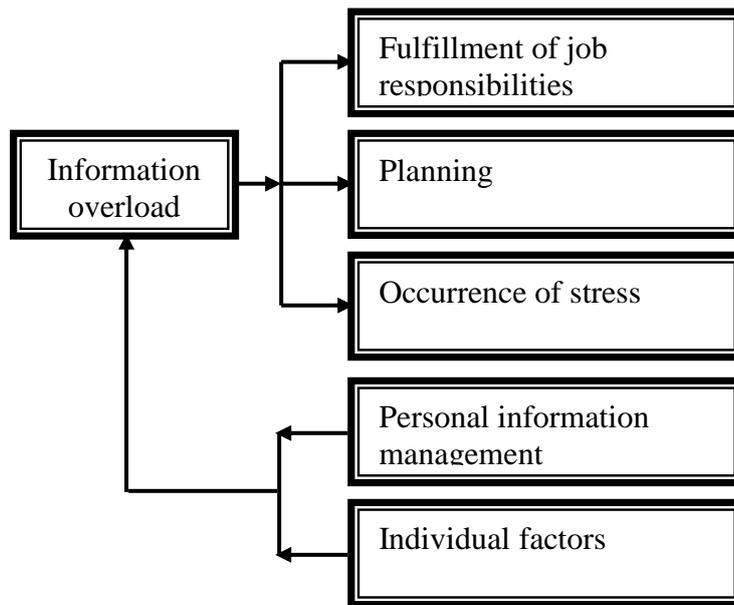


Figure (1.1): Research Variables

The variables which this research focuses on, are not mentioned as a set in one of the previous studies. The previous studies' researchers mentioned the variables but here the most important variables that affected by information overload was taken. These are key issues for anyone who has managerial responsibilities.

Reuters (1996) study and the study of Klausegger, Sinkovics, and Zou (2007) are concerned with the effect of information overload on the fulfillment of job responsibilities and the incidence of stress.

Planning is one of the functions of management and one of the components of the administrative process, and the work before implementation, which by the objectives to be achieved is determined. Often planning is one of the most important functions of management functions, and is the base for the other administrative functions. Planning in the organization is a comprehensive process, and affect all functions without exception. Planning is one of the most important functions of the director, and one of the most important of what the organization is doing in order to determine the appropriate means or method to achieve future objectives in the light of the surrounding circumstances and available resources, and planning to be effective must get a set of data and information that are meant to take planning decisions thereon.

According to Banas (2011), those who are overloaded with information often fail to think strategically about the future, simply because they have no thought processes available beyond the immediate concerns. With so much information flooding into their consciousness, it can be hard to think ahead and plan for the future. Strategic planning is a vital part of every business, and the information overload problem facing many entrepreneurs is often the cause of the failure of their business ventures.

Zeldes (2012) claimed that information overload affects short term and long term planning of work.

Klausegger, Sinkovics, and Zou (2007) noted that information overload has serious practical consequences for management and planning.

According to Salim (2003), when it comes to personal information management, most of the researchers agreed that to organize is a good strategy to deal with the current literature. According to researchers, to not organize may lead to overload.

The study of Etzel (1995) suggested that in order to cope with information overload a personal information management strategy needs to be developed. She suggests that of prime importance is to decide which medium to use, while consideration should be given to the characteristics of tools that appear most favorable to the individual.

Prasitratanaporn (2010) investigates personal factors as causes for overload and adopts the view that the degree of information overload is an individual perception.

In the literature review by Edmunds and Morris (2000) and Hall and Walton (2004) it is clear that personal factors are among the potential causes for overload.

Eppler and Mengis (2004) proposed that an individual's information processing capacity is influenced by personal factors such as motivation, attitude, satisfaction, skills, ideology, age, and level of social communication.

1.7 Research Hypotheses

To examine the impact of information overload on the management in the workplace, the following hypotheses are formulated:

1. There is a statistically significant effect at ($\alpha \leq 0.05$) of information overload on the fulfillment of job responsibilities.

2. There is a statistically significant effect at ($\alpha \leq 0.05$) of information overload on planning.
3. There is a statistically significant effect at ($\alpha \leq 0.05$) of information overload on the occurrence of stress.
4. There is a statistically significant effect at ($\alpha \leq 0.05$) of personal information management on information overload.
5. There is a statistically significant effect at ($\alpha \leq 0.05$) of individual factors on information overload.

In testing the last two hypothesis variables were reversed because these elements (personal information management, and individual factors) affect information overload.

6. There is a significant differences among respondents regarding the impact of information overload on management in the workplace attributed to the demographic variables (Gender, Age, Education level, Academic Education Major-Area-of-Study, Work Experience, Managerial level, Job category, Place of work, College/ Department, Time in Current Position, Daily Work Hour, Overtime Work Hour, Number of Daily Overtime Hours and sources used to find information).

1.8 Research Scope and Limitations

The study population consists of all administrative and academic administrative staff working in the Islamic University, Al-Azhar University and Al-Aqsa University in Gaza, but the academics, administrative and secretarial were excluded due to lack of direct influence on the subject of the study.

These universities were selected because they are the oldest in Gaza Strip, also they are the largest in terms of the number of students and staff and tracking continuing learning system.

Chapter 2

Review of Related Literature and Previous Studies

2.1 Introduction

2.2 A Framework to Research Information Overload

2.3 Information Overload; Meaning and History

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2.11 Managers and Information Overload

2.12 Approaches to Coping with Information Overload

2.13 Previous Studies

2.1 Introduction

This chapter examines the theoretical basis of information overload, and provide an overview of the main definitions, situations and effects of the overload problem.

This chapter deals with topics including a framework to research information overload, Information overload; meaning and history, prior research on information overload, research approaches to information overload, why is there information overload?, causes of Information overload, health effects of information overload, managers and information overload, approaches to coping with information overload, and previous studies

2.2 A Framework to Research Information Overload

In order to provide a more complete (and less fragmented) picture of the research conducted on information overload, the framework of figure (2.1) visualizes the most important topic clusters of the information overload discourse and their relationships.

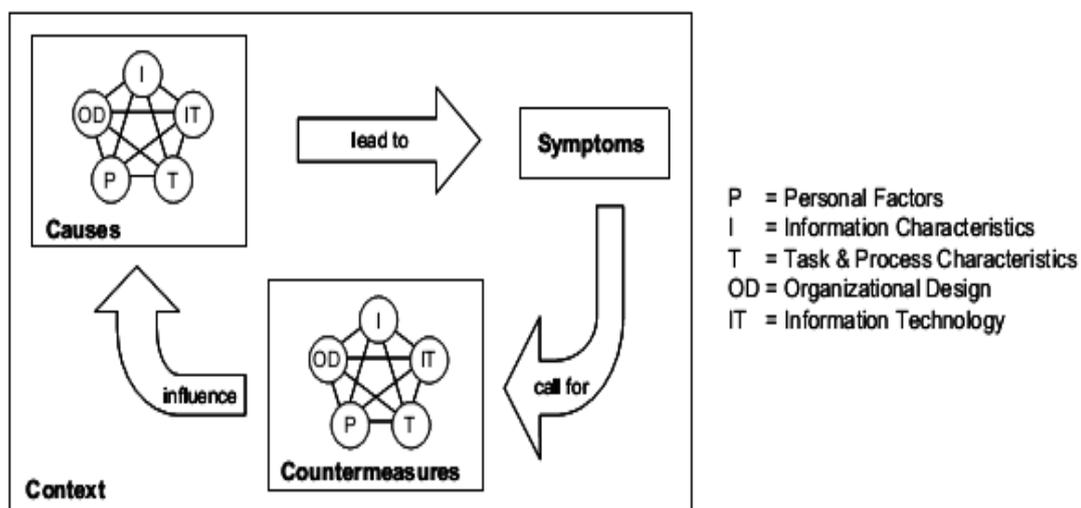


Figure (2.1): A conceptual framework to structure research on information overload

Source: Eppler and Mengis, 2004

The framework does not represent a logic of linear causes and effects, but rather a system of circular, interdependent relationships. It stresses the fact that any

countermeasure that is aimed at a specific overload cause can have significant side-effects on other causes (Eppler and Mengis, 2004).

2.3 Information Overload; Meaning and History

The problem of information overload is widely recognised today. The fact that we are living in an information society puts us in the presence of a huge amount of information that reaches us from different sources (Salim 2003).

Though many researchers describe symptoms of information overload, or causes of information overload, no universal definition for information overload exists (Bawden, Holtham, and Courtney, 1999).

Information overload is a description given to the phenomenon where so much information is taken in by the human brain that it becomes nearly impossible to process it. Alvin Toffler, an academic from Russia, is credited with coining the term. Since the phrase was first used, it has become very popular, especially in the computer age, though some say that the idea is more a time and presentation issue than an actual data issue (Black, 2013).

The term information overload is a common phrase used in today's society and one that is seemingly seen as a recent addition to the vocabulary (Jackson and Farzaneh, 2012).

In everyday language, "information overload" is often used to convey the simple notion of receiving too much information. Within the research community, this use of the term has led to various constructs, synonyms, and related terms (Eppler and Mengis, 2004).

Futurist Alvin Toffler, who popularized the term *information overload*, describes IO "as the difficulty a person can have understanding an issue and making decisions that can be caused by the presence of too much information". His definition came prior to the Internet, but can be used to describe what many experience at times (Davis, 2011). Meyer (1998) defines information overload as a state that exceeds the limited human information-processing capacity. Edmunds and Morris (2000) define the problem as an overabundance of relevant information that cannot be assimilated, or being burdened with large quantities of unsolicited information.

Many researchers describe information overload as unidimensional, and operationalize this construct by measuring response to different quantity levels of information over time (Bettis-Outland, 2010).

Other researchers define information overload as a multidimensional construct, with quantity/ load, time, variety, and ambiguity as common multidimensional factors (Bettis-Outland, 2010 quoted Huber and Daft, 1987; Schick et al., 1990).

Wilson (1995) stated that information overload may mean many things as:

Being presented with more information than one could absorb. It might mean being burdened by a large supply of relevant information, that is, forced to spend more time and energy on assimilating new information than one would like to do...The serious kind of overload is the possession, or the knowledge of the existence, of information one thinks to be probably relevant but does not use because of lack of time (Wilson, 1995)

Wilson (2001) defined information overload at the personal level as: a perception on the part of the individual (or observers of that person) that the flows of information associated with work tasks is greater than can be managed effectively, and a perception that overload in this sense creates a degree of stress for which his or her coping strategies are ineffective. Similarly, at the organizational level, information overload is: a situation in which the extent of perceived individual information overload is sufficiently widespread within the organization as to reduce the overall effectiveness of management operations (Wilson, 2001).

There is no single generally accepted definition of information overload. The term is usually taken to represent a state of affairs where an individual's efficiency in using information in their work is hampered by the amount of relevant, and potentially useful, information available to them. The information must be of some potential value, and it must be accessible. It is usually associated with a loss of control over the situation, and sometimes with feelings of being overwhelmed. In the extreme, it can lead to damage to health. We sum this up by suggesting that:

information overload occurs when information received becomes a hindrance rather than a help when the information is potentially useful. The concept of information overload is by no means new (Bawden, Holtham, and Courtney, 1999).

Definitions of information overload also typically allude to: too much information coming in, ineffective information management, stress (or anxiety) and ambiguity. Information overload might occur not only in work environments but also in day-to-day or general situations, which calls for a definition that is not confined to work tasks. Further, overload resulting from a general impression that there is too much information in a certain area may be different from that resulting from purposeful information seeking. Thus, we define information overload as a perception of being overwhelmed and, thus, confused by information coming in that might hinder learning or impair users' ability to make informed decisions (Kim, Lustria, Burke, and Kwon, 2007).

Though one may not uncover a single common definition of information overload in the literature, one readily discovers a common theme, that is, generally, information overload means that there is too much information, it has negative connotations, and it is a widespread problem with which much angst is associated. Some authors give readers a bird's eye view of the amount of information that is available nowadays. It is no wonder that there is much anxiety associated with this phenomenon (Paulo, 1999).

From an objective viewpoint the degree of overload may be operationalized by comparing the amount of information available to an individual and the processing capacity of the individual which is limited by the storage capacity and processing limitations of the human brain (Heylighen, 2002).

A different viewpoint is that the effects of factors external to the individual (task complexity, time pressure, and work interruptions) lead to increases in the amount of information to be processed and symptoms of overload emerge such as stress, sub-optimal decision making, limited use of search and retrieval strategies, and arbitrary approaches to information organization and analysis which may be used as de facto measures of information overload (Klausegger, Sinkovics, and Zou, 2007).

From a subjective viewpoint the degree of information overload is an individual perception and is dependent on personal factors such as personality traits, emotions, feelings, skills, and knowledge rather than simply the amount of information received

by the individual (Meyer, 1998). Intuitively, this view is supported by the observation that individuals with the same apparent processing capacity may express different perceptions of information overload when confronted with the same amount of information (Prasitratanaorn, 2010).

Information overload is believed to occur when the context of the information is unfamiliar to the reader especially if the information is irrelevant, ill-structured, unclear, novel, complex, ambiguous, or intensified (Eppler and Mengis, 2004).

The situation in the past where sufficient information was not available has changed to a situation where too much information is available for decision making and this change has been accelerated by the Internet and related technologies which have played two different roles in relation to information overload (Klausegger, Sinkovics, and Zou, 2007).

Technologies such as email and computer networks have increased the likelihood of overload but databases, data warehouses and marts, groupware, spam-mail filters, and intelligent agents have the potential to reduce overload (Edmunds and Morris, 2000).

Innovations in information technology, such as the printed book, the periodical magazine or journal, the abstracting journal, and the computer, have all led to complaints that it is impossible to keep up with the amount of information available. Such complaints have increased steadily over time (Bawden, Holtham and Courtney, 1999).

By the late 1950s and early 1960s, with an exponential expansion of publication, particularly in science and technology, and the increasing take-up of mechanised documentation and computerized information handling, information overload was generally accepted as a problem. The situation worsened, for those dealing primarily with academic and professional publications as information sources, due to the increase in volume of the primary literature throughout the 1970s and 1980s.

Research into the problem of information overload dates back to the 1970s when Milgram (1970) first identified the need for more effective information handling (Eppler and Mengis, 2004). Since then, more research evidence has come to light (Zhuang, Qiu and Peng, 2011).

By the 1990s, information overload began to be referred to as a major problem, particularly with the influence of new technologies, particularly electronic mail and the Internet. The problem was affecting the effectiveness, and even the health, of professional workers, particularly managers in businesses, and was severely affecting the efficient working, and productivity, of organisations. The Reuters (1996) survey of business managers, “Dying for information?”-a report on the effects of information overload in the UK and worldwide- revealed a number of startling statistics:

- two thirds of managers believed information overload had caused loss of job satisfaction.
- two thirds believed it had damaged their personal relationships.
- one third believed it had damaged their health.
- nearly half believed important decisions were delayed and adversely affected as a result of having too much information.

While it is true to say that overload has been recognised most clearly in the business and commercial sectors, and in specialist areas such as science and healthcare, it has been a matter of concern to information specialists in all environments, including academic and public libraries. It may be argued that information overload is the natural and inevitable condition of the human species (Bawden and Robinson, 2008). The intense interest the business and academic communities have shown in this issue is indicative of the growing recognition of its existence (Zhuang, Qiu and Peng, 2011).

There cannot be many people who have not experienced the feeling of having too much information which uses up too much of their time, causing them to feel stressed which, in turn, affects their decision-making. Concurrent with these phenomena is the anxiety generated by worrying whether an important piece of information has been missed in the volume of material that is being processed (Edmunds and Morris, 2000).

2.4 Information Overload as a Research Problem

Information overload is not considered all the time as a problem. The argument used is that people are overloaded to the extent that one wishes to be overloaded. This was seen in the more pragmatic comments of some scientists in a pharmaceutical research organization (Bawden, Holtman and Courtney, 1999).

The problem of information overload was seen elsewhere as a real and continuing issue. It was revealed in the literature of many disciplines such as medicine, business study, and the social sciences as well as in computing and information science. The term is well defined too and there cannot be many who have not experienced the feeling of having too much information (Edmunds and Moris 2000).

The problem of information overload does exist and Butcher mentions that management research into this problem falls into three categories, researches into information overload among individuals, organizations and customers (Butcher 1995). Wilson stated that in R&D, the problem of information overload is as widespread as the constant testimony of scientists and scholars claims it is (Wilson, 1995).

Reuters' researches into information overload in the Western World, in two different periods 1996 and 1998, reported that information overload does exist as a major problem and that it does seriously affect the people at work. Edmunds and Morris presented the results of Reuter's researches which showed an increase in the majority that experience overload, 65% in the 1996 to 42% in the 1998. If the problem of information overload is beginning to be seen as less of a problem that may be because people learned how to live with it and they complain less, because overload has become an acceptable state (Edmunds and Morris 2000).

2.5 Previous literature on Information Overload

Information overload is a relatively new theme of study, in which academic interest is generated and stimulated by the practice. In the past decade, a number of articles on information overload have been published in academic and non-academic journals. All these studies approach information overload differently, both in terms of the conceptualization and the method. Therefore, besides the common claim that information overload is an undesirable state that has significant negative consequences on individual decision-making and overall organizational performance, very few parallels between the studies can be identified. The research produces mixed, often controversial, and generally incomparable results. At the same time, the range of problems, collected under the label of "information overload", is constantly expanding, from psychological dysfunctions and stress to the issues of spam filtering and organizational system design (Iastrebova, 2006).

Existing literature on information overload has been dominated by theoretical debates without much support of empirical evidence. Research to date has used objective methods (such as a Likert scale) to examine the level of novelty, ambiguity, uncertainty, intensity and complexity of information as well as subjective methods (such as researchers' assessment of respondents' articulated experiences) to explore the feelings of stress, confusion, pressure, anxiety and low motivation by means of interviews and surveys (Eppler and Mengis, 2004).

The literature shows that there are different emphases placed upon the effects of information overload. As an example, Butcher sets out three dimensions of management research into information overload which can be broadly categorized as:

- research into personal information overload and the effect upon an individual's ability to cope with solving problems and making decisions.
- research into the problem of organisational information overload whereby, in management terms, information overload is seen as a problem of too much paper. Although in some organisations, information overload is seen as encompassing both paper and electronic information systems.
- research into the problem of customer information overload and how this affects their spending (Edmunds and Morris, 2000 quoted Butcher, 1995).

2.6 Research Approaches to Information Overload

This section gives a brief overview of the existing approaches to this field in the literature.

2.6.1 Approaches in Psychology

A number of contributions have been made on aspects of information overload in various disciplines, notably psychology, marketing, and organizational theory (Klauegger, Sinkovics and Zou 2007).

The largest number of academic papers on the phenomenon can be found in psychology. The focus of this type of work is consistently on information processing capacity and the cognitive-load limit of individuals, including possible adaptation

mechanisms. More recent studies deal with the physical and psychological burdens resulting from information overload (Klauegger, Sinkovics and Zou 2007 quoted Hodgkinson, 2003).

A collection of prominent studies in the marketing field focus on the connection between information overload and the efficiency of consumers' decision making and their satisfaction with the outcome. Many deal with the question of whether increasing the number of brand and product attributes results in an improvement in consumers' satisfaction with their choices (Klauegger, Sinkovics and Zou 2007).

2.6.2 Organizational Theory Approaches

In comparison to other disciplines, organizational theory researchers have published fewer studies on the phenomenon, investigating the connection between organizational conditions and information overload, and examining the effects of overload with regard to adaptation mechanisms and output. Beyond that, more recent studies have paid increased attention to the use of effective human resources management to reduce information overload (Klauegger, Sinkovics and Zou 2007).

2.6.3 Management Information Systems

Surprisingly, the area of MIS has not been the discipline which has dealt with information overload in the most extensive manner. Authors in the field of MIS mostly use the concept of information overload as a starting point for their tool or technology application discussions. Information overload per se is mostly not systematically defined, discussed or analyzed, but seen as a given problem that has to be resolved. Consequently, the net number of articles dealing primarily with information overload in the MIS field is remarkably low when compared to the total number of MIS papers that address the phenomenon in their title or abstract. In general, only a few authors integrate various management perspectives to study the problem of overload (Eppler and Mengis, 2003).

2.7 Why is There Information Overload?

The amount of information has increased for a number of reasons: there is a general increase in business communication, in-company and with customers and suppliers; trends such as globalisation and deregulation increase competition; companies are downsizing and fewer secretaries are employed to protect people from information; more outsourcing means a wider range of other companies with which it is necessary to communicate. There are also more ways to communicate: by fax, voice mail, e-mail, internet and online conferencing, in addition to the more traditional methods, telephone, meetings, post and telex (Waddington, 1998).

The acceleration of change is accompanied by an increase in the information needed to keep up with all these developments. This too leads to psychological, physical and social problems (Heylighen, 1999).

The modern information environment, however, presents us with information in forms with which our senses, and prior experiences, are ill-equipped to deal. The causes of overload, in this sense, are multiple and complex; hence the difficulty in providing any single 'quick fix' solution (Bawden, Holtham, and Courtney, 1999).

Several studies have addressed the drivers or root causes of information overload (Edmunds and Morris, 2000; Eppler, and Mengis, 2004).

The most obvious driver is the amount and intensity of received information, but other, more qualitative characteristics of information also cause information overload. In addition, it is not only information itself but also the characteristics of information technology, work processes or tasks; forms of organizing; and personality traits (including skills), that contribute to whether or not, metaphorically speaking, the sea (or better lake) of information will overflow its banks (Eppler, and Mengis, 2009).

Regarding the characteristics of work tasks, for example, several studies have found that if tasks are complex and interdependent, and processes are often novel or require constant modification, information processing requirements increase and information overload is more likely to occur (Tushman, and Nadler, 1978).

In other words, reducing overload is both a question of how much information is provided and what kind of information is communicated (Eppler, and Mengis, 2009).

Business communicators must reflect and act on these attributes of information-e.g., by using a consistent format and thus reducing novelty and diversity, contextualizing messages to reduce ambiguity, sequencing messages to reduce intensity and complexity, indicating sources or methods of a finding to reduce uncertainty-and thus enhance their audience's capacity of processing information (Eppler, and Mengis, 2009 quoted Simpson and Prusak, 1995).

Simpson and Prusak, viewing information overload as a result of a failure in the business community to recognise the ways in which information processes add value to information, present a conceptual model of overload, based on the broad information attributes of truth, guidance, accessibility, scarcity and weight (Bawden, Holtham, and Courtney, 1999 quoted Simpson and Prusak, 1995).

It is tempting, and usual, to assume that a major contributing factor, if not the only significant factor, in information overload is the TMI effect: 'too much information' (Bawden, Holtham, and Courtney, 1999).

The quality of information itself has also been identified as a contributing factor to information overload (Zhuang, Qiu and Peng, 2011 quoted Wang et al., 1998). Understandably, a piece of clearly presented information from a trusted source relevant to the task at hand is less likely to cause overload than a piece of ambiguous information from a dubious source (Zhuang, Qiu and Peng, 2011).

Overload may also arise out of information retrieval, organization, and analysis of information, decision processes such as project management or marketing decision making, and communication processes (Eppler and Mengis, 2004). In most companies, about 60 per cent of work time is spent in reading documents and active processing of information. Managers spend approximately 50 per cent of their time trying to collect relevant and necessary information, whether this is via informal channels such as meetings and phone conversations, via formal reading, or through organizational computer-based systems (Wetherbe, 1991).

Part of the problem is caused by the fact that technological advances have made the retrieval, production and distribution of information so much easier than in earlier periods. This has reduced the natural selection processes which would otherwise have kept all but the most important information from being published. The result is an

explosion in often irrelevant, unclear and inaccurate data fragments, making it ever more difficult to see the forest through the trees (Heylighen, 1999).

The diversity of relevant information is pointed out by Bawden, Holtham and Courtney to be a major cause to information overload. Bawden, Holtham and Courtney mentioned that new information and communication technology aimed of providing rapid and convenient access to information are themselves also responsible of the overload. Internet, Intranet and electronic mail are considered to be major contributor to information overload (Bawden, Holtham, and Courtney 1999).

There is a general perception that new information and communication technologies (ICTs), aimed at providing rapid and convenient access to information, are themselves responsible for a high proportion of the overload effect. Email generally appears high in users' perceptions of the causes of overload, both in formal surveys and in anecdotal experience (Bawden, Holtham, and Courtney 1999).

Countervailing views concerning the Internet and electronic mail were elaborated by Edmunds and Moris (2000), who argued that the problem of information overload existed before the arrival of the Internet. A research carried out for Reuter in the 1996 revealed that 48% of managers believe that the internet would be a prime cause of overload in the next two years. Two years later a research carried out for Reuters report that only 19% of respondents (managers) believed that the Internet has made things worse (Edmunds and Moris 2000).

The table (2.1) summarizes 10 years of corporate surveys related to information overload in organizations, and it presents central findings from each survey as well as key information on its methodology. While earlier surveys focused on providing clear evidence that information over-load is a key communication problem in today's organizations, more recent surveys give specific indications on the counter-productive consequences of information overload and provide a more complete picture of its drivers. In an overloaded environment, for example, it becomes difficult to find relevant information, which leads to frustration and search fatigue. Causes of information overload have to be located not only on the level of the quantity of information but on other information attributes as well, such as the quality of information (e.g., non-indexed information, prioritized information) and the process

of information distribution (e.g. frequent interruptions of work tasks) (Eppler and Mengis, 2009).

Table (2.1)

Overview of 10 Years of Corporate Surveys on Information Overload (1997–2007)

Study	year	Central Findings	Methodology
Institute for the Future, Gallup, University of San Jose: Managing Corporate Communications in The Information Age	1997	<ul style="list-style-type: none"> ▪ The average office worker sends 37 messages a day per paper. ▪ He/she sends 57 messages via electronic media. ▪ Administrative assistants send over 102 messages per day. ▪ The average worker deals with an average of 178 messages and documents per day. 	972 phone interviews + focus groups and ethnographic interviews with office workers (executives, managers, professionals and administrative assistants) in Fortune 1000 companies during August/September 1996.
Reuters: Glued to the Screen	1997	<ul style="list-style-type: none"> ▪ 61 percent of managers believe information overload is present in their workplace. ▪ 90 percent of managers feel they cannot handle the quantity of information at some point. ▪ 80 percent of managers believe this situation will get worse in the future. ▪ 60 percent believe the cost of gathering information outweighs its value (compared to 44 percent in 1996). ▪ 54 percent worry about making poor decisions in spite of all the information at their disposal. ▪ 80 percent of managers gather more information than ever before in order to keep up with customer and competitor activity. 	1,000 random confidential telephone inter-views in October 1997 among executives (42 percent senior-level) in Germany, the U.K., the U.S., Hong Kong, Singapore and Ireland.

Continued Table (2.1)

<p>Business Objects: The Fact Gap</p>	<p>1997</p>	<ul style="list-style-type: none"> ▪ 91 percent of all respondents admit that they do not get enough thinking time. ▪ 62 percent acknowledge that they do not receive the right amount of information. (The right amount being a balance between too much and too little). ▪ 38 percent of reports produced for managers by other people are not tailored and hard to use. 	<p>Telephone interviews with decision makers from the Times Top 1,000 list and quantitative (to managers) and qualitative (to directors) questionnaires.</p>
<p>Reuters: Out of the Abyss</p>	<p>1998</p>	<ul style="list-style-type: none"> ▪ 48 percent of all questioned managers believe that the situation with regard to information overload will get worse (in comparison to 56 percent giving that answer in 1996 and 80 percent in 1997). ▪ 67 percent of all questioned telecommunications managers indicated that they think the situation with regard to information overload will get worse for them. ▪ Women seem to suffer more of a heavy information load than men. 41 percent of all questioned female managers indicated that the amount of information that they have to process affects their health and well-being negatively, compared to only 30 percent of male managers who indicated 	<p>1,072 confidential telephone interviews in September and October of 1998 with managers in 11 countries (i.e., Germany, the U.K., the U.S., Hong Kong, Singapore, Ireland and Russia), of whom 42 percent were senior managers.</p>

Continued Table (2.1)

		such a negative impact on their health.	
KPMG: Knowledge Management Research Report	1999	<ul style="list-style-type: none"> ▪ 65 percent of organizations with a knowledge management program complained of information overload -the creation of a knowledge glut or an overwhelming collection of information for information's sake that can be difficult and painstaking to use. ▪ 67 percent of respondents claimed they were suffering from information overload. ▪ 56 percent respectively complained that employees duplicate processes and activities and have difficulty locating information. 	A survey of 423 organizations across the U.K., mainland Europe, and the U.S. The enterprises reported at least US\$300 million in revenue and were distributed across a number of industries including financial services, industrial products, consumer markets, technology, government, transportation, and others.
Gartner: Managing Information Survey	2001	<ul style="list-style-type: none"> ▪ Nearly 90 percent of respondents said their enterprise's competitiveness was affected by problems handling information. ▪ Almost 90 percent indicated a problem in at least one of four areas: "siloes" information, too much information, unindexed information, ineffective/inefficient searching procedures. ▪ The perception of information overload was more than 20 percent greater (over 60 percent) among knowledge 	The survey, among participants of Gartner conferences, received 316 responses: 81 from Brazil, 96 from Europe and 139 from the U.S. Approximately 70 percent were managers, 21 percent technical or support staff, and 10 per-cent left their position unspecified.

Continued Table (2.1)

		<p>management-enabled enterprises than those that did not have a knowledge management program (40 percent).</p> <ul style="list-style-type: none"> ▪ Managers spent approximately 20 percent more time on knowledge sources than non-managerial staff, with e-mail and personal networks taking up the majority of that time. Non-managerial staff spent more time on explicit sources, notably the Internet and intranets. 	
<p>Economist Intelligence Unit: Know-how: Managing Knowledge for Competitive Advantage</p>	2005	<ul style="list-style-type: none"> ▪ Over half (55 percent) of executives say that It's failure to prioritize information is the main barrier to effective decision making. Consolidating information and providing consistent performance indicators are regarded as the most important step firms can take to improve the speed and quality of decision making. ▪ When asked where IT needs to improve most to help managers make better decisions, the top two priorities are to make it easier to analyze and drill down into information (40 percent) and improve the quality of data (31 percent). Only 12 percent of executives see ensuring access to information anywhere 	<p>Online survey of 122 senior executives in western Europe, 68 of whom were based in the UK. Participants were selected from large organizations with over \$1bn in annual sales revenue, and from a cross-section of industries, with a particular emphasis on financial services, healthcare and pharmaceuticals, telecommunications and professional services companies.</p>

Continued Table (2.1)

		<p>as a priority for improvement.</p> <ul style="list-style-type: none"> ▪ 39 percent of the respondents complained about too much information being available as a major drawback of knowledge sharing and an impediment to decision making. 	
<p>Basex: Information Overload Strategies</p>	<p>2006/ 2007</p>	<ul style="list-style-type: none"> ▪ Interruptions occupy 28 percent of the work-day of a typical knowledge worker. ▪ On average, employees lose 2.1 hours per day thanks to unnecessary interruptions. 	<p>A survey of 1,000 knowledge workers.</p>
<p>Autobytel / Kelton Research: The State of Search</p>	<p>2007</p>	<ul style="list-style-type: none"> ▪ Three out of four online users leave their computers without finding the piece of information they were looking for. ▪ 72 percent of online searchers are experiencing “search engine fatigue,” meaning they become impatient or frustrated when they are unable to quickly find the exact information they need. ▪ 86 percent of consumers feel big search engines have limitations or drawbacks. 	<p>Study conducted in May 2007, which involved a representative sample of 1,001 Americans, all aged 18 or older with Internet access.</p>

Source: Eppler and Mengis, 2009

2.8 Causes of Information Overload

We have listed and categorized the major causes of information overload. The main reasons for information overload at organizational and interpersonal levels can be

related to five constructs, as shown in figure (2.1), namely whether the occurrence of overload is due to personal factors (e.g., experience, sender behavior, attitude etc.), due to the characteristics of the information that needs to be processed (e.g., its complexity or ambiguity), due to the tasks that need to be accomplished (e.g., their urgency or fragmentation), due to the organizational setting in which an individual operates (e.g., its filtering support and lateral communication), or due to the use of information technology (e-mail, intranets, etc.) (Eppler and Mengis, 2004).

Eppler and Mengis (2004) have identified five causes of information overload, namely:

- (1) organisational design;
- (2) the nature of information (e.g. the level of ambiguity, novelty and complexity);
- (3) the person involved in handling the information (e.g. attitude, qualification and experience);
- (4) tasks or processes to be completed (e.g. frequency of reoccurrence); and
- (5) the use or misuse of information technology like the internet and e-mail.

It is often the mixture of these that leads to information overload as their combined effect shifts the balance between the two important variables, information processing capacity (IPC) and information processing requirement (IPR), usually measured in terms of time available. The former is mainly determined by personal characteristics whilst the latter determined by the nature of tasks at hand. Information overload occurs when IPR exceeds IPC (Eppler and Mengis, 2004).

Information Processing Capacity refers to the Processing Capacity of the individual which is limited by the storage capacity and processing limitations of the human brain (Heylighen, 2002), the time it takes an individual or system to seek, filter and extract the required information' (Jackson and Farzaneh, 2012 quoted Jackson, 2011), or the quantity of information one can integrate into the decision making process within a specific time period. The terms "requirements" and "capacities" in this definition can be measured in terms of available time. The requirements refer to a given amount of information that has to be processed within a certain time period. If the capacity of an individual only allows a smaller amount of information to be processed in the available time slot, then information overload is the consequence (Eppler and Mengis, 2004).

Table (2.2) gives an overview of the various causes of information overload as they have been discussed in the literature. Usually, information overload emerges not because of one of these factors, but because of a mix of all five cause categories (Eppler and Mengis, 2004).

Table (2.2)
Causes of Information Overload

	Causes of Information Overload	Reference
Personal Factors	<ul style="list-style-type: none"> • limitations in the individual human information processing capacity. • decision scope and resulting documentation needs. • motivation, attitude, satisfaction. • personal traits (experience, skills, ideology, age). • personal situation (time of the day, noise, temperature, amount of sleep). • Senders screen outgoing information insufficiently. • users of computers adapt their way of interacting with computers too slowly in respect to the technological development. • Social communication barriers break down. 	<p>Herbig & Kramer, 1994.</p> <p>Kock, 2001.</p> <p>Muller, 1984.</p> <p>Owen, 1992; Hiltz & Turoff, 1985; Muller, 1984; Schneider, 1987; Swain & Haka, 2000.</p> <p>Owen, 1992; O'Reilly, 1980.</p> <p>Van Zandt, 2001.</p> <p>Maes, 1994.</p> <p>Schultze & Vandenbosch, 1998.</p>
Information Characteristics	<ul style="list-style-type: none"> • intensity of information (number of items of information). • uncertainty and ambiguity of information. • diversity of information (number of alternatives). • novelty of information. • complexity of information. • dimensions of information increase. • information quality, value, half-life. • overabundance of irrelevant information. 	<p>Bawden, 2001; Herbig & Kramer, 1994; Jacoby et al., 1974; Jacoby 1977, 1984; Malhotra, 1982; Schneider, 1987.</p> <p>Schneider, 1987; Sparrow, 1999; Tushman & Nadler, 1978.</p> <p>Bawden, 2001; Inselin, 1988; Schroder et al., 1967.</p> <p>Schneider, 1987.</p> <p>Schneider, 1987.</p> <p>Schroder et al., 1967.</p> <p>Sparrow, 1998, 1999.</p> <p>Ackoff, 1967.</p>
Task and Process Parameters	<ul style="list-style-type: none"> • tasks are less routine. • complexity of tasks and task interdependencies. 	<p>Tushman & Nadler, 1975.</p> <p>Tushman & Nadler, 1975.</p>

Continued Table (2.2)

	<ul style="list-style-type: none"> • time pressure. • task interruptions for complex tasks. • too many, too detailed standards (in accounting). • simultaneous input of information into the process. • innovations evolve rapidly - shortened lifecycle. • interdisciplinary work. 	<p>Schick et al., 1990. Speier et al., 1999. Schick et al., 1990. Grise & Gallupe, 1999/2000. Herbig & Kramer, 1994. Bawden, 2001.</p>
Organizational Design	<ul style="list-style-type: none"> • centralization (bottle necks) or disintermediation (information searching is done by end-users rather than by information professionals). 	<p>Schneider, 1987.</p>
	<ul style="list-style-type: none"> • accumulation of information to demonstrate power. • group heterogeneity. • new forms of teamwork due to information and communication technologies (e.g. groupware). 	<p>Edmunds & Morris, 2000. Grise & Gallupe, 1999. Bawden, 2001; Schultze & Vandenbosch, 1998; Speier et al., 1999.</p>
Information Technology	<ul style="list-style-type: none"> • push systems. • e-mail. • intranet, extranet, internet. • rise in number of television channels. • various distribution channels for the same content. • vast storage capacity of the systems. • low duplication costs. • speed of access. 	<p>Bawden, 2001. Bawden, 2001. Bawden, 2001. Edmunds & Morris, 2000. Edmunds & Morris, 2000. Schultze & Vandenbosch, 1998. Schultze & Vandenbosch, 1998. Schultze & Vandenbosch, 1998.</p>

Source: Eppler and Mengis, 2004

Ruff (2002) found the following “people” causes of information overload:

- poor writing skills of information sender.
- inability to filter/prioritize incoming information.
- inefficient use of time.
- lack of organizational skills.
- requesting too much information.
- packrat mentality – saving everything.
- joining too many organizations/receiving too many periodicals.
- creating monotony by performing same tasks in same way.
- inability to maximize technology and software functions.
- desire to accomplish all work without assistance.
- desire for power through knowledge/information.

- hope to escape from personal problems by focusing on and creating too much work.
- attraction to technology and using it to add to rather than reduce information overload.
- use of information and technology to do more work rather than have more leisure time.
- focusing on how technology and information overwhelm us and not appreciating all the ways in which we are helped.
- believing that information overload is inevitable.
- defining the abundance of information as a problem rather than part of the job.

And Ruff (2002) found the following “technology” causes related to information overload:

- overly complex/poorly designed information systems.
- introduction of more technology than is required.
- over reliance on technology.
- poor integration of various technologies.

Ruff (2002) suggested the following causes of information overload related to “the organization”:

- lack of standard operating procedures.
- no internal communications strategy.
- disembodied training and knowledge management departments.
- reliance on individual “heroes” who make the decisions and do the work.
- downsizing for profit while creating worker shortages.

Ruff (2002) added the following causes of information overload related to “process and task”:

- confusion as to best practices for completing task.
- unclear goal of task.
- inability to recognize when the task is complete.

Ruff (2002) provided us with the following causes of information overload related to “information characteristics”:

- unknown reliability of source of information.
- unknown context from which information was derived.

It should be restated that this taxonomy does not imply information overload to be the result of a single factor. And just as there is no one cause of information overload, no one solution will solve the entire problem (Ruff, 2002).

While not everyone can change the organizational design, the task characteristics, the personality profiles, or the information technology in an organization, each individual communicator can use mechanisms to make his or her information more usable, informative and memorable (Eppler and Mengis, 2009).

2.9 Symptoms of Information Overload

Information overload can be perceived through a variety of symptoms that affect the person who deals with information as well as his or her work performance. One of the first researchers to examine the effects of overload was the American psychologist Stanley Milgram (1970) who analyzed signal overload for people living in large cities. In his study, he identifies six common reactions to the constant exposure to a heavy information load, which are the allocation of less time to each input, the disregard of low-priority inputs, the re-drawing of boundaries in certain social transactions to shift the burden of overload to the other party in the exchange, the reduction of inputs by filtering devices, the refusal of communication reception (via unlisted telephone numbers, unfriendly facial expressions, etc.) and finally the creation of specialized institutions to absorb inputs that would otherwise swamp the individual (Eppler and Mengis, 2003).

Someone asked, how do the employees and managers of an organization work under the too much anxiety resulted from informational overload and the related consequences? The informational overload can be identified through these symptoms (Nejadirani, and Rajabzadeh, 2011):

- (a) Weak concentration due to overload of the short term memory.
- (b) The illness of hurriedness so the person starts to believe that they should race with time.
- (c) Multilateral behavior which is usually resulted from the power of too much production or the power of too few production.

- (d) Hostility due to an acute mood, a state of sensitivity or easily being irritated angrily
- (e) Too much motivation or accustomedness, so the brain functions improperly or stops working.

Numerous studies suggest that information overload makes us dumber: Persons exposed to excessive amounts of information are less productive, prone to make poor decisions, and risk suffering serious stress-related diseases. Sufferers from information overload (Neuron Global, 2013):

- Become highly selective and ignore a large amount of information or give up and don't go beyond the first results in many cases.
- Need more time to reach a decision.
- Make mistakes.
- Have difficulties in identifying the relationship between the details and the overall perspective.
- Waste time.

Table (2.3) gives an overview of the various symptoms of information.

**Table (2.3)
Symptoms or Effects of Information Overload**

	Symptoms	References
Limited information search and retrieval strategies	<ul style="list-style-type: none"> • Search strategies through information sets become less systematic (this is less true for more experienced searchers). • Limited search directions. • Move from compensatory search patterns to noncompensatory search patterns. • Identification and selection of relevant information becomes increasingly difficult. • Difficulties to reach target groups (sender perspective). 	<p>Swain and Haka, 2000</p> <p>Cook, 1993</p> <p>Cook, 1993</p> <p>Jacoby, 1977; Schneider, 1987</p> <p>Herbig and Kramer, 1994</p>

Continued Table (2.3)

<p>Arbitrary information analysis and organization</p>	<ul style="list-style-type: none"> • Overlapping and inconsistent information categories. • Ignore information and be highly selective (omission). • Loss of control over information • Lack of critical evaluation (become too credulous) and superficial analysis. • Loss of differentiation. • Relationship between details and overall perspective is weakened and peripheral cues get overestimated. • Higher time requirements for information handling and time delays. • Abstraction and necessity to give meaning lead to misinterpretation. 	<p>Eppler, 1998</p> <p>Bawden, 2001; Edmunds and Morris, 2000; Herbig and Kramer, 1994; Hiltz and Turoff, 1985; Sparrow, 1999</p> <p>Bawden, 2001; Edmunds and Morris, 2000; Herbig and Kramer, 1994; Hiltz and Turoff, 1985; Sparrow, 1999</p> <p>Schneider, 1987</p> <p>Owen, 1992; Schneider, 1987</p> <p>Jacoby, 1984; Hiltz and Turoff, 1985</p> <p>Sparrow, 1999; Walsh, 1995</p>
<p>Suboptimal decisions</p>	<ul style="list-style-type: none"> • Decision accuracy/quality lowered. • Decision effectiveness lowered. • Inefficient work. • Potential paralysis and delay of decisions. 	<p>Malhotra, 1982; Jacoby, 1984; Hwang and Lin, 1999</p> <p>Schroder et al., 1967</p> <p>Bawden, 2001</p> <p>Bawden, 2001; Schick et al., 1990</p>
<p>Strenuous personal situation</p>	<ul style="list-style-type: none"> • Demotivation. • Satisfaction negatively affected. • Stress, confusion, and cognitive strain. • Lacks to learn since too little time is at position. • Greater tolerance of error. • Lack of perspective. • Sense of loss of control leads to a breakdown in communication. • False sense of security due to uncertainty reduction (overconfidence). 	<p>Baldacchino et al., 2002</p> <p>Jacoby, 1984; Jones, 1997</p> <p>Jones, 1997; Malhotra, 1982;</p> <p>Sparrow, 1999</p> <p>Sparrow, 1999</p> <p>Schick et al., 1990</p> <p>Schneider, 1987</p> <p>Meyer, 1998; Jacoby, 1984; O'Reilly, 1980</p>

Source: Eppler and Mengis, 2004

2.10 Health Effects of Information Overload

The glut of information available has had some negative side effects, notably the very common, and stress-inducing, information overload syndrome. Everyone is feeling the effect of a growing mountain of information we feel obliged to absorb from unread e-mails, blog feeds and news streams (Telogis, 2013).

It is common knowledge, that stress, over an extended period of time, has a negative impact on health and in particular can cause heart disease (Jackson, 2001).

The factors of informational overload which cause stress include the physical stresses (Such as: bad air, warm air, night shift working, hard physical works, ...), psychological stress (Such as: lack of time, quarrels, social isolation, mandatory group works, lack of ability to discern) and financial conditions (Such as: inadequate fund, occupational instability, ...). Informational overload has recently been expressed as a stress making factor (Rajabzadeh, Nejadirani, Soroodian and Arjomand, 2011 quoted Stanly and Clipsham, 1997).

Mental health practitioners have a term for health related maladies connected to information overload. It is called Information Fatigue Syndrome (IFS) and includes the following symptoms:

- Poor concentration due to the overloading of short-term memory.
- Polyphasic behavior or multi-tasking often resulting in diminished rather than increased productivity.
- Hurry sickness, which is the belief that one must constantly rush to keep pace with time.
- Pervasive hostility resulting in a chronic state of irritability near anger or even rage.
- Habituation or over stimulation which causes the brain to shut down and enter a trance-like state.
- “Plugged in” compulsion is the strong need to check email, voice mail and the Internet in order to stay “in touch”.
- Traditional stress including lowered immune response, endocrine imbalance, depression and the experience of “burn out” (Ruff, 2002 quoted Chard 2002).

IFS is the result of constant exposure to information overload and is similar to anxiety. It can manifest itself in a number of ways (Reuters, 2000):

- An inability to make decisions or cope in other ways.
- Irritability and anger.
- Pain in the stomach and muscles.
- Inability to sleep at night, waking in the small hours with a sense of panic.
- Loss of energy and enthusiasm for hobbies and leisure activities.

Research shows that when forced to choose from a series of options in the face of vast amounts of potentially important information and against the clock, we move into a state of excessive stress. Our brains go into panic mode. This creates a sense of hyperarousal that dulls the senses and undermines performance, making it harder to think clearly or act sensibly. Foolish decisions and flawed conclusions are then inevitable because data is misread. Perspective is distorted as information takes on gigantic proportions in people's minds (Reuters, 2000).

Information overload syndrome is the result of the rapid growth of communications such as faxes, voice-mail, electronic mail, junk mail and the Internet, according to an international survey. Its symptoms include a feeling of inability to cope with the incoming data as it piles up, and it can result in mental stress and even physical illness which may require time off work. The survey found that it is a growing problem among managers - and almost all expect it to become worse.

The report, *Dying for Information?* compiled by Reuter, drew on interviews with 1,300 managers in the United Kingdom and elsewhere. It found that half of the managers already complained of information overload, partly caused by "enormous" amounts of unsolicited information, and the same proportion expected the Internet to become a prime cause of the problem in the next two years (Arthur, 1996).

The Reuters (1996) report also identified some of the effects of overload, specifically:

1. Time is wasted - 38% of managers surveyed reported wasting substantial amounts of time looking for information;
2. Delayed decision-making - 43% of respondents thought that decisions were delayed or adversely affected by the existence of too much information;

3. Distraction - 47% of respondents reported being distracted from their main tasks;
4. Stress - leading to tension with colleagues, loss of job satisfaction, ill-health (reported by 42%), reduced social activity (61%), and tiredness (60%).

2.11 Managers and Information Overload

The increasingly dynamic nature of today's business environments requires quick processing of information in order to respond to problems that are multifaceted, information intensive, and present in each of the various job roles called for in a single managerial position. In addition the quantity and complexity of information available to professionals in business environments has increased (Jackson, 2001 quoted Wurman, 1989, Reuters, 1996). But unfortunately, the human capacity to process information has not grown at the same rate and quantity of information, so managers sometimes find themselves feeling overloaded with information (Jackson, 2001).

A manager is defined as a paid employee charged with the responsibility of leading an organization or one of its subunits; the manager may or may not have staff to supervise or budgets to manage. A manager may be a member of senior executive, the chief executive officer, or a vice-president who manages a portfolio of services, a director who oversees services of two or more departments, or a department manager.

A manager's information behaviour is defined as:

[...] how individuals approach and handle information. This includes searching for it, using it, modifying it, sharing it, hoarding it, even ignoring it. Consequently, when we manage information behavior, we're attempting to improve the overall effectiveness of an organization's information environment through concerted action (MacDonald, Bath, and Booth, 2011 quoted Davenport and Prusak, 1997).

Managers are said to make more than hundred decisions every day. They should be based on reliable and good information. Information is what we communicate to one another. It is transmitted with the latest technologies, among people at large, and

between individuals. These information flows convey meaning; in the business world as these flows are the basis for decision-making by managers (MCE, 2013).

We all need information to survive in the business market and to compete, meanwhile excessive information may make us drown in. If you let yourself inundate in the informational swamp, the organization and yourself will face corruptive consequences. Existence of repetitive and wrong information somehow makes the managers disappointed, and prevents them reaching the useful information. The more useful information exists, the more analysis is required and sometimes the excessive analysis leads in paralysis and hurt the accurate decision making (Debely, Dubosson, and Fragnière, 2007). As expected, individuals who have little or no information for processing make weak decisions. When the information amount is increased, the information processing and the decision making quality is increased too. However, the decision maker could have access to more information by determining a specific point rather than by processed the information. Now, the informational overload occurs and the decision making ability is declined and subsequently, the extra information cannot be processed and just interferes the decision making ability (see Figure (2.2)) (Ruff, 2002).

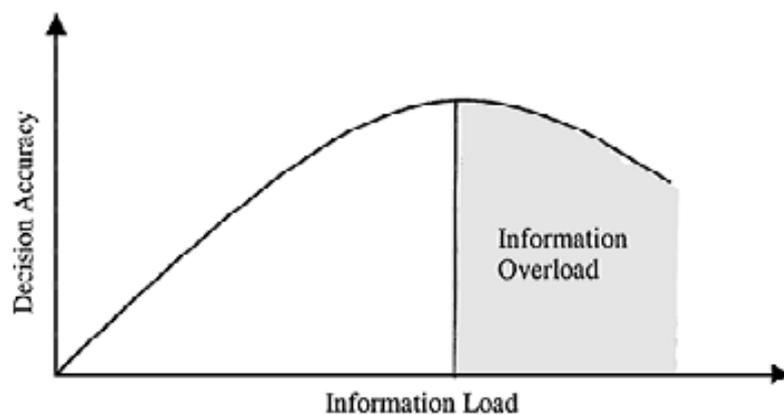


Figure (2.2): The concept of Informational Overloads Capacity

Source: Ruff, 2002

Information overload is a very real and serious threat to an organization's performance. In the stressful state caused by information overload, workers ignore valuable and expensive data banks found on digital networks and instead revert to what they already know and what has worked previously. They look for people and sources with which they already have some familiarity (Jackson 2001).

During overload situations, information flow was bidirectional and constant. Information came from multiple sources and was often incomplete or changed frequently. While multiple factors (managerial role, decision making, information behavior, and industrial technologies) contributed varying degrees of complexity to information experiences, the single difference between information intensity and information overload was the quantity of overload. The primary managerial role in which information overload occurred was that of disturbance handler. Information overload situations developed when the quantity of information (coming in and going out) and the number of secondary roles played by a manager were more than an individual could handle. The situation was most likely to occur when managers were focused on a single issue (a disturbance) that persisted over a sustained period of time and involved information that was "immediately actionable" (that is, requiring execution of immediate tasks as well as cognitive processing) (Jackson, 2001).

People and organisations cannot keep up with the volume of information produced by technological innovation. Managers in particular are having great difficulty navigating a rapidly expanding sea of information, and the situation is only getting worse. Information is becoming a burden on knowledge workers and will remain so until companies consolidate and streamline the stores and sources of intelligence. Doing so will enable them to give back part of the working day to staff, helped by better governance, delivery, integration and the archiving and retention of information.

The proliferation of different information sources within organisations emerged as the main reason why managing information is proving difficult. With an ever-increasing amount of information flooding the workplace (Amble, 2007).

The acquisition of knowledge, and the use of this knowledge as information, represents an important factor in corporate planning in an age of dynamic developments. It has become an important economic variable alongside production factors such as work and capital (Meyer, 1998 quoted Heinrich/Burgholzer, 1988).

Increasingly the amount of disposable information in management exceeds the human processing capacity. Managers are confronted increasingly with an information flood which provides more information than managers are able to process. The information overload problem arises due to the interplay of the technology-related information

supply and the information demand derived from the information and decision behavior of managers (Meyer, 1998).

An information overload on the part of the manager is viewed as being detrimental to the efficiency of the various decision processes (Meyer, 1998 quoted Hering, 1986).

Information overload arises when the information supply, due to its volume, can no longer be processed (Meyer, 1998).

The problem of information overload is particularly critical for managers, who perform non-trivial information processing and complex decision-making tasks on a daily basis (Iastrebova, 2006).

Managerial information overload is characterized by the following features (Meyer,1998):

- High information load.
- Decision situation and thus pressure to receive information.
- Limited processing capacity.
- Resulting stress and suboptimal or dysfunctional decision behaviour.

Butcher (1998) identifies seven main reasons why managers obtain so much information that they can become overwhelmed (Klausegger, Sinkovics and Zou 2007):

- (1) They collect information to indicate a commitment to rationalism and competence, which they believe improves decision making.
- (2) They receive enormous amounts of unsolicited information.
- (3) They seek more information to check out the information already acquired.
- (4) They need to be able to justify decisions.
- (5) They collect information just in case it may be useful.
- (6) They play safe by gathering as much information possible.
- (7) They like to use information as a currency, to avoid falling behind colleagues.

Although there is an abundance of information, it is often difficult to obtain the useful and relevant kind for planning and daily operation among the vast volumes involved (Klausegger, Sinkovics and Zou 2007).

Decision makers should use all available information in order to find a high-quality solution to the problem. But, living in an “information society” means also that managers are bombarded with information whether or not they actively seek it. (Edmunds and Moris 2000).

From a management point of view “information overload” implies an inability to respond to the abundance of information available (Salim 2003 quoted Marcusohn 1995, p. 26).

managers are particularly vulnerable to information overload as they process data related to their own jobs, as well as those they oversee. How can they avoid drowning in too much information, while at the same time making sure that important details are not missed? (Telogis, 2013).

Since, human rationality is limited, a certain subset considered to be relevant is selected from the mass of all potentially useful information (Meyer,1998).

Information overload is a fact of life for company directors, senior managers, and all professionals. Information is coming in from all sides in the form of reports, memos, newspapers, journals, and letters, and now the advent of e-mail and Internet has turned the torrent into a flood (Dawson, 2007).

Just how bad the problem has become is highlighted in a new survey from LexisNexis⁽¹⁾ which has found that more than six out of 10 white collar workers feel that the quality of their work suffers at times because they can't sort through the information they need fast enough. The survey of 1,700 workers in the United States, China, South Africa, the United Kingdom and Australia also found that the amount of information they have to manage at work has significantly increased since the economic downturn (Amble, 2010). In fact half of all those questioned in each country say that if the amount of information they receive continues to increase, they will soon reach a "breaking point" at which they will be unable to handle any more.

And yet respondents say that between a third and half of all the information that comes their way at work each day is not important to them getting their job done. The results of this survey reveal not just how widespread the problem is, but also the very real impact that information overload has on professionals' productivity and the

bottom line. Employers need to do more than simply toss their workers a life preserver and hope for the best. They need to invest in practical solutions (Amble, 2010).

2.12 Approaches to Coping with Information Overload

This section discusses why existing approaches and tools aren't working?, and Solutions to information overload.

2.12.1 Why Existing Approaches and Tools aren't Working?

Before considering solutions, it is worth exploring why existing approaches and information content providers are failing to fully address the problem. One of the fundamental reasons is that current solutions were designed on the premise of information scarcity rather than information abundance. This paradigm shift has been occurring for the past couple of decades, fueled by the digitalization and networking of content and the new communications and publishing tools that have decentralized and democratized publishing. More disruptive change is clearly on the way, as ebooks evolve and content in general is further atomized. This shift not only requires new tools, but a new perspective (Davidson, 2011).

Information overload is complex and can be addressed in a variety of ways. The first step is to recognize the symptoms and then admit that it is a serious problem. Once this is recognized, we must explore ways to eradicate, diminish or at least cope with information overload (Ruff, 2002).

Managers cope with information overload in a variety of ways, but not all of them are productive. One study revealed seven different response types to information overload (Ruff, 2002):

- Hoarder – accumulates information for information's sake.
- Deleter – destroys information without evaluating it.
- Time-waster – requests and seeks for all information but does nothing with it.
- Analyzer – examines everything but can't make a decision.
- Luddite – opposes all innovation.

- Power-user – uses information to seek opportunities, but requires it in highly customized form.
- Leader – recognizes the value of critical information and uses it for maximum benefit.
- Reframer – actively seeks and finds the positive side; recognizes how much we benefit from information (i.e. sees the glass as half full rather than half empty).

2.12.2 Solutions to Information Overload

Even if there is currently no perfect solution to deal with the flood of information, recognizing the problem is the first step toward better individual data management and a deeper review of the ways in which companies and Information Overload information providers can support users, be it by means of software or through information specialists (Edmunds and Morris, 2000).

Collaboration between information providers and users should be encouraged to develop the best solution (Rochat, 2002).

What management really needs to do is accept that the IO problem probably has a cultural root, and resolve to address it seriously. Doing so requires top down support from senior management, without which a culture change is doomed from the start. It requires patience – it takes many months to effect such a change. And of course it requires going through a professionally managed problem solving flow: characterize the initial situation, identify the gaps that need fixing, develop a solution set, deploy it, collect data, and so on all the way to making the change sustainable and monitoring it in the long term (Zeldes, 2012).

However, before starting the activities you should start to know the issue of informational overload. We should have complete and adequate understanding of the issue and its signs and reasons. After being equipped with this awareness, we may adopt suitable solutions (Rajabzadeh, Nejadirani, Soroodian and Arjomand, 2011).

(1) LexisNexis® is a leading global provider of content-enabled workflow solutions designed specifically for professionals in the legal, risk management, corporate, government, law enforcement, accounting, and academic markets (LexisNexis, 2013).

Solutions to information overload, like its causes, are multi-faceted, and there is no single tool that will correct the problem. The solutions proposed fall into two categories: Managerial, includes both individual and organizational approaches, and technical. On the managerial side, the single most applicable and useful general concept in overcoming overload is that of 'control'. It was noted at the outset that loss of control over information is the single major symptom of overload, and restoring control is the major stem towards its remedy. Control may be exercised at both individual and organizational levels (Bawden, Holtham, and Courtney 1999).

2.12.2.1 Individual Approaches

Wilson gave two solutions to the problem of information overload in R&D. The first is specialization and the second is satisfaction. Satisfaction is normative and evaluative. This means that the best response to overload is specialization. Scientists solve their information problem by narrowing the scope of their interests. It is a way by which scientists and scholars adjust the size of the field in which they want to maintain expertise so that the burden of keeping up is manageable. Every scientist who has been in research for a long period knows that to remain an expert in some area she or he needs to narrow the width of her or his interest. Specialization is a solution to the problem of overload but one cannot think that research and development cope successfully with overload (Salim 2003 quoted Wilson 1996a, p. 23-25).

Bawden, Holtham and Courtney (1999) summed that the individual skills required to cope with information overload may be placed under the general heading "time management". The first one is a prioritisation of information seeking related to work goals and objectives. A second one is to deal with a piece of paper as soon as it is touched. A third one is to join mailing lists and newsgroups very selectively, to delete many messages unread and only keep material that would be very difficult to find again (Bawden, Holtham, and Courtney 1999).

Wilson mentioned some other personal strategies to manage the flow of information that come to a person from different sources and may cause overload. One of these strategies is prioritizing. People tend to assign incoming material to different categories. Many categories were identified:

- Mandatory to be dealt with as soon as possible;
- Documents of potential interest;
- Documents which are good to know about but not necessary to read now;
- Documents that are categorise as of no interest (Salim 2003 quoted Wilson 1996a, p. 25-26).

This categorization explains that under condition of overload people tend to postpone what they feel can be postponed. People accumulate a backlog of things to be read. Dealing with the most urgent items may take up all the time allocated for reading. The backlog may grow bigger and bigger and it comes a time when people start to discard things unread from the backlog. There is nothing wrong with backlog and the viewpoint of a rational information management is for it. Wilson tries to explain that by contrasting two strategies used in information management: keeping up and catching up. The first one is to read the literature as it is published. In this case the filter of time may thin out the stream of current literature.

Catching up in that case may be better. Under the pressure of overload older publications may be abandoned. One can think that everything useful in the older literature is incorporate in the current one. Wilson estimated that this is an appropriate thing to do in condition of unavoidable overload (Wilson 1996a, p. 26-29). Although prioritization may be a solution for information overload it may also appear that priorities used may be wrong and the problem of information overload may become a sign of strategic error. For this reason Wilson suggested that the most important kind of response to overload is team work (Salim 2003 quoted Wilson 1995, p. 49).

A concept generating increasing interest, and offering a partial solution to information overload at the individual level, is that of 'information literacy', which has been termed 'the final key to the information society (Bawden, Holtham and Courtney, 1999).

Information literacy is an approach to the problem of information overload that can be applicable both at the individual as well as the organisational level. Generally there is no accepted definition of information literacy, Bawden, Holtham and Courtney (1999) stated that: It refers to a set of information-handling skills going considerably

beyond the simple ability to retrieve information, and usually including elements of evaluation, organisation and use.

Perhaps the best succinct definition is that of Doyle: ‘information literacy is the ability to access, evaluate and use information from a variety of sources’.

The importance of information literacy in countering information overload, at the individual level, is in the regaining of control lost in the overload situation. This means that people know what information they need, they evaluate it and organise it. They approach information with critical thinking (Bawden, Holtham, and Courtney 1999).

Information literacy seeks to solve problems associated with information overload through the provision of a skills set to assist individuals in recognizing “when information is needed and have the ability to locate, evaluate, and use effectively the needed information (Stewart, Basic and Erdelez, 2012).

- Information literacy forms the basis for lifelong learning. It is common to all disciplines, to all learning environments, and to all levels of education. It enables learners to master content and extend their investigations, become more self-directed, and assume greater control over their own learning. An information literate individual is able to (ACRL, 2000):
- Determine the extent of information needed.
- Access the needed information effectively and efficiently.
- Evaluate information and its sources critically.
- Incorporate selected information into one’s knowledge base.
- Use information effectively to accomplish a specific purpose.
- Understand the economic, legal, and social issues surrounding the use of information, and access and use information ethically and legally.

2.12.2.2 Organizational Approaches

Wilson (2001) affirmed that the appearance of the pathological states of information pull and push are the results of the organization management style. The management ethos and the organization culture cause organizational stress which in its turn causes pathological information behaviour. All these with the mediation of the technology

are the responsables of creating information overload in organizations (Salim 2003 quoted Wilson 2001, p. 7-9).

To overcome organizational pathologies there is a need for organizational therapies and the problem of information overload needs to be on senior management's agenda. Organizations need to know the existence of the problem of information overload; they need to ensure that senior management are aware of the problem. There is also a need to advocate the development of an information strategy for the organization which is not confused with the information technology strategy and which considers the problems of information overload (Salim 2003).

In disseminating information, information providers must be selective according to established needs. To institute some policy on appropriate use of technology and a training policy for the use of e-mail, voice mail and other technologies is also a part of the solution to the problem of information overload (Salim 2003). To have an e-mail policy that regulates forwarding, copying material, attachments, etc (Salim 2003).

Information literacy may be another approach to the problem of information overload that could be applicable at the organizational level. Promoting information literacy in individuals, by means of appropriate training, seems to be a powerful way of minimizing the effects of information overload (Bawden, Holtham, and Courtney 1999).

On the technical side, it is also, not surprisingly, suggested that, as new ICTs can be held responsible for a large part of information overload, so they provide something in the way of a solution. Many specific systems or functions have been suggested. These mainly fall into two classes: intelligent search agents and intelligent interfaces.

A third general category is systems for customising retrieved information after it arrives. This may operate as a stand-alone facility, or may pick up where filtering systems leave off. Although such systems are under active research and development, it is fair to say that none has yet demonstrated an ability to significantly reduce overload in an operational setting. It is, however, likely that such systems will be an important part of the solution for the future (Bawden, Holtham, and Courtney 1999).

2.12.2.3 Information Management Solutions

Information overload is an inescapable part of today's world. It comes at us from all directions, bombarding our ears with its incessant chatter, filling our minds with an endless stream of data. To filter this data glut, you need organization, time-management tools, and a plan (The Complete Idiot's Guide, 2013).

The fundamental solution for the informational overload is informational management. You can manage the informational overload when you know how to control the information management process to be relieved of the extra information and process the remaining information better (Rajabzadeh, Nejadirani, Soroodian and Arjomand, 2011).

The overarching goal of an information management solution is to get the right information to the right people at the right time. Information management solutions are designed to help organizations acquire, organize, maintain, protect, and share data and information. This requires an understanding and defining of the structure of the information and the necessary controls, authorizations, and processes for maintaining, retrieving, and sharing information. From a technology perspective, an information management solution can include storage, servers, databases, security, data and content management software, and business intelligence tools. There is often a need to integrate systems, processes, information, regulations, and other events or details in order to achieve the most meaningful view of the environment (Clarke, and O'Brien, 2012).

Understanding how information travels throughout organizations -from where it is created to where it is stored - and uncovering where content overlaps and intersects along the way can yield process efficiencies. Intersections between systems, or between paper and electronic information, are good starting points to root out inefficient processes. Where paper and digital information intersect, as they do in most organizations, a hybrid information management solution can help increase efficiency. A hybrid solution manages both paper and electronic formats and combines the cost-effectiveness of traditional paper storage, often the bulk of records, with the speed, convenience, and cost savings of digital access. Knowing when to digitize paper information provides an opportunity to simplify and streamline

information management processes and conserve costs and resources. Clearly, increased productivity would be one key benefit of effective information management. Generally, with a hybrid solution, information that is stored as paper is converted to a digitized format on demand only. This provides an effective, yet efficient retrieval solution (Clarke, and O'Brien, 2012).

Here are a few tips for coping with too much information:

1. Choose Information Wisely

Focus your attention on information that nourishes your mind and soul. Time and attention are precious, so filter out the data “thieves” that take without returning. Ask yourself:

- Do I really need to know this?
- How will this information improve my life?
- What about this information is important to me?
- How does the time I'll spend consuming this data fit with my overall time-management priorities?

2. Clear Out Info Clutter

It can be immensely satisfying to clean out the corners of your life. Here are some ideas for making a clean sweep of data clutter:

- **Ditch unread material:** If you haven't read a magazine in a month or a newspaper in a week, ditch it. And cancel magazine or other subscriptions that no longer match your interests. Donate old books and magazine collections to a school or library, or sell them to a dealer.
- **Clear your desk.**
- **Manage mail:** As you go through your mail, deal with each piece on the spot. Throw junk mail in the trash immediately. Pay your bills as you open them or place them in a payment folder. File important documents, and pass on relevant articles or other information to colleagues and friends.
- **Stop junk mail:** Put an end to unwanted junk mail.

- **Get off the credit bureau list:** End unwanted credit card and insurance company solicitation calls.
- **Keep a notebook near your phone:** Don't record important phone numbers and other information on random sticky notes. Instead, keep a blank book near your phone, and use it to jot down phone numbers, messages, ideas, to-do lists, and general reminders. Date each new page, for reference. Later, you can transfer numbers into your phone book and mark important dates in your agenda.

3. Manage Online Time

Here are some simple navigational aids that can keep you on-course for the information you want and need, rather than going adrift in the Internet's vast waters:

- **Choose your engine:** Find a few reliable search engines, and learn how to use their options to find the data you need. You can even make a search engine site your home page, for fast access to your favorite navigational tool.
- **Use smart searches:** Narrow your search by using terms specific to the information you're seeking. Read and use the search tips offered by most search engines.
- **Use bookmarks:** Use the bookmark feature of Internet Explorer and other Web browsers to create a personal library of digital information you use frequently.

Just like time management, information management is a must for all of us. Remember, you are in control of the information you consume -you do not need to go into information overload. You don't have to jump like Pavlov's dog in response to every ringing phone, beeping email inbox, or blinking electronic screen. Don't let the media tell you what is important to know- decide for yourself (The Complete Idiot's Guide, 2013).

2.12.2.4 Personal Information Management

Wilson (1997) defined information management as:

The application of management principles to the acquisition, organization, control, dissemination and use of information relevant to the effective operation of organizations of all kinds (Wilson 1997).

With information Wilson means all types of information derived from various sources, produced internally or externally and that have value for the organisation. According to Wilson, information management deals with the value, quality, ownership, use and security of information in the context of organizational performance (Wilson 1997).

To define personal information management, referred as PIM, Etzel (1995) started by defining each term. By personal Etzel means information that belongs to the person doing the job and by information anything that a person uses to do her or his job. Although anything may include many things, according to Etzel it may be a department wall chart to look at to see what co-workers are doing. It may be paper files, journals, faxes, e-mails or voice mail, computer word processing documents and spreadsheets. Management refers to the strategy one uses for coping with all of this information-i.e. where to put the journals? Where to store all the e-mail? How long to keep information? etc. Etzel meant that PIM helps the user to cope with information overload by helping her or him to define what information is important and to select the most appropriate tools to manage information (Etzel 1995).

Personal Information Management (PIM) refers to both the practice and the study of the activities people perform in order to acquire, organize, maintain and retrieve information for everyday use. One ideal of PIM is that we always have the right information in the right place, in the right form, and of sufficient completeness and quality to meet our current need. Tools and technologies help us spend less time with time-consuming and error-prone actions of information management (such as filing). We then have more time to make creative, intelligent use of the information at hand in order to get things done (Jones, and Bruce, 2005).

A simple pilot study was undertaken by Jones and Thomas to investigate the use of personal information management (PIM) technologies _both traditional and electronic (Jones and Thomas, 1997). As they state, most of us engage in personal information management, however, many of the methods used are little understood, especially in the context of developing new forms of computer-based (PIM) hard/software. Also little understood are the ways in which new technologies change ways of using existing technologies and how the two co-exist. Those surveyed were drawn from organisations in Southwest England where it was expected that the uptake of new technologies would be likely. The findings revealed how little electronic PIM technologies were used and that any use of electronic devices was always in combination with traditional technologies, such as a pocket diary or a personal organizer (Etzel 1995).

Etzel suggests that in order to cope with information overload a personal information management strategy needs to be developed (Etzel, 1995). She suggests that of prime importance is to decide which medium to use, while consideration should be given to the characteristics of tools that appear most favorable to the individual, for example, whether visual or spatial recall is used. This has obvious implications for software design. Etzel states that the strategy she puts forward is an integrated approach rather than a reliance on products which, although necessary, are not a solution by themselves (Etzel, 1995).

Whatever is the cause of information overload, the problem exists and it is seen to be a personal experience and it is affected by the individuals' way of dealing with information generally and by the complexity of most participants' job.

The solution then will have to be individual and will involve personality as much as subject specialism and work role (Bawden, Devon and Sinclair, 2000).

2.13 Previous Studies

2.13.1 Introduction

This section, describes the literature search conducted during data analysis, outlines the major findings on information overload and related issues and describes the "state of the art".

2.13.2 Overview of Previous Studies on Information Overload

The following is a selection of previous studies related to the topic of information overload, arranged in descending way:

2.13.2.1 Zhuang, Qiu and Peng, 2011, titled "Is it the more the merrier?: An exploratory study into the growing problem of information overload".

A research seeks to uncover some empirical evidence on how prevalent the problem of information overload has become, how it has affected the performance of organisations.

Set in the context of the information-intensive tourism industry, this exploratory study examined the top two state-owned tour operators in China. Using semi-structured group interviews supplemented by a questionnaire survey, the empirical evidence gathered was examined to identify key themes concerning information overload.

The research find that the problem was felt more by the front line operatives than those who managed them. Increasing tiredness, high stress levels and more mistakes made at work were amongst the symptoms.

Factors specific to the tourism industry included poor clarity in job division and task procedures, low standardisation of job contents, inter-team work, and loose team structures. Experience, training and staff motivation were identified as possible ways to address the problem.

Designing the structure of an organisation in a way that closely reflects the nature of its business and its internal and external communication needs and effectively

minimise or eliminate the circulation of information to those who do not need it could be the most effective way to tackle the growing problem of information overload and thus enhance corporate performance.

To fully appreciate the strategic impact of the problem of information overload on corporate performance, considerable further research needs to be carried out involving organisations in different sizes and forms operating in different industries across different countries.

This paper adds practical value by providing some empirical evidence to complement the growing body of anecdotal evidence demonstrating how information explosion especially through the internet is having an adverse impact on corporate performance.

2.13.2.2 MacDonald, Bath, and Booth, 2011, titled "Information overload and information poverty: challenges for healthcare services managers?"

The purpose of this paper is to gain insight into managers' decision-making practices when challenged by inappropriate information quality, and to test frameworks developed from research to see whether they apply to these managers.

This exploratory, multiple case study used the critical incident technique in 19 semi-structured interviews. Responses were analyzed using framework analysis, a matrix-based content analysis technique, and then considered with respect to the research literature on information overload, information poverty and satisficing.

The Findings of the study were— The managers in this study tended to satisfice (terminate the search process and make a good enough decision, while recognizing that information gaps remain). Those challenged by too little information appear to fit descriptions of information poverty, while others described aspects of information overload.

The Research limitations/implications— A shortage of information behavior research on managers makes it difficult to conclude whether these results are typical of managers in general or of healthcare services managers specifically. Further research is needed to confirm initial findings and address questions suggested by this paper.

This paper suggests that existing definitions for the concepts of information poverty and information overload can be used to describe managers' experiences.

This paper contributes to what is known about information behavior in managers in general and healthcare services managers specifically. It may serve as an example of how to consider new research findings within existing frameworks.

2.13.2.3 Prasitratanaporn, 2010, titled "Information Overload Among Professionals in Thailand ".

In this study a theoretical model of the effects of personal factors (personality traits and socio-demographic variables) on an individual's perception of information overload is formulated. The study investigates personal factors as causes for overload and adopts the view that the degree of information overload is an individual perception.

Based on previous studies 16 personality traits and four socio-demographic variables are identified as potential causes for the perception of overload.

Data collected using a self-administered structured questionnaire based on existing measuring instruments from a sample of 594 individuals employed in organizations in Thailand is analyzed and used to test the effects of these 20 personal factors on the perception of overload. The model is tested and a parsimonious model is developed using structural equation modeling (SEM) techniques.

The results are interpreted and theoretical and practical conclusions are drawn. Four personality traits (imagination, reserve, complexity, and emotionality) are found to have significant effects on perceptions of overload and based on their significant correlations with the other personal factors four profiles are developed for individuals at risk of experiencing perceptions of overload in their work environment.

Those with strong reserve or emotionality traits are likely to experience overload mainly because of their lack of skills in dealing with the content of information rather than the amount of information. On the other hand, those who exhibit high levels of complexity are likely to experience overload as a result of their strong desire to use information rather than any lack of ability in dealing with the content of information. Those who are highly imaginative are the least likely to experience overload and if they do then it is likely to be because of the amount of information they seek and use rather than any lack of skills in dealing with the content of the information. These four traits are significantly associated with other personality traits, and socio demographic factors (gender, age, level of income, and level of formal education) and this enabled

the development of four profiles of individuals who are more or less likely to experience perceptions of information overload. In addition, perceptions of overload are associated mainly with numerical and textual information in both soft and hard/verbal copy forms derived from sources that are internal to the organization.

From a practical perspective the advice to human resource managers is to screen existing and potential employees if the ability to deal with work related information is an important requirement. Understanding the phenomenon of information overload should be a part of employee training and education programs especially for those who are identified as being at risk of experiencing overload. Also, the results of this study may be used by therapists and counselors to further develop the profile of an individual who is experiencing overload. In particular, these individuals are likely to display symptoms such as: limited use of information search and retrieval strategies; seemingly arbitrary approaches to information analysis and organization; and suboptimal decision making. Furthermore, information overload often causes other personal problems and in such cases it is important to identify and treat the basic causes and not just the symptoms which often present in the form of stress related problems.

The researcher strongly recommended that the study be repeated in order to establish the external validity of the findings. Possible limitations on the results of the study include: (a) the sample only included individuals who work in the urban region of Bangkok; (b) no attempts were made to control age, level of education, gender, type of organization, or level of employment. Most of the subjects were employed in the private sector and most worked at staff levels in their organizations.

2.13.2.4 Bawden and Robinson, 2008, titled "The dark side of information: overload, anxiety and other paradoxes and pathologies".

This review article identifies and discusses some of main issues and potential problems – paradoxes and pathologies – around the communication of recorded information, and points to some possible solutions. The article considers the changing contexts of information communication, with some caveats about the identification of ‘pathologies of information’, and analyses the changes over time in the way in which issues of the quantity and quality of information available have been regarded. Two main classes of problems and issues are discussed. The first comprises issues relating

to the quantity and diversity of information available: information overload, information anxiety, etc. The second comprises issues relating to the changing information environment with the advent of Web 2.0: loss of identity and authority, emphasis on micro-chunking and shallow novelty, and the impermanence of information. A final section proposes some means of solution of problems and of improvements to the situation.

The results showed that no set of solutions to the problems identified in this article can be regarded as finally satisfactory, if only because new “pathologies of information” will emerge as the information environment changes, primarily under the influence of new technologies. New solutions will always be needed, although it will be vital to be selective in determining which new patterns and modes of information communication and use are truly problems in need of solutions.

Solutions to information overload, for example, generally revolve around the principle of taking Control of one’s information environment. This not only avoids the effect that one is controlled by the information, but avoids the feelings of powerlessness which noted as being aspects of the “anxiety” pathologies.

The solutions which emerge are not likely to be purely “informational”, still less associated solely with formal information services and information management. Rather, information aspects will comprise part of solutions involving much wider issues of education, the nature of work, and individual responses to an increasingly complex, and largely digital, information environment.

Information managers will, no doubt, continue to devise and promote pragmatic solutions to these continuing and emerging issues. But satisfactory progress will depend on a better understanding of the fundamentals of human information behaviour, and the ways in which it changes over time; this is, perhaps, the most basic challenge for information science over the next decades.

2.13.2..5 Kim, Lustria and Burke, 2007, titled "Predictors of cancer information overload: findings from a national survey".

The study explored predictors of information overload among cancer information seekers who reported having suffered from information overload. These persons were characterized by socio-demographic characteristics, health status, health information

and communication environment and behavioural, cognitive, and affective cancer information seeking.

A secondary analysis was performed of the 2003 Health Information National Trends Survey conducted by the U.S. National Cancer Institute with 6,369 randomly selected participants. A subset of this dataset, which includes the responses of 3,011 cancer information seekers, was analysed. A bivariate analysis was used to identify factors significantly associated with information overload. These factors were then entered in a logistic regression model to identify predictors of overload.

Results showed that lower socio-economic status, poor health, low media attentiveness and high affective components of information seeking were associated with overload. The strongest predictors were education level and cognitive aspects of information seeking, which indicates that overload is strongly predicted by health information literacy skills.

Use of the Internet and high media attentiveness, two factors usually thought to cause overload, were found not to be associated with overload.

The findings emphasize the importance of health information literacy in coping with information overload and implies the need to design better health information campaigns and delivery systems.

2.13.2.6 Klausegger, Sinkovics and Zou, 2007, titled "Information overload: a cross-national investigation of influence factors and effects".

The purpose of this paper is to examine the nature and negative effects of the "information overload" phenomenon, exacerbated in recent years by organizational design issues and rapid advances in information and communication technology, through a multidisciplinary lens.

Data from a five-country East-West published study of information overload in the Reuters organization are used to examine the influences on information overload and to compare the effects on respondents in each country.

Results of the re-manipulation of the survey data demonstrate significant negative relationships between information overload and the fulfillment of job responsibilities in all five countries surveyed. Information overload was perceived to be most stressful in the USA and UK.

Marketing managers face the dilemma of receiving too much information, but too little that is “right” for their planning responsibilities. The challenge is thus to convert “information” into “intelligence” that can effectively support strategic marketing planning.

Suggestions are offered for reducing the duplication of information and adopting appropriate information-management strategies.

Information overload has serious practical consequences for management and planning in marketing no less than in any other discipline. A clear and comprehensive view of the phenomenon and its effects on everyday job responsibilities is therefore useful in tackling the problem. The cross-national analysis permits adjustments to local management style and behavior in the major economies of the East and West.

2.13.2.7 Iastrebova, 2006, titled "Managers' information overload. The impact of coping strategies on decision-making performance".

This thesis has explored a wide range of issues that are either directly related or can be logically extended to the problem of information overload or human coping. The research objectives were, first, to enhance our understanding of information overload and the factors that contribute to the establishment and proliferation of it and, second, to reveal how decision-makers adapt to it, adjusting their own behavior and changing working practices. In all, we aimed at advancing the studies of information overload in general, and placing them in the broad decision-making and organization behavior framework in particular.

This research consists of two parts: the study of information overload and the study of human coping.

A conceptual model of information overload was developed to unfold decision-making under the assumption of information overload and to demonstrate how information overload is translated into decision-making inefficiencies.

The results of this study indicate that not only the organizational structure per se is important but also the stability of organizational structure, the availability and efficiency of coordination and control mechanisms; the impact of the external environment and external demands on flexibility of structure. All these factors should be considered in any further investigations.

Though no direct evidence has been obtained, the size of organization might be a significant determinant of degree of information overload. Moreover, the results of the study suggest that the actual composition of information overload is a function of the size of the company.

The empirical evidence indicated that, indeed, there is a link between organizational culture and information overload and that the routes of information overload are grounded in the organizational culture.

With respect to the amount of internal communication, the empirical evidence has been strongly supportive and indicated that, as the amount of internal communication goes up, the risk of information overload increases.

In addition, we have found that face-to-face, mobile phone, and electronic mail are the dominant communication channels.

An interesting finding has been obtained with regard to the content of communication. In particular, the notion of “spam” content could be reconsidered in light of the empirical evidence obtained. Internal newsletters that communicate general issues about the company are largely considered as spam. Most of the research participants acknowledged that the content of these letters is irrelevant in terms of current time and task frame: it is of low urgency, and has no news value.

With respect to the use of advanced information communication technologies and their effect on information overload, the empirical evidence was generally supportive. Indeed, the introduction and the use of certain technologies can cause or, otherwise, facilitate information overload.

2.13.2.8 Eppler and Mengis, 2004, titled "The concept of information overload: a review of literature from organisation science, accounting, marketing, MIS, and related disciplines".

Based on literature from the domains of organization science, marketing, accounting, and management information systems, this review article examines the theoretical basis of the information overload discourse and presents an overview of the main definitions, situations, causes, effects, and countermeasures. It analyzes the contributions from the last 30 years to consolidate the existing research in a conceptual framework and to identify future research directions.

While this is not the first review article on the topic of information overload it is the first one to analyze the problem of information overload across various management disciplines, such as organization science, accounting, marketing, and management information systems (MIS).

To provide a broad overview of the main discourse elements in four business-related fields. In terms of scope, it is clear that the four fields that have been reviewed are not the only areas where information overload is a major concern.

Library studies, pedagogy, military studies, and entertainment are other domains that could have been included in the review. The focus, however, has been on central disciplines of business-related research. Based on the reviewed literature in these four fields, several directions for future research can be envisioned.

One, there is a need to employ alternative research methods that can be used to study the phenomenon. Two, there is a need to examine ways of increasing the amount of cross-fertilization in information overload research.

The limitations of this review article relate to its methodology and scope. In terms of methodology, the approach that have chosen is a qualitative, inductive one with a focus on surfacing the major categories in the overload discourse.

The article suggests that future research should examine the interrelationships between the listed causes and countermeasures in more detail. This can lead to MIS solutions that address the problem drivers and root causes of the overload issue with effective countermeasures.

2.13.2.9 Salim, 2003, titled "Information overload and its implications for a corporate library".

The aim of the present study is to develop an understanding of how researchers perceive the role of the library in helping them to cope with information overload related to maintaining currency.

AstraZeneca (one of the world's leading pharmaceutical companies) was chosen to conduct this study because the pharmaceutical industry is a very intensive information industry.

Eight willing researchers were chosen via a contact person to participate in the qualitative interviews. Researchers work in different departments and their time of

employments differs The results revealed that the problem of information overload is an individual approach and it is related to maintaining currency. To overcome the problem researchers have adopted individual coping strategies; specialization was the most useful strategy adopted by most of the researchers. Personal information management, as sorting and filing, seemed to play an important role in handling the current information. At the organizational level, the Information Science & Library was perceived as updated, professional and necessary. The library staff helps researchers to stay up-dated and to cope with information overload, by acting as information providers and as research assistants and by offering end-users'-education.

2.13.2.10 Ruff, 2002, titled " Information Overload: Causes, Symptoms and Solutions".

After offering definitions and a model that describes and analyzes information overload, this article looks at the severity of the problem (symptoms), explores its causes and offer potential solutions.

The causes of information overload will not disappear by themselves. They require thoughtful solutions. An awareness of the causes, combined with an understanding of the symptoms will allow us to generate useful and practical solutions to the problem of information overload.

The article concluded that the ironic solution to the information overload problem is – more information, but before we are inclined to act, we must first know that a problem exists. We must have an understanding of the magnitude of the problem including symptoms and causes. Armed with this awareness, we can choose to implement the appropriate solutions. An analytic model has been used to present a taxonomy for studying the information overload problem. And an attempt has been made to present likely symptoms, causes and solutions in a way that is concise and quick to read and process.

2.13.2.11 Heylighen, 2002, titled "Complexity and information overload in society: Why increasing efficiency leads to decreasing control".

This paper sets out to analyze the evolutionary dynamics behind the profound societal and technological developments of the Internet and related information and

communication technologies that has brought into focus the problems of information overload, and the growing speed and complexity of developments in society where people find it ever more difficult to cope with all the new information they receive, constant changes in the organizations and technologies they use, and increasingly complex and unpredictable side-effects of their actions, which leads to growing stress and anxiety, fuels various gloom and doom scenarios about the future of our planet, and may help explain the increasingly radical movements against globalization.

The main argument has been that the technological advances that we normally would consider as progress bring with it a number of subtle, but unavoidable side effects, that make it increasingly difficult for individuals and society to control or predict further developments. Since the basic thrust of progress cannot be stopped, this means that we will have to evolve superhuman systems to complement our limited capacities for processing information and understanding complex systems. These systems cannot be merely technological (the famed super intelligent computers or robots), but must encompass humans as essential components. Part II of this paper have been then looked at how such collective systems may tackle the problem of information overload.

This paper has considered the most fundamental ways to tackle the problems caused by information overload and complexity. Increasing capacity by augmenting individual knowledge and intelligence is the most straightforward approach, but cannot be sufficient because of the intrinsic limitations of the human brain. Collective capacity can be increased by more efficiently allocating decision-making among individuals. This may be achieved by developing rules of information hygiene and an economy of attention.

Information processing capacity can be further augmented by complementing human decision-making with computer support. However, the hard lessons from AI have taught us that computers alone cannot make important real-world decisions, and that human attention must remain in the loop.

The solution proposed in this paper is the integration of the three basic resources: human intelligence, computer intelligence, and coordination mechanisms that direct an issue to the cognitive resource (document, person, or computer program) most fit to address it. This requires a distributed, self-organizing system, formed by all individuals, computers and the communication links that connect them. The self-organization can be achieved by algorithms similar to those underlying the learning

of associations in the brain, the laying of trails by ants, or the invisible hand of the market.

2.13.2.12 Jackson, 2001, titled "Information overload and managerial role: A Naturalistic Study of Engineers ".

This study examined information overload in a naturalistic environment. The goal of this study was to develop a set of theoretical constructs that explain how information overload is related to managerial roles of engineers in a large, multidimensional oilfield services company. Grounded theory, using layered triangulation techniques was the methodology employed.

Analysis of data shows that managers utilized both proactive and reactive strategies to manage their environment. These strategies were not sufficient to completely eliminate the problem of information overload.

This study identified characteristics of information present in information overload situations, the factors that added complexity to the situations, and the context in which information overload was most likely.

This study has cross-disciplinary implications for research on information behaviors, characteristics of information, and dynamic interactions in the total information environment in the fields of both information science and management science.

It has introduced theoretical concepts that have the potential to expand models of information behavior in information science and managerial science, and it offers practical direction for businesses interested in reducing information overload in information rich environments.

The researcher found that information overload is most likely to occur in situations where a single problem (a disturbance) requires a manager to play roles in responses to information that is "immediately actionable", and the situation that lasts for a sustained period of time.

The study suggests that information overload is a complex phenomenon that is worthy of further research to help us gain insight into conquering the information age.

2.13.2.13 Edmunds and Morris, 2000, titled "The problem of information overload in business organizations".

This paper reviews the literature on the problem of information overload, with particular reference to business organizations. The literature reveals that although the problem of information overload has existed for many years, in recent years the problem has become more widely recognized and experienced. Both perceptions and the actual effects of information overload have been exacerbated by the rapid advances made in information and communication technology, although it is not clear cut as to whether the Internet has worsened or improved the situation. A theme stressed in the literature is the paradoxical situation that, although there is an abundance of information available, it is often difficult to obtain useful, relevant information when it is needed. Some solutions put forward to reduce information overload are: a reduction in the duplication of information found in the professional literature; the adoption of personal information management strategies, together with the integration of software solutions such as push technology and intelligent agents; and the provision of value-added information (filtered by software or information specialists). An emphasis is placed on technology as a tool and not the driver, while increased information literacy may provide the key to reducing information overload.

2.13.2.14 Meyer, 1998, titled " Information overload in marketing management".

This paper presents the scientific controversy surrounding the information overload problem, its behavioral background and the implications made. A complementary non-experimental study by the author using a questionnaire to measure the subjectively perceived information over-load of the managers in various managerial fields is presented in the second part of this paper. The hypothesis, that the subjectively perceived information over-load is positively related to the disposable information volume, was confirmed.

The aim of the article is to present both the content and methodological aspects of the information overload research. The content aspect consists of a summary of prior findings in overload research as well as the selection and testing of two of the hypotheses from these findings. General findings as well as those findings specific to managers and consumers are intentionally presented alongside one another in the

form of a synopsis. The subject of the study is inevitably the person. The person is merely observed under differing situational and task-related conditions.

The methodological side consists of a statistical method which is indeed unusual for this field of research in order to investigate the subjective information overload perception.

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The study presented that the following findings seem to be strong enough to rely on:

- The subjectively perceived information overload is positively related to the disposable information volume.
- The subjectively perceived information overload correlates with the additional information requirement.
- There is no evidence confirming that a common overload exists for all activities. One must differentiate between various activities. In particular, strategic and qualitative tasks belong to those areas for which a particularly high overload can be established (e.g. market segmentation, opportunity/risk analysis, business environment analysis and competition analysis). The operative and quantitative tasks belong to the activities where a low level of overload can be determined (e.g. planning business rounds and visits, distribution, budget planning and customer service).

The study suggests that the last finding seems to be especially important for further research as well as for management practice. This finding indicates which marketing activities probably show a serious problem of information overload in management and where to start trying to reduce the overload.

2.13.3 Comments and Conclusion

Through the review of previous studies, related directly or indirectly to the subject of study, where previous studies showed a set of results that helped enrich the researcher's study, in addition to the information they contained which helped the researcher in the preparation of the theoretical framework of the study.

A number of articles on information overload have been published in academic and non-academic journals. All these studies approach information overload differently, both in terms of the conceptualization and the method. Therefore, besides the common claim that information overload is an undesirable state that has significant negative consequences on individual decision-making and overall organizational performance, very few parallels between the studies can be identified.

The distinctive characteristics of information overload studies are their poor comparability, high heterogeneity, and fragmented nature.

The research produces mixed, often controversial, and generally incomparable results. At the same time, the range of problems, collected under the label of “information overload”, is constantly expanding, from psychological dysfunctions and stress to the issues of spam filtering and organizational system design (Iastrebova, 2006).

The literature reviewed by Edmunds and Morris (2000) covers the period 1950-2000 and addresses the definition of information overload, factors associated with overload, business contexts where overload is likely, and possible solutions to the problems caused by overload. The most comprehensive review by Eppler and Mengis (2004) covers the period 1970-2003 as well as important earlier studies. Previous studies are identified in the areas of Accounting, Marketing, Organizational Behavior, Management Information System, Library Science, Medical Science, Education, and Business Management with discussion of the definition of overload, causal factors (personal factors, information characteristics, task/process parameters, organizational design, and information technologies), symptoms (limited search and retrieval strategies, arbitrary information organization/analysis, sub-optimal decisions, and signs of stress), and countermeasures which affect the causal factors.

In addition to these literature reviews the site for the Information Overload Research Group (IORG, 2013) provides a comprehensive archive on studies of overload and practical countermeasures. In particular, many studies have focused on the role played by email and the manner in which distractions and interruptions to an individual’s work contribute to information overload.

There are few cross-cultural studies and as noted by Eppler and Mengis (2004) many studies have been exploratory rather than explanatory and there has been more attention paid to the effects, symptoms, and countermeasures than the causes for overload (Prasitratarnaporn, 2010).

This study agreed with the study of Klausegger, Sinkovics, and Zou (2007) about the negative effect of information overload on the fulfillment of job responsibilities and the incidence of stress, and that information overload has serious practical consequences for management and planning.

This study agreed with Salim (2003) who noted that when it comes to personal information management, most of the researchers agreed that to organize is a good strategy to deal with the current literature.

This study agreed with Prasitratanaporn (2010) who investigates personal factors as causes for overload and adopts the view that the degree of information overload is an individual perception, agreed with Edmunds and Morris (2000) in that personal factors are among the potential causes for overload, and with Eppler and Mengis (2004) who proposed that an individual's information processing capacity is influenced by personal factors such as motivation, attitude, satisfaction, skills, ideology, age, and level of social communication.

This research benefited from previous studies in:

- Examining the experience of Arab and Foreign countries with respect to the research variables and its impact on management.
- Collecting the theoretical framework and building the research tool.
- Testing the research methodology, and appropriate statistical methods.
- Interpreting the results and make recommendations.

This research characterized from previous studies in:

- It talked about the problem of information overload and its impact on management in the workplace through the research variables, where the variables which this research focuses on are not mentioned as a set in a specific one of the previous studies.
- The research population was also focused only on the Palestinian universities in the Gaza Strip and studied the impact of information overload on the top and middle levels management, who are the decision makers. where the aim of this research is to promote the performance of the employees in view of the importance

of the avoidance of information overload in achieving better performance levels and thus achieve the objectives of the institutions.

- However, the phenomenon of information overload have not been fully investigated in Palestine and the Arabic World.

There was a consensus of studies of the need for more research on the phenomenon of information overload, and focus on its importance of the organization and business development.

In conclusion, large number of previous literature indicated increase importance of studying the phenomenon of information overload and its effects on decision making and management.

Chapter 3

Palestinian Universities

3.1 Introduction

3.2 The Emergence of Palestinian Universities

3.3 Supervision of Palestinian Universities

3.4 Palestinian Universities in Gaza Strip

3.5 Universities and Information Overload

3.1 Introduction

University became an aspiration of the peoples rising to achieve their aspirations and goals, and has become the main gate from where they pass to contemporary societies to the bridge of progress and prosperity that connects to the top of the highest ranks of pride and dignity to the fertile ground of science and technology, which dominates today's world. The university is no longer independent of its environment, it is a community foundation affect and are affected by it's political, economic and social conditions, and reflect the developments experienced by this community

Attention to higher education has become an urgent necessity because education is a real investment for the people and an important milestone for the offer, so organizers of the educational process trying to achieve educational goals in the best way by devising ways and means to help facilitate the teaching and learning processes and improve performance. It is well known that the presence of the university coupled with the existence of thought, science and civilization, and these concepts are interrelated and each of them complement other, although the university has a message and function: the teaching, scientific research and community service, the university is a social institution, cultural, scientific and educational, and thus universities are described as centers civilized and scientific radiation for humanity as a whole (Al-Zubaidi, 2008).

Palestinian universities represent the pinnacle of higher education system, where lies the importance of this part of the education in the formation of members of the community to carry out high professional jobs required by society, where they contribute to the evolution and development through intellectual and scientific impact on work and production trends.

There is no doubt that the success of this role depends on the creation of appropriate conditions for University and surrounded it by all kinds of care and provide it with needed resources, whether human or material, and one of the main goals of higher education institutions in contemporary societies attention of making the learning process a production process, by achieving the specific objectives set and in light of the available inputs, and most important of these inputs the management of these

institutions, and even to attain the objectives of these universities to be an effective administrative system seeks to coordinate between human effort and exploit the available potential (Sobh, 1990).

Contemporary universities are similar in their objectives, the specificity of each university stand out through the surrounding environment as a social institution required to serve the community and meet its needs, and whatever community the university belongs to the, the goals of these universities is based on three main pillars: (Higher Education - research - community service). These goals can be summarized in the following points (Abu Watfa, 2002):

- 1- Preparation of professional competencies and specialized leadership cadres.
- 2- Integrated personal development of the Palestinian student.
- 3- Upgrading in the field of scientific research and research work that contribute to solving the problems of the Palestinian community.
- 4- Prepare lesson plans and the development of its courses.
- 5- Keep up with what is new in the field of scientific and technological progress.
- 6- Participate in community service and meet its needs and its various activities.

3.2 The Emergence of Palestinian Universities

Although arduous march for higher education in the occupied Palestinian territories under Israeli occupation, but this sector could build a basic rule for higher education and Palestinian universities. These universities have seen harsh conditions and repressive practices aimed to destroy the educational institutions.

Most Palestinian universities are young universities in accordance with international standards, where did not pass on the establishment of the oldest only thirty years. Higher education system as a whole has seen significant shifts in the wake of the war in June 1967. There has been wide spread first in the field of community colleges and then continued with the establishment of major Palestinian universities began in 1971, where each one of these universities, since the beginning, the product of a private, non-profit and non-governmental initiative, so Palestinian higher education is unique in this respect, whether in the Middle East or in most parts of the world, where government institutions are the norm, and thus the non-profit and non-governmental

structure for Palestinian universities considered one of its defining characteristics (Ministry of Higher Education, 2003).

3.3 Supervision of Palestinian Universities

Palestinian universities in the West Bank and Gaza Strip are divided in terms of academic and administrative supervision and funding into three sections, namely:

- a. **Public universities:** They are independent in terms of funding and academic and administrative supervision.
- b. **Governmental universities:** Located under the direct supervision of the Ministry of Education and Higher Education and Scientific Research.
- c. **Private universities:** It is located under the direct supervision of private civil entities (Palestinian Ministry of Higher Education, 2006).

Higher education sector consists of 49 Palestinian educational / training institution post-secondary awarded certificates ranging from diploma to doctorate. These institutions include 13 universities and 15 university colleges and 20 community colleges and one university track open education. The majority of these universities are public (non-profit), eight universities, and two governmental and three private (for-profit). In general, these institutions follow classic traditional style in higher education, except one university tracking system of open learning (the reality of higher education in Palestine, numbers and statistics, 2009).

Table (3.1) illustrates the Palestinian universities according to their location, supervising, and the year of foundation:

Table (3.1)
Basic data on Palestinian Universities

	University Name	Geographical location	Supervisor	Year established
1	Palestine Technical University - Kadoorie	Tulkarem	Government	1930
2	Hebron University	Hebron	Public	1971

Continued Table (3.1)

3	Birzeit University	Birzeit	Public	1972
4	Bethlehem University	Bethlehem	Public	1973
5	An-Najah National University	Nablus	Public	1977
6	Islamic University of Gaza	Gaza	Public	1978
7	Palestine Polytechnic University	Hebron	Public	1978
8	Al-Quds University	Jerusalem	Public	1984
9	Al-Azhar University	Gaza	Public	1991
10	Al-Quds Open University	Jerusalem	Public	1991
11	Al-Aqsa University	Gaza	Government	1991
12	Arab American University	Jenin	Private	1997
13	Gaza University	Gaza	Private	2007
14	University of Palestine	Gaza	Private	2008

Source: Palestinian Ministry of Higher Education, statistical Manual for the Palestinian institutions of higher education, (2010-2011)

3.4 Palestinian Universities in Gaza Strip

Palestinian universities in Gaza Strip is one of the great achievements that came in response to fill the needs of the Palestinian society in the Gaza Strip, we have the development of university education in the provinces of Gaza, as university education in Palestine, through self-planning and the attendant problems emerged later, And this sector has suffered in general from many difficulties, the most important is development under occupation where the continuing obstacles (Al-Aila, 2001).

Despite the difficult conditions and problems faced by the Palestinian universities but it has made sincere efforts in the face of these circumstances characterized by insisting and challenge, where it is necessary to work hard to move towards a new phase requiring different and distinct quality of performance, policy, management, skill and education so that it can carry out the envisaged role of its existence, in

response to the new insights that should the new Palestinian reality to deal with it (Othman, 2003).

The number of higher education institutions in the Gaza Strip are five universities as follows:

- 1- The Islamic University (public- civil).
- 2- Al-Azhar University (public- civil).
- 3- Al-Aqsa University (governmental).
- 4- University of Palestine. (private).
- 5 - University of Gaza (private).

These universities give a bachelor's degree, also give master's degree in some disciplines such as management, education and engineering.

The following brief review of each of these universities.

3.4.1 Islamic University of Gaza (IUG)

3.4.1.1 Introducing IUG

IUG is an independent academic institution located in Gaza . IUG is a home to the well-planned programs, a way to the different community levels and a place for researchers and good teachers. IUG is a member of four associations: International Association of Universities, Community of Mediterranean Universities, Association of Arab Universities and Association of Islamic Universities.

Considered the vision of IUG, IUG strives to be the leading Palestinian University working to develop educational and cultural standards in the Palestinian society according to professional values and principles.

For its mission, IUG tries very hard to provide high quality education to students, particularly those living in Gaza Strip. Also, it encourages academic and scientific research to meet the challenges. In addition, IUG tries to participate effectively in developing the Palestinian community as well as, to promote knowledge and professional skills and science advancement (IUG website, 2012).

IUG management puts number of strategic goals to achieve the university vision and mission. IUG endeavors to advance learning, foster the expansion of knowledge through teaching and research and encourage community service. In fulfillment of this purpose, we hold the following strategic plans at the heart of our endeavor:

- Encouraging scientific research.
- Promoting academic cooperation in different fields with the local and foreign institutions.
- Developing the use of IT in teaching and designing distance learning courses.
- Enhancing the quality of education in terms of upgrading instructors, updating curricula and improving teaching-learning facilities.
- Reinforcing fieldwork and the practical skills of learning and searching through graduation projects, training and practice (IUG Website, 2012).

3.4.1.2 Facts and Figures

3.4.1.2.1 Access and Admissions

- There are almost 20,639 students at IUG, including 19,355 ; undergraduates and 915 postgraduates.
- IUG graduates are among the most employable in Gaza Strip in the academic year 2007-2008, 7,281 of undergraduates are studying at the Faculty of Education, 2,725 at the Faculty of Engineering, 2,149 at the faculty of Commerce and 2,036 at the Faculty of Sharia & Law. The remaining are studying at the rest of the ten universities.
- IUG offers students a unique learning experience. Undergraduates attend lectures, make projects and prepare a research paper in the final year.
- From 1993 to 2008, 19,643 people joined courses, in 1272 programs offered by the Community Service & Continuing Education, making IUG the largest provider of continuing education in the Gaza Strip.
- The number of graduates at IUG has more than doubled in 30 years, from 3 in 1982 to 3,329 in 2007.

- Using one of the most recent admissions systems, staff at IUG work very hard guiding students and serving the whole community as possible as they can.

3.4.1.2.2 IUG Internationally

The University has many regional and international relations with different institutions and universities all over the world. Most importantly, IUG is a member of International Association of Universities and of Community of Mediterranean Universities.

Through the External Relations Office, IUG has developed several academic links and signed several agreements of academic cooperation with American, European and Arab Universities (IUG Website, 2012).

3.4.1.3 Organizational Structure

IUG is supervised and run by several bodies: Board of Trustees, University Council, Academic Council, Faculty Councils, and Department Councils. In addition to taking decision, these bodies are responsible for planning and administering the entire activities in the university (IUG Website, 2012).

3.4.1.4 Workers at the Islamic University

Table (3.2) shows the number of members of the academic body and members of the administrative body, with reference to that, a number of members of the academic body hold administrative positions.

Table (3.2)
Distribution of workers at IUG

Members of the academic body													
Professor		Associate Professor		Assistant professor		Lecturer		Teacher		Teaching Assistant		Total	
Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
63	2	74	2	127	4	10	1	59	25	19	8	352	42
Members of the administrative body													

Continued Table (3.2)

Manager		Acting Director		Deputy Director		Head of Department		Administrative		Secretary		Total	
Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
23	--	14	--	8	2	27	3	54	25	63	3	189	33
Academics holding administrative positions													
President		Dean		Vice Dean		Head of Department		Supervisor of Graduate Studies		Manager		Total	
Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
1	--	19	--	18	2	51	1	8	1	4	--	101	4
President's Deputies and Assistants													
Academic Vice		Administrative Vice		Academic assistant vice		Administrative assistant vice		Vice President for External Affairs		Assistant of Vice President for External Affairs		Vice President for IT Affairs	
Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
1	--	1	--	2	1	2	--	1	--	1	--	1	--
Vice President for Scientific Research		Assistant of Vice President for Scientific Research		Scientific Research Coordinator								Total	
Males	Females	Males	Females	Males	Females							Males	Females
1	--	1	--	1	--							12	1
Total												Males	Females
Total												553	76
Total												629	

Source: Personnel Unit - Islamic University of Gaza, 2013

3.4.2 Al-Azhar University – Gaza

3.4.2.1 Introducing Al-Azhar University

Al-Azhar University - Gaza is a Palestinian public, independent, non-profit, higher education institution, designed to meet the needs of the Palestinian and Arab community of qualified human resources in different cognitive specialties, scientific research, and sustainable development with a focus on employing modern techniques in the collection of science and knowledge, and maintain the authenticity of the Palestinian heritage and the Arab and Muslim world, and adherence to the principles of democracy and human rights, and the values of justice and equality, and to abide by the rule of law, transparency, tolerance, respect and non-discrimination, diversity, and community partnership.

Al-Azhar University was established in 1991 by decision of the Palestine Liberation Organization. The university began with faculties of Sharia and Law, and Education. In 1992 was the establishment of four other colleges, pharmacy, agriculture, arts and humanities, and then a seventh college added in 1993, Economics and Administrative Sciences, and in 1997 was the establishment of the Faculty of Applied Sciences, then the faculty of Medicine was opened in 1999, and in 2001 was the opening of the faculty of Computer and Information Technology (Al.-Azhar University Manual, 2011).

Thousands of Palestinian students have joined Al-Azhar University-Gaza pursuing studies in different academic fields, and acquiring Palestinian values to help them take part in the construction of their own state. In nineteen years of its life, the University has twelve faculties. Besides, the university comprises educational centers, which can meet the needs of the Palestinian community, and help its youth majoring in diverse and fruitful fields of post-graduate knowledge.

Moreover, the University has established postgraduate study programs towards a Master Degree in Pharmacy, Arts, Mediterranean Studies, Law, Education, Agriculture, Water Sciences and Environment, Statistics, Accounting, Business Administration, Economic, Political Sciences, Chemistry, Biology and Mathematics (Al-Azhar University - Gaza website, 2012).

3.4.2.2 Workers at Al-Azhar University

Table (3.3) shows the number of members of the academic body and members of the administrative body, with reference to that, a number of members of the academic body hold administrative positions.

Table (3.3)
Distribution of workers at Al-Azhar University

Members of the academic body													
Professor		Associate Professor		Assistant professor		Lecturer		Teacher		Teaching Assistant		Total	
Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
8	--	38	4	124	14	107	23	12	4	--	--	289	45
Members of the administrative body													

Continued Table (3.3)

Manager		Acting Director		Deputy Director		Head of Department		Administrative		Secretary		Total	
Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
12	6	--	--	1	1	19	12	46	32	8	20	86	71
Academics holding administrative positions													
President		Dean		Vice Dean		Head of Department		Supervisor of Graduate Studies		Manager		Total	
Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
1	--	12	--	11	--	24	2	1	--	6	--	55	2
President's Deputies and Assistants													
Academic Vice		Administrative Vice		Academic assistant vice		Administrative assistant vice		President's Assistant for Cultural Affairs		President's Assistant for Development and Community Service		Total	
Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
1	--	1	--	3	--	1	--	1	--	1	--	8	1
Total												Males	Females
Total												375	116
Total												491	

Source: Personnel Unit - Al-Azhar University -Gaza, 2011

3.4.3 Al-Aqsa University – Gaza

3.4.3.1 Introducing Al-Aqsa University

Al-Aqsa University is an academic Arab Palestinian institution. It's the first of higher education established in Gaza Strip. Back to 1955, the university grown until become a member of the Arab universities and Palestinian Higher Education Council.

Al-Aqsa University was adopted by a presidential decree on 21 December 2001 as a Palestinian governmental higher education institution in Gaza governorates. It is independent institution scientifically and academically, according to each of the Higher Education Act No. 11 of 1998, and the regulations issued thereunder by the Ministry of Higher Education.

Since established, the university managed to build the capacity of students to be able to lead their communities and be responsible and play an active role in decision making through democratic and transparent channels.

Over the last 15 years the university played a crucial role in the field of community development specially human resource development. This can be seen from the

various programs and activities incorporated with the local institutions and NGOs in the field of Information Technology, scientific research, management, economy media and sport (Al-Aqsa University website, 2012).

The University aims to prepare humans provider with knowledge, skills, values, and has the ability to continuous learning, and employing information technology through capacity-building programs, university education, and scientific research.

Al-Aqsa University is committed to achieve its vision of Arab culture, Islamic, and the principles of human rights, which include responsibility, transparency, respect, tolerance, and justice. (Equality, empowerment and participation of stakeholders). The university contains 7 main colleges: Applied Science, Humanity, Science, Fine Arts, Business Management, and Sport (Al-Aqsa University website, 2012).

3.4.3.2 Workers at Al-Aqsa University

Table (3.4) shows the number of members of the academic body and members of the administrative body, with reference to that, a number of members of the academic body hold administrative positions.

Table (3.4)
Distribution of workers at Al-Aqsa University

Members of the academic body													
Professor		Associate Professor		Assistant professor		Lecturer		Teacher		Teaching Assistant		Total	
Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
8	--	40	5	149	17	135	26	11	6	--	--	343	54
Members of the administrative body													
Manager		Acting Director		Assistant Director		Head of Department		Administrative		Secretary		Total	
Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
12	5	1	--	1	--	18	13	22	16	7	21	61	55
Academics holding administrative positions													
President		Dean		Vice Dean		Dean assistant		Head of Department		Manager		Total	
Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
1	--	13	1	1	--	7	1	32	2	6	--	60	4

Continued Table (3.4)

President's Deputies and Assistants													
Academic Vice		Administrative Vice		Academic assistant vice		Administrative assistant vice		Vice President for IT Affairs		Assistant of Vice President for IT Affairs		Total	
Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
1	--	1	--	3	--	2	--	1	--	1	--	9	--
Total												Males	Females
												413	109
												522	

Source: Personnel Unit - Al-Aqsa University -Gaza, 2013

3.5 Universities and Information Overload

Universities are centers of science and evolution and the development of knowledge, science and skills, as well as the sources of innovation and creativity, including elite thinkers and scientists, including run laboratories, libraries and research centers, and practiced activities and research and educational activities, they do take place of the mind in the body of society (Hassan, 1990).

The importance of universities based on the importance of the role that play in the lives of nations and peoples, including developed and developing alike, they are responsible for the dissemination of science and knowledge in the community to stand up and lead, including graduate specialized cadres lead the process of development of all economic, social and cultural activities. Universities so is the mind of the community, who leads his footsteps in the direction of progress and development, which is his conscience guided in its march towards goodness and truth (Al-Sbakhi, 1994).

The university occupies an important place in the community to live up to the degree level of leadership among other institutions, it also occupies paramount importance in any education system, especially with regard to the preparation of scientific skilled manpower who are capable of leading the movement of life in the community. The increased importance of universities in the modern era that has become the mainstay in the formation of overall development plans and development. The university cadres considered of the basic components of the successful university educational work, they do not provide educational services and graduate students only, but hones personalities of students and affect the course of their lives, even after graduation and entering the realm of life and join a regulatory or institutional, and given the

importance enjoyed by universities in any society, it was necessary to provide it with a suitable working environment characterized by stability and psychological comfort which ultimately leads to excellence service (Othman, 2003).

The research revealed the presence of many of the problems faced by the Palestinian universities at the present time (Othman, 2003), and because the existence of such problems creates an atmosphere of tension and stress within universities which may have a negative impact on the functioning of the educational process and the performance and productivity directly, and because stresses and strains in the work environment are from sources related directly to work, individuals or external environment factors affecting individuals and institutions. So the problem of this research identified to examine the impact of information overload on management in universities of Gaza.

The employee spends most of his/her time at work, and sometimes under the influence of the work requirements the employee increases working hours, to accomplish some of the tasks that are relevant to the work. In addition, to that work does not end at the end of the official working hours, the employee holds the concerns and the suffering of his work with him to the house, Which means that the pressure employee exposed to in his work affecting his family life (Al-Mish'an, 1998).

Most of us know, at least anecdotally, that there is far more information flowing into our lives than we could possibly ever process. Information flowing in from the multitude of devices, organisations, and technologies distracts, pressures, and stresses us. And yet we continue to produce information for ourselves and for others. Every time we send out information, information returns to us, usually two-fold. We deal with both interruptive and non-interruptive information every day. When constantly interrupted with that information, we never have those periods of time when you can think, plan and ponder. As a result, our ability to push our lives and our institutions forward has been greatly compromised (Houghton-Jan, 2008).

To survive in the workplace or simply to function in the society we are obliged to assimilate a huge amount of information (Salim, 2003).

Managers are confronted increasingly with an information flood which provides more information than managers are able to process. This results in an information overload, which, while being advantageous, also carries considerable problems (Meyer, 1998).

Information overload is having an excess of information that makes it difficult to conclude, decide, learn, and remain informed about a topic. It is a common situation in business and is more recently often referred to in conjunction with various forms of information technology. Many academics, corporate decision-makers, and federal policy-makers recognize the magnitude and growing impact of this phenomenon. Increasing rate of new information being produced, too much duplication and transmission of data and information, more channels of incoming information (telephone, e-mail, instant messaging), large amounts of extraneous information to dig through, contradictions and inaccuracies in available information and lack of a method for comparing and processing different kinds of information causes information overload (Joe, 2008).

The reason that concerns about information overload has become so prevalent in today's world is explained by the complexities of the communications systems available to human beings. Instant communication is available by e-mail, cell phones, text messaging, instant messaging. Added to that, are the thousands of academic journals on the Internet, and even more information freely distributed through blogs and amateur web sites. When all that is considered, information is being exchanged at rates never before experienced. Further, when considering these sources, much of the information being presented may not be original. As a result, many times the reader or viewer will spend time going over data already received from other sources. If there are discrepancies, or even small differences in the way the information is presented, this could create confusion, leading an individual to feel overwhelmed (Black, 2013).

Pressures -as psychological phenomenon- are on the rise among staff in the organizations of modern times because of what witnessing the contemporary world in the knowledge and Informatics revolution as a result of modern technological advances, which played a major role in achieving human well-being, by contrast, we may pay the tax of progress of increasing in the complexity of our daily lives and therefore rampant mental and physical diseases that threaten human life (Al Mish'an, 1998).

Increasing pressures imposed by the work environment with the increasing technological advances and global competition, we are working longer hours to manage our business and firmly grasp our jobs and we travel more we meet

customers, suppliers and allies and analyze competitors, and take work home because of a blessing or a curse technology that has enabled us to continue to work from anywhere and at any time (Al-Samawey, 1998). These pressures have made individual lives anxiety and tension and emotion, thus affecting his functional tasks and duties, his relationship with the employees in the organization, as well as his health and body (Al-Amyan, 2002), which leaves psychological and social impact on us first, and second on the institution then the society in which we live in general (Al-Samawey, 1998).

CHAPTER 4

Research Methodology

4.1 Introduction

4.2 Research Methodology

4.3 Research Population

4.4 Research Sample

4.5 Questionnaire Design and Content

4.6 Procedures for the Application of the Study

4.7 Evaluation of the Research

4.1 Introduction

This chapter addresses the research methodology and deals with the data collection process. Also it defines the research population and sample. The questionnaire design and content used in this research was shown. Each step in the questionnaire distribution, the validity and reliability of questionnaire, data gathering procedures, and the procedures of statistical analysis are discussed in this chapter.

4.2 Research Methodology

The descriptive analytical approach was used in conducting the research for being one of the most widely used approach to the study of social and humanitarian phenomena (Mekdad and Al-Farra, 2004). This section presents the procedures conducted in this research and answers the research questions. In order to achieve the objectives of the research, two sources of data were relied on:

4.2.1 Research Duration

This research was conducted from October 2012 to June 2013. The questionnaires were distributed from 15 March to 20 April 2013.

4.2.2 Research Location

The study was applied at the Islamic University (IUG), Al-Azhar University and Al-Aqsa University of Gaza as a case study for the Palestinian higher education institutions in Gaza Strip.

4.2.3 Data Collection

4.2.3.1 Secondary Data

Secondary data was collected from articles from various fields of study, such as psychology, computer science, information system management, marketing, organizational studies and accounting, as well as library and information science.

In this research, different types of secondary data resources were used. These resources are to introduce the theoretical literature of the research topic.

The aim of the use of secondary data sources in the research is to identify the correct principles and scientific methods in writing scientific researches, as well as taking a general perception about the latest developments that have occurred and occur in the field of the research. These resources are as the following:

- Books and references in English about Information Overload and related topics.
- Scientific journals and academic magazines.
- Electronic Databases such as Emerald, ScienceDirect and others.
- Periodicals, articles, published papers and previous studies in different countries which have been conducted on the same subject.
- Published reports.
- Internet sites and the available electronic versions.

4.2.3.2 Primary Data

Primary data are to analyze the qualitative and quantitative characteristics of the phenomena of Information Overload.

Primary data were collected through a questionnaire designed to collect data and information. This questionnaire is the main tool for the research, and was distributed to the research sample.

The data which collected from the questionnaire survey analyzed using descriptive statistics capability of the SPSS (Statistical Packages for Social Science) program to calculate ratios and use appropriate statistical tests in order to process the raw data and to transfer them to useful information that can be interpreted to reach connotations and valuable indicators support the subject of the study.

4.2.3.3 Personal interviews

In order to identify the reality of the problem of information overload in the universities targeted by the study, the researcher conducting field interviews with a number of managers at these universities, where the researcher have developed an

integrated picture of the reality of these universities with regard to the problem of information overload, which contributed to the enrichment of the research and guide the researcher to effectively achieve the desired results of the research.

4.3 Research Population

The research population consists of all administrative and academic administrative staff working in the Islamic University, Al-Azhar University and Al-Aqsa University in Gaza, totaled (434) employees from the three universities were classified as (195) in IUG, (116) in Al-Azhar University and (123) in Al-Aqsa University, but the academics, administrative and secretarial were excluded due to lack of direct influence on the subject of the research.

4.4 Research Sample

A stratified random sample representative of the research population was used. An exploratory sample of 30 questionnaires were distributed to verify the validity and reliability of the questionnaire.

After confirming the validity and reliability of the questionnaire, 207 questionnaires was self-distributed to the research population, 207 questionnaires valid for statistical analysis were retrieved to identify a recovery percentage of 100%.

The appropriate sample size was calculated using the following site: www.surveysystem.com/sscalc.htm (Moore, McCabe, Duckworth and Sclove, 2003).

Calculation of the target population:

$$n = \left(\frac{z}{2m} \right)^2 \quad (1)$$

$$Z = 1.96 \text{ at } \alpha = 0.05 / M = \pm 0.05$$

$$n = \left(\frac{1.96}{2 \times 0.05} \right)^2 \cong 384$$

$$n_{modified} = \frac{n N}{N+n-1} \quad (2)$$

As the research population = 434, the target population is 207 according to formula (2) (iSixSigma, 2013)

Table (4.1) shows the distribution of the members of the research population and sample.

Table (4.1)
The research population and sample

Category	Population	Sample	Percentage
Managers in IUG	195	93	47.1%
Managers in Al-Azhar University	116	56	48.2%
Managers in Al-Aqsa University	123	58	47.2%
Total	434	207	47.7%

4.5 Questionnaire Design and Content

After reviewing the literature, the questionnaire was found to be the most appropriate tool. The questionnaire was designed in English (see Appendix A), and then translated into Arabic language (see Appendix B).

The questionnaire survey was chosen as one method of primary data collection. The main reasons for selecting the questionnaire as a research instrument include: questionnaires are relatively inexpensive. Secondly the analysis of the data is relatively uncomplicated. Thirdly, it is confidential. Fourthly it is possible to survey a large population in a short period of time. Finally, it is an easy mean to contact respondents. A questionnaire provides reliable information as respondents are more likely to answer questions truthfully when their identity is undisclosed.

The questionnaire was provided with a cover letter which explained the purpose of this research, the way of responding, the aim of the research and the privacy of the information in order to encourage high response. The questionnaire is composed of two parts as following:

Part I: Demographic Information

This Consists of the general characteristics of the research population and consists of (14) paragraphs, are:

- a. Gender.
- b. Age.
- c. highest Academic Education level Completed.
- d. Academic Education Major-Area-of-Study.
- e. years of Work Experience.
- f. Managerial level.
- g. job category.
- h. Place of work.
- i. College/ Department you work in.
- j. Time in current administrative position.
- k. Daily work hours.
- l. Have overtime work hours.
- m. The number of daily overtime hours.
- n. Sources used to find information.

Part II: This part consists of (58) paragraphs to collect information distributed on five main fields as follows:

- The effect of information overload on the fulfillment of job responsibilities, consists of (14) statements.
- The effect of information overload on planning, consists of (7) statements.
- The effect of information overload on the Occurrence of stress, consists of (14) statements.
- The effect of Personal information management on information overload, consists of (18) statements.
- The effect of Individual factors on information overload, consists of (5) statements.

4.6 Procedures for the Application of the Study

After reviewing the literature and previous studies of the problem in-depth, a questionnaire was built according to the following steps:

- a. Prepare a preliminary questionnaire for use in the collection of data and information.
- b. Submit the questionnaire to the supervisor in order to test its suitability for the collection of data and modify it if the need arises.
- c. Evaluate the questionnaire by a number of experts in the field from different universities (Islamic University and Al-Azhar University), who in turn advise and counseling, modify and delete what it takes.
- d. Make adjustments recommended by the arbitrators where some of the paragraphs were deleted, and modified, where the number of paragraphs of the questionnaire after the final formulation was (72) paragraph, And Appendix A shows the questionnaire in its final form.
- e. Conducting an exploratory preliminary study for the questionnaire of (30) members of the research population in order to examine the validity and reliability of the questionnaire.
- f. Distribute the questionnaire to all members of the research sample to collect the necessary data for the research.

4.7 Evaluation of the Research

Selection of instrument affects the validity and reliability of the research, in the following sections the research will be evaluated based on the validity and reliability of the questionnaire that used as a research instrument.

4.7.1 Data Measurement

In order to be able to select the appropriate method of analysis, the level of measurement must be understood. For each type of measurement, there is/are an appropriate method/s that can be applied and not others. In this research, ordinal scales were used. Ordinal scale is a ranking or a rating data that normally uses

integers in ascending or descending order. The numbers assigned to the important (1,2,3,4,5) do not indicate that the interval between scales are equal, nor do they indicate absolute quantities. They are merely numerical labels. Based on Likert scale we have the following:

Item	Strongly agree	Agree	Moderately agree	Disagree	Strongly Disagree
Scale	5	4	3	2	1

4.7.2 Statistical Analysis Tools

In order to be able to select the appropriate method of analysis, the level of measurement must be understood. For each type of measurement, there are appropriate methods that can be applied and not others.

Both qualitative and quantitative data analysis methods would use. The Data analysis will be made utilizing (SPSS 20). The following statistical tools would utilize:

- 1) Kolmogorov-Smirnov test of normality.
- 2) Pearson correlation coefficient for Validity.
- 3) Cronbach's Alpha for Reliability Statistics.
- 4) Frequency and Descriptive analysis.
- 5) Parametric Tests (One-sample T test, Independent Samples T-test, The One- Way Analysis of Variance (ANOVA)).

- **T-test** is used to determine if the mean of a paragraph is significantly different from hypothesized value 3 (Middle value of Likert scale). If the P-value (Sig.) is smaller than or equal to the level of significance, $\alpha = 0.05$, then the mean of a paragraph is significantly different from a hypothesized value 3. The sign of the Test value indicates whether the mean is significantly greater or smaller than the hypothesized value 3 (If the sign is positive then the mean is significantly greater than the hypothesized value 3, and vice versa). On the other hand, if the P-value (Sig.) is greater than the level of significance $\alpha = 0.05$, then the mean of a paragraph is insignificantly different from a hypothesized value 3.

- *The Independent Samples T-test* is used to examine if there is a statistical significant difference between two means among the respondents toward "the impact of Information Overload on the management in the workplace" due to:
 - Gender.
 - Job Category.
 - You have Overtime work hours?
 - Number of Daily Overtime Hours.

- *The One- Way Analysis of Variance (ANOVA)* is used to examine if there is a statistical significant difference between several means among the respondents toward "the impact of Information Overload on the management in the workplace" due to:
 - Age.
 - Education level.
 - Academic Education Major-Area-of-Study.
 - Years of Work Experience.
 - Managerial level.
 - Place of work.
 - College/ Department you work in.
 - Time in current position.
 - Daily Work Hours.

4.7.3 Test of Normality for Each Dimension

Table (4.2) shows the results for Kolmogorov-Smirnov test of normality.

Table (4.2)
Kolmogorov-Smirnov test

Dimension	Kolmogorov-Smirnov	
	Statistic	P-value
Fulfillment of job responsibilities	0.982	0.868
Planning	0.942	0.104
Occurrence of stress	0.982	0.874
Personal information management	0.981	0.860
Individual factors	0.951	0.181
All paragraphs of the questionnaire	0.990	0.990

From Table (4.2), the p-value for each dimension is greater than 0.05 level of significance, then the distribution for each dimension is normally distributed. Consequently, Parametric tests will be used to perform the statistical data analysis.

4.7.4 Validity of Questionnaire

Validity refers to the degree to which an instrument measures what it is supposed to be measuring. Validity has a number of different aspects and assessment approaches. Statistical validity is used to evaluate instrument validity, which includes internal validity and structure validity.

4.7.4.1 Internal Validity

Internal validity of the questionnaire is the first statistical test that used to test the validity of the questionnaire. It is measured by a scouting sample, which consisted of 30 questionnaires through measuring the correlation coefficients between each paragraph in one dimension and the whole dimension.

Table (4.3)
Correlation Coefficient of Each Paragraph of " Fulfillment of Job Responsibilities" and the Total of this Dimension

No.	Paragraph	Pearson Correlation Coefficient	P-Value (Sig.)
1.	You spend too much time looking for information.	.539	0.001*
2.	You are dealing with too much current information more than you can handle.	.637	0.000*
3.	There is a need for a large amount of information where it is necessary to support decisions.	.387	0.017*
4.	There is a lot of information that must be managed daily and this makes it difficult for you to prioritize tasks.	.667	0.000*
5.	Information overload adversely affect the implementation of administrative decisions and follow-up.	.750	0.000*
6.	You are fully incapable of dealing with all the information related to work and making decisions within the period specified to perform the work.	.330	0.038*

Continued Table (4.3)

7.	Decisions were delayed because of information overload.	.803	0.000*
8.	Information overload adversely affects the communication skills with others.	.770	0.000*
9.	Information overload adversely affects the efficiency and effectiveness of the work.	.836	0.000*
10.	Your workload mainly comes from the information load you have to deal with at work.	.812	0.000*
11.	Information collection distracts managers from their main responsibilities.	.529	0.001*
12.	You constantly check your email, Twitter or other online service because you are afraid that if you don't, you will become so far behind that you will never catch up.	.470	0.004*
13.	You have email messages sitting in your inbox more than 6 months old that are "pending" further action or unread.	.615	0.000*
14.	You find yourself easily distracted by online resources that allow you to avoid other, pending work.	.456	0.006*

* Correlation is significant at the 0.05 level

Table (4.3) clarifies the correlation coefficient for each paragraph of the "Fulfillment of job responsibilities" and the total of the dimension. The p-values (Sig.) are less than 0.05, so the correlation coefficients of this dimension are significant at $\alpha = 0.05$, so it can be said that the paragraphs of this dimension are consistent and valid to be measure what it was set for.

Table (4.4)
Correlation Coefficient of Each Paragraph of " Planning " and the Total of this Dimension

No.	Paragraph	Pearson Correlation Coefficient	P-Value (Sig.)
1.	Information overload adversely affect the achievement of the basic tasks required for planning.	.882	0.000*
2.	Managers find it difficult to develop strategies for dealing with the information they retrieve, which negatively affects the planning process.	.765	0.000*
3.	Information overload adversely affect the analysis of the work environment and the resources available to achieve the goals.	.897	0.000*
4.	Information overload adversely affect the workflow in the direction of achieving the goals.	.926	0.000*
5.	Information overload adversely affect the	.745	0.000*

Continued Table (4.4)

	preparation of plans and administrative procedures and operational programs.		
6.	Information overload make you feel like you can't keep up with all the new developments in your area of expertise, which negatively affects the planning process.	.427	0.009*
7.	There is a potential increase in productivity if all distractions were removed.	.744	0.000*

* Correlation is significant at the 0.05 level

Table (4.4) clarifies the correlation coefficient for each paragraph of the " Planning" and the total of the dimension. The p-values (Sig.) are less than 0.05, so the correlation coefficients of this dimension are significant at $\alpha = 0.05$, so it can be said that the paragraphs of this dimension are consistent and valid to be measure what it was set for.

Table (4.5)
Correlation Coefficient of Each Paragraph of " Occurrence of stress " and the Total of this Dimension

No.	Paragraph	Pearson Correlation Coefficient	P-Value (Sig.)
1.	Information overload contributes to the tension and make you suffer from stress.	.769	0.000*
2.	information load relevant to work make you feel tired and burdened.	.762	0.000*
3.	You experience frustration at the amount of electronic information you need to process daily.	.755	0.000*
4.	Attribute ill-health to this stress and burdens?	.773	0.000*
5.	Information overload lead to tension with colleagues.	.685	0.000*
6.	You have to cancel social activities as a result of information overload ?	.580	0.000*
7.	You feel very tired and need leisure activities.	.740	0.000*
8.	The working environment tends to be extremely stressful.	.670	0.000*
9.	Stress levels in the next two years, generally expecting that "the working environment will be far more stressful".	.858	0.000*
10.	When you open your email client, it make you feel anxious about the work that you don't have time to do.	.551	0.001*
11.	You get anxious if you are away from the Internet for too long.	.651	0.000*
12.	The only time you're off line is when you are sleeping.	.689	0.000*

Continued Table (4.5)

13.	You frequently forget information you need to know.	.580	0.000*
14.	You feel that you often cannot concentrate.	.640	0.000*

* Correlation is significant at the 0.05 level

Table (4.5) clarifies the correlation coefficient for each paragraph of the " Occurrence of stress " and the total of the dimension. The p-values (Sig.) are less than 0.05, so the correlation coefficients of this dimension are significant at $\alpha = 0.05$, so it can be said that the paragraphs of this dimension are consistent and valid to be measure what it was set for.

Table (4.6)
Correlation Coefficient of Each Paragraph of " Personal Information Management " and the Total of this Dimension

No.	Paragraph	Pearson Correlation Coefficient	P-Value (Sig.)
1.	I find it easier to store and retrieve information using a computer.	.416	0.011*
2.	I find it easier to store and retrieve information using a paper filing system.	.400	0.014*
3.	I have no preference between electronic and paper storage/retrieval systems.	.471	0.004*
4.	You find it difficult to read from the computer monitor (compared to reading from a paper document).	.346	0.031*
5.	You tend to print out on-line documents so as to read them in paper format.	.368	0.023*
6.	The holding of files in different software formats contribute to spend too much time looking for information.	.434	0.008*
7.	The speed of the internet at critical times of day contribute to spend too much time looking for information.	.773	0.000*
8.	Taking training programs to augment your information literacy and information processing skills make it easier for you to overcome your feeling of information overload.	.525	0.001*
9.	Improving your personal information management skills make it easier for you to overcome your feeling of information overload.	.620	0.000*
10.	Select the appropriate media for obtaining the task information make it easier for you to overcome your feeling of information overload	.309	0.048*
11.	Employ tools that enable and assist with understanding and use of the information make it easier for you to overcome your feeling of	.366	0.023*

Continued Table (4.6)

	information overload.		
12.	Employ an approach that defines specific, clear goals for use of the information make it easier for you to overcome your feeling of information overload.	.325	0.040*
13.	You subscribed to so many blogs that you can't read them and it makes you feel bad.	.536	0.001*
14.	You feel that you have to read word for word all information that comes into your email box or RSS reader or Twitter.	.584	0.000*
15.	You always seeking out additional information from the Internet or friends online to support a decision or complete a project but never processing it all.	.574	0.001*
16.	You open up multiple tabs in your browser and then forget what you were going to do.	.528	0.001*
17.	Your email, Google docs or hard drive filled with "virtual piles" of information or "drafts" that haven't been processed.	.450	0.006*
18.	You are afraid to delete email or old files because you're afraid you might just need it someday.	.515	0.002*

* Correlation is significant at the 0.05 level

Table (4.6) clarifies the correlation coefficient for each paragraph of the "Personal information management" and the total of the dimension. The p-values (Sig.) are less than 0.05, so the correlation coefficients of this dimension are significant at $\alpha = 0.05$, so it can be said that the paragraphs of this dimension are consistent and valid to be measure what it was set for.

Table (4.7)
Correlation Coefficient of Each Paragraph of "Individual Factors" and the Total of this Dimension

No.	Paragraph	Pearson Correlation Coefficient	P-Value (Sig.)
1.	You feel need to collect information to keep up with colleagues.	.823	0.000*
2.	Improving your information screening skills make it easier for you to overcome your feeling of information overload.	.799	0.000*
3.	Improving your personal time management skills and techniques make it easier for you to overcome your feeling of information overload.	.831	0.000*
4.	Increase the number of years of work experience helps overcome information overload.	.623	0.000*
5.	Improving your academic level of education will help overcome the information overload.	.646	0.000*

* Correlation is significant at the 0.05 level

Table (4.7) clarifies the correlation coefficient for each paragraph of the "Individual factors" and the total of the dimension. The p-values (Sig.) are less than 0.05, so the correlation coefficients of this dimension are significant at $\alpha = 0.05$, so it can be said that the paragraphs of this dimension are consistent and valid to be measure what it was set for.

4.7.4.2 Structure Validity of the Questionnaire

Structure validity is the second statistical test that used to test the validity of the questionnaire structure by testing the validity of each dimension and the validity of the whole questionnaire. It measures the correlation coefficient between one dimension and all the dimensions of the questionnaire that have the same level of likert scale.

Table (4.8)
Correlation Coefficient of Each Dimension and the Whole of Questionnaire

No.	Dimension	Pearson Correlation Coefficient	P-Value (Sig.)
1.	Fulfillment of job responsibilities	.839	0.000*
2.	Planning	.823	0.000*
3.	Occurrence of stress	.913	0.000*
4.	Personal information management	.767	0.000*
5.	Individual factors	.596	0.000*

* Correlation is significant at the 0.05 level

Table (4.8) clarifies the correlation coefficient for each dimension and the whole questionnaire. The p-values (Sig.) are less than 0.05, so the correlation coefficients of all the dimensions are significant at $\alpha = 0.05$, so it can be said that the dimensions are valid to be measured what it was set for to achieve the main aim of the research.

4.7.5 Reliability of the Research

The reliability of an instrument is the degree of consistency which measures the attribute; it is supposed to be measuring (Polit and Hungler, 1985). The less variation an instrument produces in repeated measurements of an attribute, the higher its reliability. Reliability can be equated with the stability, consistency, or dependability of a measuring tool. The test is repeated to the same sample of people on two

occasions and then compares the scores obtained by computing a reliability coefficient (Polit and Hungler, 1985).

4.7.5.1 Cronbach's Coefficient Alpha

This method is used to measure the reliability of the questionnaire between each dimension and the mean of the whole dimensions of the questionnaire. The normal range of Cronbach's coefficient alpha value between 0.0 and + 1.0, and the higher values reflects a higher degree of internal consistency. The Cronbach's coefficient alpha was calculated for each dimension of the questionnaire.

Table (4.9)
Cronbach's Alpha for Each Dimension of the Questionnaire

No.	Dimension	Cronbach's Alpha
1.	Fulfillment of job responsibilities	0.837
2.	Planning	0.780
3.	Occurrence of stress	0.862
4.	Personal information management	0.708
5.	Individual factors	0.683
	All paragraphs of the questionnaire	0.936

Table (4.9) shows the values of Cronbach's Alpha for each dimension of the questionnaire and the entire questionnaire. For the dimensions, values of Cronbach's Alpha were in the range from 0.683 and 0.862. This range is considered high; the result ensures the reliability of each dimension of the questionnaire. Cronbach's Alpha equals 0.936 for the entire questionnaire which indicates an excellent reliability of the entire questionnaire.

Thereby, it can be said that the questionnaire was proved valid, reliable, and ready for distribution for the population sample.

Chapter 5

Data Analysis and Discussion

5.1 Introduction

5.2 Demographic Data

5.3 Statistical Analysis for Each Dimension Of the Questionnaire

5.4 Analyzing Hypotheses

5.1 Introduction

This research was designed to respond to the study objectives and to test the hypotheses stated in chapter one. This chapter presents the demographic data, the discussion and interpretation of the data collected by the questionnaire and the hypothesis testing. The findings that respond to these objectives were discussed and compared to the findings in the previous studies.

5.2 Demographic Data

5.2.1 Gender

Table (5.1) shows the gender distribution among the sample.

Table (5.1)
Gender

Gender	Frequency	Percent
Male	179	86.5
Female	28	13.5
Total	207	100.0

Table (5.1) shows that 86.5% of the sample are Males and 13.5% of the sample are Females.

According to Personnel Affairs of the universities surveyed the majority of employees are males and the decision making positions in the university are also headed by males. Regarding to Palestinian Central Bureau of Statistics PCBS 2011, the females' contributions in the workforce are limited, and males' contributions exceed 4 times the females' contributions (Palestinian Central Bureau of Statistics, 2011). This is due to:

- Work chances are more for males than females.
- The women work fields are limited.
- The society culture is an essential reason in decreasing the women contribution in work.
- Women obligations and responsibilities toward their homes and families.

Table (5.2) shows the distribution of the number of males and females in the research population.

Table (5.2)
Males and Females in the Research Population

Category	Population	
	Male	Female
Managers in IUG	185	10
Managers in Al-Azhar University	95	21
Managers in Al-Aqsa University	101	22
Total	381	53

Table (5.3) shows gender in the research sample compared with the research population.

Table (5.3)
Gender in the Research Sample Compared with the Research Population

Gender	Population	sample	Percentage
Male	381	179	47%
Female	53	28	53%
Total	434	207	

Male surveyed were 47% of the total male population, where female surveyed were 53% of the total female population.

Male surveyed were 41.2% of the total population, where female surveyed were 6.5% of the total population.

5.2.2 Age

Table (5.4) shows the age distribution among the sample.

Table (5.4)

Age	Frequency	Percent
25 to 29	13	6.3
30 to 39	59	28.5
40 to 49	82	39.6
50 or more	53	25.6
Total	207	100.0

The results in table (5.4) show that the respondents are from different categories of age. The largest group of the sample population is between 40 and 49 years of age (39.6%).

5.2.3 Education Level

Table (5.5) shows Education Level distribution among the sample.

**Table (5.5)
Education Level**

Education level Completed	Frequency	Percent
Diploma	4	1.9
Bachelor	66	31.9
Master	40	19.3
Doctorate or more	97	46.9
Total	207	100.0

Table (5.5) shows that 1.9% of the sample are Diploma holders, where the largest group of the sample population is Doctorate or more holders (46.9%).

From the researcher point of view, this distribution of high education level is due to the nature of working in academic institution. These qualifications are of the main requirement to work in this sector. This refers that the Palestinian society interests in education and high education degrees.

The researcher attributes the low rate of the Diploma to the strong competition they face from those of higher scientific qualifications, whose number is constantly increasing. This, in turn, constitutes an incentive for the diploma category to gain experience, knowledge and join to training programs as well as they complete their studies to obtain higher scientific degrees.

5.2.4 Academic Education Major-Area-of-Study

Table (5.6) shows academic education major-area-of-study distribution among the sample.

Table (5.6)
Academic Education Major-Area-of-Study

Your Academic Education Major-Area-of-Study	Frequency	Percent
Arts	29	14.0
Sciences	31	15.0
Applied Science	53	25.6
Social Sciences	72	34.8
Medical Sciences	11	5.3
Other	11	5.3
Total	207	100.0

The results in table (5.6) show that the respondents have different education major-area-of-study, and the largest group of the sample education major area of study is Social Sciences (34.8%).

5.2.5 Years of Work Experience

Table (5.7) shows years of work experience distribution among the sample.

Table (5.7)
Years of Work Experience

Your years of Work Experience	Frequency	Percent
0 to 1	–	–
2 to 4	9	4.3
5 to 9	36	17.4
10 to 15	58	28.0
16 to 19	53	25.6
20 to more	51	24.6
Total	207	100.0

The largest group of the sample has experience between (10) and (15) years, followed by the category of years of experience between (16) and (19) years, and then the category of years of experience between (20) and more years. This is consistent with the age composition showed in table (5.4) mentioned above which also shows that the respondents are from several categories of age.

5.2.6 Managerial Level

Table (5.8) shows managerial level distribution among the sample.

Table (5.8)
Managerial Level

Managerial level	Frequency	Percent
University President / Vice and assistants	11	5.3
Dean	25	12.1
Deputy / Assistant Dean	22	10.6
Manager	38	18.4
Deputy / Assistant Manager	9	4.3
Acting Director	5	2.4
Head of administrative department	45	21.7
Head of academic department	35	16.9
Supervisor	8	3.9
Other.	9	4.3
Total	207	100.0

Table (5.8) shows that 5.3% of the sample are University President / Vice and assistants, 12.1% of the sample is Dean, 10.6% of the sample is Deputy/Assistant Dean, 18.4% of the sample is Manager, 4.3% of the sample are Deputy/Assistant Manager, 2.4% of the sample is Acting Director, 21.7% of the sample is Head of administrative department, 16.9% of the sample are Head of academic department, 3.9% of the sample is Supervisor, and 4.3% of the sample has Other managerial levels.

The results in table (5.8) show that the respondents are from different managerial levels of the three universities' employees.

5.2.7 Job Category

Table (5.9) shows job category distribution among the sample.

Table (5.9)
Job Category

Your job category	Frequency	Percent
Administrative	95	45.9
Academic administrative	112	54.1
Total	207	100.0

Table (5.9) shows that 45.9% of the sample are Administrative, and 54.1% of the sample are Academic administrative.

This percentage is consistent with the percentages in table (5.8) which shows the managerial level.

5.2.8 Place of Work

Table (5.10) shows place of work distribution among the sample.

Table (5.10)
Place of Work

Place of work	Frequency	Percent
Islamic University	93	44.9
Al-Azhar University	56	27.1
Al-Aqsa University	58	28.0
Total	207	100.0

Table (5.10) shows that 44.9% of the sample are working at the Islamic University, 27.1% of the sample are working at Al-Azhar University, and 28% of the sample are working at Al-Aqsa University.

The largest group of the sample are working at the Islamic University of Gaza which has the largest number of employees among the three universities surveyed.

5.2.9 College/ Department You Work in

Table (5.11) shows college/ department distribution among the sample.

Table (5.11)
College/ Department You Work in

College/ Department you work in	Frequency	Percent
Arts	18	8.7
Sciences	17	8.2
Applied Science	52	25.1
Social Sciences	62	30.0
Medical Sciences	13	6.3
Other	45	21.7
Total	207	100.0

Table (5.11) shows that 8.7% of the sample are working in Arts Departments, 8.2% of the sample are working in Sciences Departments, 25.1% of the sample are working in Applied Science Departments, 30.0% of the sample are working in Sciences Departments, 6.3% of the sample are working in Medical Sciences Departments, and 21.7% of the sample are working in Other Departments (Student Affairs, Deanship of

Continuing Education, Department of Stores, Admission and Registration, Technical Department, Graduate Studies, etc...).

The results show that all respondents are from different departments of the three universities' employees.

5.2.10 Time in Current Position

Table (5.12) shows time in current position distribution among the sample.

Table (5.12)
Time in the Current Position

Time in current position	Frequency	Percent
0 to 1	13	6.3
2 to 4	69	33.3
5 to 9	42	20.3
10 to 15	42	20.3
16 to 19	28	13.5
20 to more	13	6.3
Total	207	100.0

Table (5.12) shows that the greatest group of the sample have 2 to 4 years in the current position, 20.3% of the sample has 5 to 9 years in the current position and 20.3% of the sample has 10 to 15 years in the current position.

The majority of the sample (59.9%) have from 0 to 9 years in the current position and (40.1%) have from 10 to more than 20 years in the current position.

The more the time in the current position the greater the employee's ability to deal with information overload.

5.2.11 Daily Work Hours

Table (5.13) shows daily work hours distribution among the sample.

Table (5.13)
Daily Work Hours

Daily work hours	Frequency	Percent
3-5 hours	17	8.2
6-8 hours	160	77.3
More	30	14.5
Total	207	100.0

Table (5.13) shows that the majority of the sample (77.3%) have 6- 8 Daily work hours. This is a normal situation where commensurate with the work hours in educational and other institutions in Gaza Strip.

5.2.12 You Have Overtime Work Hours

Table (5.14) shows overtime work hours distribution among the sample.

Table (5.14)
You have overtime work hours

You have overtime work hours	Frequency	Percent
Yes	67	32.4
No	140	67.6
Total	207	100.0

Table (5.14) shows that the majority of the sample (67.6%) don't have overtime work hours.

5.2.13 The Number of Daily Overtime Hours

Table (5.15) shows the number of daily overtime hours distribution among the sample.

Table (5.15)
The Number of Daily Overtime Hours

The number of daily overtime hours	Frequency	Percent
2 to 4	58	89.2
5 to 7	7	10.8
More	-	-
Total	65	100.0

Table (5.15) shows that the majority of the sample (89.2%) have 2 to 4 Daily overtime work hours.

5.2.14 Sources You Use to Find Information

Table (5.16) shows sources you use to find information distribution among the sample.

Table (5.16)
Sources You Use to Find Information

What sources you use to find information	Frequency	Percent
Library's catalog	48	10.2
Internet (Free resources)	162	34.5

Continued Table (5.16)

Internet (Paid resources)	46	9.8
Electronic indexes	31	6.6
Electronic journals	76	16.2
Bookstore	96	20.4
Other	11	2.3
Total	470	100.0

Table (5.16) shows that the largest group of the sample (34.5%) use Internet (free resources) to find information.

From the researcher point of view, the Internet was the most often used to seek information by participants because of its perceived higher accessibility, convenience and ease of use than the more traditional sources of information.

The computer age has raised everyone's expectations of information access (for example, the popular phrase, "24/7"). This expectation should also lead to a preference for an electronic-based resources. The electronic format lends itself to availability beyond time and location constraints (Melgoza, Mennel and Gyeszly, 2002).

5.3 Statistical Analysis for Each Dimension of the Questionnaire

One Sample T-test was used to analyze the questionnaire paragraphs. If the P-value (Sig.) is greater than the level of significance $\alpha = 0.05$, then the null hypothesis can't be rejected and the mean of a paragraph is insignificantly different from a hypothesized value 3. If the P-value (Sig.) is smaller than or equal to the level of significance, $\alpha = 0.05$, the null hypothesis is rejected and the mean of a paragraph is significantly different from a hypothesized value 3, and the sign of the test value indicates whether the mean is significantly greater or smaller than the hypothesized value 3.

5.3.1 Analyzing the First Dimension: Fulfillment of Job Responsibilities

The first dimension discusses the "Fulfillment of job responsibilities", and consists of (14) paragraphs. The table (5.17) shows the results of using T-test to see whether the mean value had reached to the hypothesized value (3) or not.

Table (5.17)
Means and Test Values for “Fulfillment of Job Responsibilities”

	Item	Mean	Proportional mean	Test value	P-value (Sig.)	Rank
1.	You spend too much time looking for information.	3.56	71.21	9.61	0.000*	3
2.	You are dealing with too much current information more than you can handle.	3.21	64.27	3.15	0.001*	9
3.	There is a need for a large amount of information where it is necessary to support decisions.	3.99	79.81	17.20	0.000*	1
4.	There is a lot of information that must be managed daily and this makes it difficult for you to prioritize tasks.	3.09	61.84	1.33	0.093	11
5.	Information overload adversely affect the implementation of administrative decisions and follow-up.	3.48	69.57	6.92	0.000*	5
6.	You are fully incapable of dealing with all the information related to work and making decisions within the period specified to perform the work.	3.54	70.79	7.61	0.000*	4
7.	Decisions were delayed because of information overload.	2.96	59.12	-0.62	0.266	12
8.	Information overload adversely affects the communication skills with others.	3.38	67.51	5.32	0.000*	6
9.	Information overload adversely affects the efficiency and effectiveness of the work.	3.36	67.22	5.28	0.000*	7
10.	Your workload mainly comes from the information load you have to deal with at work.	3.11	62.25	1.60	0.055	10
11.	Information collection distracts managers from their main responsibilities.	3.24	64.71	3.17	0.001*	8
12.	You constantly check your email, Twitter or other online service because you are afraid that if you don't, you will become so far behind that you will never catch up.	3.81	76.18	12.57	0.000*	2
13.	You have email messages sitting in your inbox more than 6 months old that are "pending" further action or unread.	2.07	41.48	-11.46	0.000*	14
14.	You find yourself easily distracted by online resources that allow you to avoid other, pending work.	2.43	48.57	-8.73	0.000*	13
	All paragraphs of the dimension	3.23	64.63	7.20	0.000*	

* The mean is significantly different from 3

Table (5.17) shows the following results:

- The mean of the dimension “Fulfillment of job responsibilities” equals 3.23 (64.63%), Test-value = 7.20, and P-value=0.000 which is smaller than the level of significance $\alpha = 0.05$. The sign of the test is positive, so the mean of this dimension is significantly greater than the hypothesized value 3. It can be concluded that the respondents agreed to that there is a statistically significant effect of Information overload on the “Fulfillment of job responsibilities”.
- However, the paragraphs #7, #13, and #14, P-value (sig.) is smaller than the level of significance $\alpha = 0.05$, and the sign of the test is negative, so the mean of these paragraphs is significantly smaller than the hypothesized value 3. It can be concluded that the respondents disagreed to these paragraphs.

The result agreed with the following studies:

The study of Klausegger, Sinkovics, and Zou (2007), where the results of analysis of the original data provide empirical support for the negative impact of information overload on the fulfillment of job responsibilities. Two problems were cited most frequently as a consequence of information overload in the fulfillment of job responsibilities: that information collected can no longer be used efficiently (53.5% of respondents) and that the flood of information interferes with the accomplishment of core tasks (40.4%). From a managerial perspective, the reported results mean that the volume of data generated by new information technologies in recent years has had considerable negative effects on the companies and on its recipients and users, the personal and organizational consequences of which cannot be neglected.

The Reuters (1996) study, called "*Dying for information?*", find that 38% of managers surveyed waste "substantial" amounts of time just looking for information. 43% of respondents thought that decisions were delayed and otherwise adversely affected by "analysis paralysis" or the existence of too much information. 47% of respondents said that information collection distracts them from their main responsibilities. They find it difficult to develop strategies for dealing with the information they retrieve.

Farhoomand and Drury (2002) noted that individuals feeling stress, strain, and anxiety, thus threatening productivity and the adoption of new technology.

Banas (2011) noted that there are thousands of executives who spend their entire day processing reports, information, paperwork, and other data. They are never able to get down to the brass tacks of their job, and the minutia of their day to day work actually overwhelms their schedules and leaves them no time to do the things that are truly important. Despite the fact that they are eternally occupied, they are rarely able to get down to doing the things that truly matter, the things that will keep their organization running effectively. This often results in a breakdown in an organization’s structure and leadership, and this is all due to information overload.

The 2010 International Workplace Productivity Survey, commissioned by LexisNexis – a leading global provider of workflow solutions – builds on a similar survey conducted in 2008, The survey of 1,700 white collar workers in five countries – the United States, China, South Africa, United Kingdom and Australia, reveal that a majority of professionals in all markets surveyed say the combination of constant accessibility and the incessant flow of email makes it harder to focus on their work. More than eight in ten (85%) white collar workers in Australia and more than two thirds (69%) of South Africa’s professionals say the constant flow of email and other information is distracting, making it more difficult to focus on the task at hand. Six in ten workers in the U.S. (60%), U.K (62%) and China (57%) echo this sentiment.

5.3.2 Analyzing the Second Dimension: Planning

The second dimension discusses the " Planning ", and consists of (7) paragraphs. The table (5.18) shows the results of using T-test to see whether the mean value had reached to the hypothesized value (3) or not.

**Table (5.18)
Means and Test Values for “Planning”**

	Item	Mean	Proportional mean (%)	Test value	P-value (Sig.)	Rank
1.	Information overload adversely affect the achievement of the basic tasks required for planning.	3.29	65.76	4.20	0.000*	3

Continued Table (5.18)

2.	Managers find it difficult to develop strategies for dealing with the information they retrieve, which negatively affects the planning process.	3.12	62.35	1.82	0.035*	6
3.	Information overload adversely affect the analysis of the work environment and the resources available to achieve the goals.	3.28	65.59	4.32	0.000*	4
4.	Information overload adversely affect the workflow in the direction of achieving the goals.	3.26	65.20	4.02	0.000*	5
5.	Information overload adversely affect the preparation of plans and administrative procedures and operational programs.	3.34	66.73	5.22	0.000*	2
6.	Information overload make you feel like you can't keep up with all the new developments in your area of expertise, which negatively affects the planning process.	2.87	57.46	-1.77	0.039*	7
7.	There is a potential increase in productivity if all distractions were removed.	3.73	74.54	11.44	0.000*	1
	All paragraphs of the dimension	3.27	65.39	7.26	0.000*	

* The mean is significantly different from 3

Table (5.18) shows the following results:

- The mean of the dimension “Planning” equals 3.27 (65.39%), Test-value = 7.26, and P-value= 0.000 which is smaller than the level of significance $\alpha = 0.05$. The sign of the test is positive, so the mean of this dimension is significantly greater than the hypothesized value 3. It can be concluded that the respondents agreed to that there is a statistically significant effect of Information overload on “Planning”.
- However, the mean of paragraph #6 “Information overload make you feel like you can't keep up with all the new developments in your area of expertise, which negatively affects the planning process", equals 2.87 (57.46%), Test-value = -1.77, and P-value = 0.039 which is smaller than the level of significance $\alpha = 0.05$. The sign of the test is negative, so the mean of this paragraph is significantly smaller than the hypothesized value 3 . It can be concluded that the respondents disagreed to this paragraph.

The results agreed with the following studies:

Banas (2011) who claimed that those who are overloaded with information often fail to think strategically about the future, simply because they have no thought processes available beyond the immediate concerns. With so much information flooding into their consciousness, it can be hard to think ahead and plan for the future. Strategic planning is a vital part of every business, and the information overload problem facing many entrepreneurs is often the cause of the failure of their business ventures.

Zeldes (2012) claimed that information overload affects short term and long term planning of work.

Klausegger, Sinkovics, and Zou (2007) noted that Information overload has serious practical consequences for management and planning.

5.3.3 Analyzing the Third Dimension: Occurrence of Stress

The third dimension discusses the "Occurrence of stress", and consists of (14) paragraphs. The table (5.19) shows the results of using T-test to see whether the mean value had reached to the hypothesized value (3) or not.

Table (5.19)
Means and Test Values for “Occurrence of Stress”

	Item	Mean	Proportional mean (%)	Test value	P-value (Sig.)	Rank
1.	Information overload contributes to the tension and make you suffer from stress.	3.74	74.75	11.36	0.000*	2
2.	information load relevant to work make you feel tired and burdened.	3.70	74.02	11.86	0.000*	3
3.	You experience frustration at the amount of electronic information you need to process daily.	2.98	59.61	-0.30	0.384	11
4.	Attribute ill-health to this stress and burdens?	3.41	68.29	6.32	0.000*	4
5.	Information overload lead to tension with colleagues.	3.24	64.85	3.71	0.000*	6
6.	You have to cancel social activities as a result of information overload ?	3.00	60.10	0.07	0.472	10
7.	You feel very tired and need leisure activities.	3.81	76.18	12.72	0.000*	1

Continued Table (5.19)

8.	The working environment tends to be extremely stressful.	3.16	63.27	2.22	0.014*	8
9.	Stress levels in the next two years, generally expecting that “the working environment will be far more stressful”.	3.17	63.35	2.71	0.004*	7
10.	When you open your email client, it make you feel anxious about the work that you don't have time to do.	2.76	55.22	-4.00	0.000*	13
11.	You get anxious if you are away from the Internet for too long.	3.41	68.14	5.31	0.000*	5
12.	The only time you're off line is when you are sleeping.	2.63	52.55	-4.60	0.000*	14
13.	You frequently forget information you need to know.	3.06	61.18	0.89	0.186	9
14.	You feel that you often cannot concentrate.	2.89	57.84	-1.61	0.054	12
	All paragraphs of the dimension	3.21	64.21	6.06	0.000*	

* The mean is significantly different from 3

Table (5.19) shows the following results:

- The mean of the dimension “Occurrence of stress” equals 3.21 (64.21%), Test-value = 6.06, and P-value=0.000 which is smaller than the level of significance $\alpha = 0.05$. The sign of the test is positive, so the mean of this dimension is significantly greater than the hypothesized value 3. It can be concluded that the respondents agreed to that there is a statistically significant effect of Information overload on the “Occurrence of stress”.
- However, the paragraphs #3, #10, #12, and #14, P-value is smaller than the level of significance $\alpha = 0.05$. The sign of the test is negative, so the mean of this paragraph is significantly smaller than the hypothesized value 3. It can be concluded that the respondents disagreed to these paragraphs.

The result agreed with the following studies:

Zeldes (2012) noted that information overload, in addition to making employees ineffective at work, is also destroying their enjoyment, health and satisfaction in life. Banas (2011) claimed that being overloaded with information can lead to serious health problems. Information overload can lead to high blood pressure caused by stress, as well as weakened vision caused by spending too much time in front of a

computer. Frustration is often a direct result of being overloaded with information that a person can do nothing about, and confusion is another side effect of information overload.

Snooks (2009) claimed that stress is a key issue in the workplace, bearing several negative outcomes, with Information overload being a significant contributor.

The study of Klausegger, Sinkovics, and Zou (2007), where the results of analysis of the original data provide empirical support for a substantial influence of information overload on the experiencing of stress. Only a quarter of the sample had experienced it “seldom” or “never” leaving the remaining 74% reporting suffering stress either “occasionally” or “frequently”. The most commonly identified consequences of stress was “reduction in job satisfaction” reported by exactly half the sample, “tensions with other colleagues” mentioned by 47%.

The Reuters (1996) study, called *"Dying for information?"*, identified for the first time that information overload contributes to stress. Two out of three respondents associated information overload with tension with colleagues and loss of job satisfaction. 42% attributed ill-health to this stress. 61% said that they have to cancel social activities as a result of information overload and 60% that they are frequently too tired for leisure activities. The problem of coping with the information deluge is damaging their personal relationships and eroding their leisure. Many feel trapped in a vicious circle of having to stay late at the office or bring work home in the evenings and weekends. They have less time to spend with friends and family, or to relax.

Stanley and Clipshain (1997) claimed that too much information for the brain to digest leading to an inability to appraise the situation which in turn leads to feelings of extreme weariness. Consequently, the organization, is likely to suffer from poor decision making or mistakes made by the employee. For the employee the results can be increased levels of stress at work, ill-health and eventually a desire or need to leave the job.

5.3.4 Analyzing the Fourth Dimension: Personal Information Management

The fourth dimension discusses the "Personal information management", and consists of (18) paragraphs. The table (5.20) shows the results of using T-test to see whether the mean value had reached to the hypothesized value (3) or not.

Table (5.20)
Means and Test Values for “Personal Information Management”

	Item	Mean	Proportional mean (%)	Test value	P-value (Sig.)	Rank
1.	I find it easier to store and retrieve information using a computer.	4.31	86.24	26.31	0.000*	1
2.	I find it easier to store and retrieve information using a paper filing system.	2.61	52.29	-5.59	0.000*	18
3.	I have no preference between electronic and paper storage/retrieval systems.	3.54	70.84	7.02	0.000*	7
4.	You find it difficult to read from the computer monitor (compared to reading from a paper document).	2.77	55.41	-3.45	0.000*	14
5.	You tend to print out on-line documents so as to read them in paper format.	3.07	61.37	1.04	0.150	12
6.	The holding of files in different software formats contribute to spend too much time looking for information.	3.24	64.88	3.68	0.000*	10
7.	The speed of the internet at critical times of day contribute to spend too much time looking for information.	3.39	67.80	6.41	0.000*	8
8.	Taking training programs to augment your information literacy and information processing skills make it easier for you to overcome your feeling of information overload.	3.81	76.18	14.81	0.000*	6
9.	Improving your personal information management skills make it easier for you to overcome your feeling of information overload.	3.94	78.73	19.63	0.000*	2
10.	Select the appropriate media for obtaining the task information make it easier for you to overcome your feeling of information overload	3.91	78.24	19.73	0.000*	4
11.	Employ tools that enable and assist with understanding and use of the information	3.92	78.33	18.88	0.000*	3

Continued Table (5.20)

	make it easier for you to overcome your feeling of information overload.					
12.	Employ an approach that defines specific, clear goals for use of the information make it easier for you to overcome your feeling of information overload.	3.89	77.75	18.39	0.000*	5
13.	You subscribed to so many blogs that you can't read them and it makes you feel bad.	2.77	55.37	-3.80	0.000*	15
14.	You feel that you have to read word for word all information that comes into your email box or RSS reader or Twitter.	2.97	59.41	-0.43	0.333	13
15.	You always seeking out additional information from the Internet or friends online to support a decision or complete a project but never processing it all.	3.21	64.14	3.15	0.001*	11
16.	You open up multiple tabs in your browser and then forget what you were going to do.	2.71	54.29	-4.23	0.000*	16
17.	Your email, Google docs or hard drive filled with "virtual piles" of information or "drafts" that haven't been processed.	2.70	53.92	-4.70	0.000*	17
18.	You are afraid to delete email or old files because you're afraid you might just need it someday.	3.38	67.68	5.11	0.000*	9
	All paragraphs of the dimension	3.34	66.84	12.96	0.000*	

* The mean is significantly different from 3

Table (5.20) shows the following results:

- The mean of the dimension "Personal information management" equals 3.34 (66.84%), Test-value = 12.96, and P-value=0.000 which is smaller than the level of significance $\alpha = 0.05$. The sign of the test is positive, so the mean of this dimension is significantly greater than the hypothesized value 3. It can be concluded that the respondents agreed to that there is a statistically significant effect of "Personal information management" on information overload.

- However, the paragraphs #2, #4, #13, #14, #16, and #17, P-value is smaller than the level of significance $\alpha = 0.05$. The sign of the test is negative, so the mean of this paragraph is significantly smaller than the hypothesized value 3. It can be concluded that the respondents disagreed to these paragraphs.

The result agreed with the following studies:

The study of salim (2003) showed that when it comes to personal information management, most of the researchers agreed that to organize is a good strategy to deal with the current literature. According to researchers, to not organize may lead to overload.

Etzel (1995) suggests that in order to cope with information overload a personal information management strategy needs to be developed. She suggests that of prime importance is to decide which medium to use, while consideration should be given to the characteristics of tools that appear most favorable to the individual.

5.3.5 Analyzing the Fifth Dimension: Individual factors

The fifth dimension discusses the "Individual factors", and consists of (5) paragraphs. The table (5.21) shows the results of using T-test to see whether the mean value had reached to the hypothesized value (3) or not.

Table (5.21)
Means and Test Values for “Individual Factors”

	Item	Mean	Proportional mean (%)	Test value	P-value (Sig.)	Rank
1.	You feel need to collect information to keep up with colleagues.	3.84	76.76	14.04	0.000*	5
2.	Improving your information screening skills make it easier for you to overcome your feeling of information overload.	3.99	79.71	21.26	0.000*	3
3.	Improving your personal time management skills and techniques make it easier for you to overcome your feeling of information overload.	4.00	79.90	20.25	0.000*	2
4.	Increase the number of years of work experience helps overcome information overload.	4.07	81.46	20.75	0.000*	1
5.	Improving your academic level of education will help overcome the information overload.	3.86	77.17	14.49	0.000*	4
	All paragraphs of the dimension	3.95	78.99	24.07	0.000*	

* The mean is significantly different from 3

Table (5.21) shows the following results:

- The mean of the dimension “Individual characteristics” equals 3.95 (78.99%), Test-value = 24.07, and P-value=0.000 which is smaller than the level of significance $\alpha=0.05$. The sign of the test is positive, so the mean of this dimension is significantly greater than the hypothesized value 3. It can be concluded that the respondents agreed to there is a statistically significant effect of “Individual factors” on information overload.

The result agreed with the following studies:

Prasitrataporn (2010) investigates personal factors as causes for overload and adopts the view that the degree of information overload is an individual perception.

Kim, Lustria and Burke (2007) found that personal factors related to an individual’s mental health have direct effects on the perception of overload and that the perception is stronger for those who are not confident in finding information than for those who believe they can.

Bakker (2007) found that the perception of overload tends to be high among individuals who have a low information processing capacity and that an individual’s processing capacity varies on the basis of personal factors.

Larson and Kulchitsky (2007) noted that Individual factors, e.g. experience, mood, and managerial skill level, contribute to information overload.

Eppler and Mengis (2004) proposed that an individual’s information processing capacity is influenced by personal factors such as motivation, attitude, satisfaction, skills, ideology, age, and level of social communication.

In the literature review by Edmunds and Morris (2000) and Hall and Walton (2004) it is clear that personal factors are among the potential causes for overload.

Buchanan (2000) found that perceived information overload is significantly affected by both individual and task factors.

Meyer (1998) noted that from a subjective viewpoint the degree of information overload is an individual perception and is dependent on personal factors such as personality traits, emotions, feelings, skills, and knowledge rather than simply the amount of information received by the individual, this view is supported by the observation that individuals with the same apparent processing capacity may express

different perceptions of information overload when confronted with the same amount of information.

Althaus (1997) noted that the incidence of information overload can be influenced by (a lack of) certain individual characteristics and behavior. Individuals who lack the technical skills required to participate in on-line environments may be more susceptible to experiencing information overload than those who possess such skills.

5.3.6 Analysis of All Dimensions Together

The table (5.22) shows the results of using T-test to see whether the mean value of all dimensions together had reached to the hypothesized value (3) or not.

Table (5.22)
Means and Test Values for “All Dimensions”

No		Mean	Proportional mean	Test value	P-value (Sig.)
1.	Fulfillment of job responsibilities	3.23	64.63	7.20	0.000*
2.	Planning	3.27	65.39	7.26	0.000*
2.	Occurrence of stress	3.21	64.21	6.06	0.000*
3.	Personal information management	3.34	66.84	12.96	0.000*
4.	Individual factors	3.95	78.99	24.07	0.000*
5.	All dimensions of the questionnaire	3.33	66.51	12.94	0.000*

- The mean of "All dimensions of the questionnaire" equals 3.33 (66.51%), Test-value = 12.94, and P-value=0.000 which is smaller than the level of significance $\alpha=0.05$. The sign of the test is positive, so the mean of all dimensions is significantly greater than the hypothesized value 3. It can be concluded that the respondents agreed to the previous dimensions.

5.4 Analyzing Hypotheses

This study dealt with several hypotheses to examine the impact of information overload on management in the workplace.

To test the hypotheses of the study, laboratory tests used (Independent Samples T-test, and the One-Way Analysis of Variance (ANOVA)). These tests are considered appropriate where the distribution of the data follow a normal distribution.

In the following paragraphs, a statistical analysis conducted to test the validity of the research hypotheses and linked to the results of previous studies.

5.4.1 First Hypothesis

There is a statistically significant effect at ($\alpha \leq 0.05$) of information overload on the fulfillment of job responsibilities.

The results of testing the first hypothesis shows that there is an agreement among the respondents about the existence of a statistical significant effect at ($\alpha \leq 0.05$) of information overload on the fulfillment of job responsibilities.

5.4.2 Second Hypothesis

There is a statistically significant effect at ($\alpha \leq 0.05$) of information overload on planning.

The results of testing the second hypothesis shows that there is an agreement among the respondents about the existence of a statistical significant effect at ($\alpha \leq 0.05$) of information overload on planning.

5.4.3 Third Hypothesis

There is a statistically significant effect at ($\alpha \leq 0.05$) of information overload on the occurrence of stress.

The results testing of the third hypothesis shows that there is an agreement among the respondents about the existence of a statistical significant effect at ($\alpha \leq 0.05$) of information overload on the occurrence of stress.

5.4.4 Fourth Hypothesis

There is a statistically significant effect at ($\alpha \leq 0.05$) of personal information management on information overload.

The results of testing the fourth hypothesis shows that there is an agreement among the respondents about the existence of a statistical significant effect at ($\alpha \leq 0.05$) of personal information management on information overload.

5.4.5 Fifth Hypothesis

There is a statistically significant effect at ($\alpha \leq 0.05$) of individual factors on information overload.

The results of testing the fifth hypothesis shows that there is an agreement among the respondents about the existence of a statistical significant effect at ($\alpha \leq 0.05$) of individual factors on information overload.

5.4.6 Sixth Hypothesis

There is a significant differences among respondents regarding the impact of information overload on management in the workplace attributed to the demographic variables (Gender, Age, Education level, Academic Education Major-Area-of-Study, Work Experience, Managerial level, Job category, Place of work, College/ Department, Time in Current Position, Daily Work Hour, Overtime Work Hour, Number of Daily Overtime Hours and sources used to find information).

5.4.6.1 There are significant differences among respondents regarding the impact of information overload on management in the workplace attributed to Gender.

Table (5.23) shows the Independent Samples T-Test of the dimensions and their p-values for Gender.

**Table (5.23)
Independent Samples T-Test of the Dimensions and their p-values for Gender**

No.	Dimension	Test Value	Sig.	Means	
				Male	Female
1.	Fulfillment of job responsibilities	1.565	0.119	3.25	3.10
2.	Planning	0.607	0.544	3.28	3.21
3.	Occurrence of stress	1.350	0.179	3.23	3.09
4.	Personal information management	0.777	0.638	3.36	3.20
5.	Individual factors	1.146	0.253	3.97	3.83
	All dimensions together	1.987	0.048	3.35	3.20

Table (5.23) shows that the p-value (Sig.) is greater than the level of significance $\alpha = 0.05$ for each dimension, then there is insignificant difference in respondents' answers toward each dimension due to Gender. It can be concluded that the characteristic of the respondents' Gender has no effect on each dimension.

Prasitratanaporn (2010) noted that there is no significant difference between males and females with respect to information overload.

The study of Kim, Lustria and Burke (2007) found that demographic variables, such as gender were not significantly associated with overload.

Speier, Vessey and Valcich (2003) indicated that there is no significant relationship between information overload and gender among decision makers.

Farhoomand and Drury (2002) found no direct association between the effects of information overload and subject gender.

5.4.6.2 There are significant differences among respondents regarding the impact of information overload on management in the workplace attributed to Age

Table (5.24) shows the ANOVA test of the dimensions and their p-values for Age.

Table (5.24)
ANOVA Test of the Dimensions and their p-values for Age

No.	Dimension	Test Value	Sig.	Means		
				25 –39 years	40 – 49 years	50 and older
1.	Fulfillment of job responsibilities	2.413	0.092	3.30	3.25	3.12
2.	Planning	3.171	0.044*	3.36	3.29	3.12
3.	Occurrence of stress	6.256	0.002*	3.31	3.25	3.01
4.	Personal information management	5.408	0.005*	3.40	3.39	3.20
5.	Individual factors	0.154	0.857	3.97	3.95	3.92
	All dimensions together	5.666	0.004*	3.39	3.36	3.19

* Means differences are significant at $\alpha = 0.05$

Table (5.24) shows that the p-value (Sig.) is smaller than the level of significance $\alpha = 0.05$ for the dimensions "Planning", "Occurrence of stress" and "Personal information management", then there are significant difference among the respondents answers toward these dimensions due to Age. It can be concluded that the respondents' Age has significant effect on these dimensions. The 25 –39 years age group respondents have the higher value than other Age groups.

Table (5.24) shows that the p-value (Sig.) is greater than the level of significance $\alpha = 0.05$ for the other dimensions, then there is insignificant difference among the respondents answers toward to these dimensions due to Age. It can be concluded that the respondents' Age has no effect on these dimensions.

Table (5.24) shows that the p-value (Sig.) for all dimensions together is smaller than the level of significance $\alpha = 0.05$. It can be concluded that the respondents' Age has significant effect.

This agreed with Stevens (2008) who proposed that older people usually process too much unnecessary information compared to younger individuals and so information overload is more likely to occur among older people, so age has a significant direct effect on information overload, and disagree with Prasitrataporn (2010) who claimed that age does not have a significant direct effect on Information Overload, and the study of Kim, Lustria and Burke (2007) which concluded that there is no significant relationship between age and perceptions of information overload.

Farhoomand and Drury (2002) found no direct association between the effects of information overload and subject age.

Differences between findings of earlier studies and this study may be due to differences in the main focus and the research designs used.

5.4.6.3 There are significant differences among respondents regarding the impact of information overload on management in the workplace attributed to Education level

Table (5.25) shows the ANOVA test of the dimensions and their p-values for Education level.

Table (5.25)

ANOVA Test of the Dimensions and their p-values for Education Level

No.	Dimension	Test Value	Sig.	Means		
				Diploma and Bachelor	Master	Doctorate or more
1.	Fulfillment of job responsibilities	1.551	0.215	3.15	3.29	3.26
2.	Planning	0.006	0.994	3.27	3.27	3.27
3.	Occurrence of stress	2.275	0.105	3.18	3.36	3.17
4.	Personal information management	1.324	0.268	3.29	3.41	3.35
5.	Individual factors	2.837	0.061	3.82	4.06	3.99
	All dimensions together	1.892	0.153	3.27	3.41	3.33

Table (5.25) shows that the p-value (Sig.) is greater than the level of significance $\alpha = 0.05$ for each dimension, then there is insignificant difference in respondents' answers toward each dimension due to Education Level. It can be concluded that the characteristic of the respondents' Education Level has no effect on each dimension.

The researcher justified this result because there is a convergence between the sample specifications in the universities surveyed in this study.

This agreed with the study of Prasitratarnaporn (2010) which found that Level of Education does not have a significant direct effect on information overload and was insignificantly correlated with it.

Kim, Lustria and Burke (2007) concluded that the perception of overload varied according to socio-economic status (education, income and employment status), so education was found to be significantly related to overload.

Heylighen (2002) noted that individuals with higher levels of education are more likely to be in senior organizational positions where the nature of the work is more dependent on the use of information and perceptions of overload are more likely to occur.

Differences between findings of earlier studies and this study may be due to differences in the main focus and the research designs used, and due cultural and social dimension.

5.4.6.4 There are significant differences among respondents regarding the impact of information overload on management in the workplace attributed to Academic Education Major-Area-of-Study

Table (5.26) shows the ANOVA test of the dimensions and their p-values for Education Major-Area-of-Study.

Table (5.26)
ANOVA Test of the Dimensions and their p-values for Academic Education Major-Area-of-Study

No.	Dimension	Test Value	Sig.	Means					
				Liberal Arts	Sciences	Applied Science	Social Sciences	Medical Sciences	Other
1.	Fulfillment of job responsibilities	0.912	0.474	3.14	3.28	3.23	3.36	3.23	3.19
2.	Planning	0.729	0.602	3.14	3.27	3.26	3.30	3.14	3.34
3.	Occurrence of stress	0.514	0.765	3.17	3.24	3.30	3.12	3.25	3.20
4.	Personal information management	0.566	0.726	3.36	3.32	3.37	3.40	3.41	3.29
5.	Individual factors	1.270	0.278	3.96	3.91	3.80	4.08	4.18	3.96
	All dimensions together	0.266	0.931	3.27	3.33	3.34	3.36	3.36	3.31

Table (5.26) shows that the p-value (Sig.) is greater than the level of significance $\alpha = 0.05$ for each dimension, then there is insignificant difference in respondents' answers toward each dimension due to Your Academic Education Major-Area-of-Study. It can be concluded that the characteristic of the respondents' Academic Education Major-Area-of-Study has no effect on each dimension.

5.4.6.5 There are significant differences among respondents regarding the impact of information overload on management in the workplace attributed to Years of Work Experience

Table (5.27) shows the ANOVA test of the dimensions and their p-values for Years of Work Experience.

Table (5.27)
ANOVA Test of the Dimensions and their p-values for Years of Work Experience

No.	Dimension	Test Value	Sig.	Means			
				0 to 9	10 to 15	16 to 19	20 to more
1.	Fulfillment of job responsibilities	2.659	0.053	3.35	3.25	3.09	3.25
2.	Planning	1.496	0.217	3.29	3.34	3.14	3.32
3.	Occurrence of stress	1.112	0.345	3.31	3.23	3.14	3.18
4.	Personal information management	2.441	0.065	3.38	3.43	3.29	3.26
5.	Individual factors	0.553	0.646	3.85	3.99	3.97	3.96
	All dimensions together	1.634	0.183	3.38	3.37	3.24	3.31

Table (5.27) shows that the p-value (Sig.) is greater than the level of significance $\alpha = 0.05$ for each dimension, then there is insignificant difference in respondents' answers toward each dimension due to Years of Work Experience. It can be concluded that the characteristic of the respondents' Years of Work Experience has no effect on each dimension.

This agree with Farhoomand and Drury (2002) found no direct association between the effects of information overload and subject years of experience.

The researcher justified that there is no differences due to the variable of Years of Work Experience with the great technological development in the present century,

which can give every employee the possibility of developing himself and increase his knowledge and hone his skills in different ways including self-learning, the use of the Internet, attend training courses held by the workplace for their employees.

There is no doubt that the managements of today's organizations struggling to exploit the technology in all its divisions and departments, in order to provide services of the highest possible quality, and do not be surprised today when the long experience of old staff is equal with that of the new staff, due to the fact that mostly administrative work are managed electronically via computerized programs.

5.4.6.6 There are significant differences among respondents regarding the impact of information overload on management in the workplace attributed to Managerial level

Table (5.28) shows the ANOVA test of the dimensions and their p-values for Managerial level.

Table (5.28)
ANOVA Test of the Dimensions and their p-values for Managerial Level

No.	1	2	3	4	5		
Dimension	Fulfillment of job responsibilities	Planning	Occurrence of stress	Personal information management	Individual factors	All dimensions together	
Test Value	1.499	1.565	1.224	0.777	1.078	1.496	
Sig.	0.151	0.119	0.282	0.638	0.380	0.151	
Means	University President / Vice and assistants	2.91	2.74	2.87	3.21	3.91	3.06
	Dean	3.37	3.36	3.26	3.43	4.22	3.43
	Deputy / Assistant Dean	3.14	3.09	3.04	3.27	3.85	3.21
	Manager	3.19	3.22	3.26	3.31	3.97	3.31
	Deputy / Assistant Manager	3.05	3.49	3.23	3.25	3.89	3.28
	Acting Director	3.53	3.40	3.26	3.61	4.00	3.51
	Head of administrative department	3.27	3.29	3.29	3.37	3.87	3.35

Continued Table (5.28)

	Head of academic department	3.26	3.35	3.16	3.35	3.86	3.32
	Supervisor	3.36	3.46	3.30	3.36	4.18	3.43
	Other	3.25	3.44	3.36	3.38	3.93	3.40

Table (5.28) shows that the p-value (Sig.) is greater than the level of significance $\alpha = 0.05$ for each dimension, then there is insignificant difference in respondents' answers toward each dimension due to Managerial Level. It can be concluded that the characteristic of the respondents' Managerial Level has no effect on each dimension.

This agreed with Farhoomand and Drury (2002) who found no direct association between the effects of information overload and subject organizational level.

And disagree with Zeldes (2012) who claimed that the more senior a manager, the more IO they suffer; and the more they suffer, the less time they have to do what a manager should really do – empower, mentor and guide their subordinates.

5.4.6.7 There are significant differences among respondents regarding the impact of information overload on management in the workplace attributed to Job category

Table (5.29) shows the Independent Samples T-Test of the dimensions and their p-values for The for Job category.

Table (5.29)
Independent Samples T-Test of the Dimensions and their p-values for Job Category

No.	Dimension	Test Value	Sig.	Means	
				administrative	Academic administrative
1.	Fulfillment of job responsibilities	-1.783	0.076	3.17	3.28
2.	Planning	0.133	0.894	3.28	3.27
3.	Occurrence of stress	0.239	0.811	3.22	3.20
4.	Personal information management	-0.087	0.931	3.34	3.34
5.	Individual factors	-0.404	0.687	3.93	3.96
	All dimensions together	-0.567	0.571	3.31	3.34

Table (5.28) shows that the p-value (Sig.) is greater than the level of significance $\alpha = 0.05$ for each dimension, then there is insignificant difference in respondents' answers toward each dimension due to Job Category. It can be concluded that the characteristic of the respondents' Job Category has no effect on the dimensions.

The researcher attributes this result to that the workers at the universities despite the difference of their functional category seeking the existence of policies and clear plans for the management of human resources, and will work to gain the skills necessary for them in the information age in order to be able to lay the infrastructure for information technology through their creativity and development of the means, tools and methods used. Everyone from academics and administrators are keen to work hard in order to improve their practical or academic levels, and keep up with technological advances, and employing technology in their fields, which will reflect positively on the university they work in.

5.4.6.8 There are significant differences among respondents regarding the impact of information overload on management in the workplace attributed to Place of work

Table (5.30) shows the ANOVA test of the dimensions and their p-values for Place of work.

Table (5.30)
ANOVA Test of the Dimensions and their p-values for Place of Work

No.	Dimension	Test Value	Sig.	Means		
				Islamic University	Al-Azhar University	Al-Aqsa University
1.	Fulfillment of job responsibilities	0.817	0.443	3.19	3.23	3.29
2.	Planning	1.302	0.274	3.22	3.36	3.26
3.	Occurrence of stress	1.645	0.196	3.15	3.23	3.29
4.	Personal information management	1.688	0.187	3.30	3.35	3.41
5.	Individual factors	0.692	0.502	3.90	3.96	4.01
	All dimensions together	1.587	0.207	3.28	3.34	3.38

Table (5.30) shows that the p-value (Sig.) is greater than the level of significance $\alpha = 0.05$ for each dimension, then there is insignificant difference in respondents' answers toward each dimension due to Place of Work. It can be concluded that the characteristic of the respondents' Place of Work has no effect on each dimension.

From the researcher point of view, the insignificant difference in respondents' answers toward each dimension due to place of work is due to the nature and the similarity of characteristics of workers in universities in the Palestinian environment in general, and the level of qualification of employees is almost the same. Also the great similarity in the management styles and the physical working conditions.

5.4.6.9 There are significant differences among respondents regarding the impact of information overload on management in the workplace attributed to College/ Department you work in

Table (5.31) shows the ANOVA test of the dimensions and their p-values for College/ Department.

Table (5.31)
ANOVA Test of the Dimensions and their p-values for College/ Department You Work in

No.	Dimension	Test Value	Sig.	Means					
				Liberal Arts	Sciences	Applied Science	Social Sciences	Medical Sciences	Other
1.	Fulfillment of job responsibilities	1.132	0.344	3.24	3.10	3.24	3.47	3.18	3.22
2.	Planning	1.334	0.251	3.35	3.03	3.26	3.29	3.04	3.31
3.	Occurrence of stress	0.858	0.511	3.31	3.14	3.36	3.13	3.17	3.19
4.	Personal information management	0.220	0.954	3.39	3.28	3.38	3.37	3.30	3.34
5.	Individual factors	0.495	0.780	3.90	3.95	3.86	4.08	4.11	3.94
	All dimensions together	0.456	0.809	3.37	3.23	3.36	3.38	3.28	3.32

Table (5.31) shows that the p-value (Sig.) is greater than the level of significance $\alpha = 0.05$ for each dimension, then there is insignificant difference in respondents' answers toward each dimension due to College/ Department you work. It can be concluded that the characteristic of the respondents' College/ Department you work has no effect on each dimension.

The researcher attributes this to the fact that all staff at all their departments seeking the existence of clear plans and policies for the management of human resources applicable at the university.

5.4.6.10 There are significant differences among respondents regarding the impact of information overload on management in the workplace attributed to Time in current position

Table (5.32) shows the ANOVA test of the dimensions and their p-values for Time in current position.

Table (5.32)
ANOVA Test of the Dimensions and their p-values for Time in Current Position

No.	Dimension	Test Value	Sig.	Means					
				0 to 1	2 to 4	5 to 9	10 to 15	16 to 19	20 to more
1.	Fulfillment of job responsibilities	0.869	0.503	3.38	3.15	3.25	3.26	3.28	3.26
2.	Planning	1.240	0.292	3.40	3.17	3.24	3.39	3.25	3.40
3.	Occurrence of stress	0.349	0.882	3.14	3.18	3.29	3.23	3.18	3.20
4.	Personal information management	0.984	0.429	3.32	3.31	3.43	3.38	3.28	3.24
5.	Individual factors	0.875	0.499	3.91	3.84	4.03	4.02	3.97	4.01
	All dimensions together	0.688	0.633	3.35	3.27	3.38	3.36	3.31	3.32

Table (5.32) shows that the p-value (Sig.) is greater than the level of significance $\alpha = 0.05$ for each dimension, then there is insignificant difference in respondents' answers toward each dimension due to Time in Current Position. It can be concluded that the

characteristic of the respondents' Time in Current Position has no effect on each dimension.

Bakker (2007) proposed that newcomers have a higher information need than more established organizational members. Consequently, organizational tenure affects the information load; the more established an individual is within the organization, the lower the load.

5.4.6.11 There are significant differences among respondents regarding the impact of information overload on management in the workplace attributed to Daily work hours

Table (5.33) shows the ANOVA test of the dimensions and their p-values for Daily work hours.

**Table (5.33)
ANOVA Test of the Dimensions and their p-values for Daily Work Hours**

No.	Dimension	Test Value	Sig.	Means		
				3-5 hours	6-8 hours	More
1.	Fulfillment of job responsibilities	2.825	0.031*	3.47	3.22	3.15
2.	Planning	5.190	0.003*	3.62	3.26	3.12
3.	Occurrence of stress	2.313	0.051	3.43	3.21	3.11
4.	Personal information management	2.447	0.045*	3.53	3.33	3.31
5.	Individual factors	0.448	0.320	4.07	3.93	3.96
	All dimensions together	4.212	0.008*	3.55	3.32	3.25

* Means differences are significant at $\alpha = 0.05$

Table (5.33) shows that the p-value (Sig.) is smaller than the level of significance $\alpha = 0.05$ for the dimensions "Fulfillment of job responsibilities, Planning and Personal information management", then there are significant difference among the respondents answers toward to these dimensions due to Daily work hours. It can be concluded that the respondents' Daily Work Hours has significant effect on these dimensions. 3-5 hours respondents have the higher than other Daily work hours group.

Table (5.33) shows that the p-value (Sig.) is greater than the level of significance $\alpha = 0.05$ for the other dimensions, then there is insignificant difference among the

respondents answers toward to these dimensions due to Daily work hours. It can be concluded that the respondents' Daily Work Hours has no effect on these dimensions.

Table (5.33) shows that the p-value (Sig.) for all dimensions together is smaller than the level of significance $\alpha = 0.05$. It can be concluded that the respondents' Daily work hours has significant effect.

In a survey of UK employees, Guest and Clinton (2006) noted that temporary employees reported better well-being, general health, more positive attitude towards work and better work behavior (e.g. less absenteeism) than their permanent counterparts. Many permanent workers report high levels of work overload, relatively high levels of irritation, anxiety and depression and a strong interference of work with life at home. Temporary work may have drawbacks; but for many people in permanent contracts, the experience of work is markedly more negative.

5.4.6.12 There are significant differences among respondents regarding the impact of information overload on management in the workplace attributed to overtime work hours

Table (5.34) shows the Independent Samples T-Test of the dimensions and their p-values for The Overtime work hour.

**Table (5.34)
Independent Samples T-Test of the dimensions and their p-values for Overtime Work Hour**

No.	Dimension	Test Value	Sig.	Means	
				Yes	No
1.	Fulfillment of job responsibilities	0.315	0.753	3.25	3.22
2.	Planning	-1.148	0.252	3.21	3.30
3.	Occurrence of stress	-1.101	0.272	3.16	3.24
4.	Personal information management	0.544	0.587	3.36	3.33
5.	Individual factors	-0.093	0.926	3.94	3.95
	All dimensions together	-0.357	0.721	3.31	3.33

Table (5.34) shows that the p-value (Sig.) is greater than the level of significance $\alpha = 0.05$ for each dimension, then there is insignificant difference in respondents' answers toward each dimension due to Overtime Work Hour. It can be concluded that the characteristic of the respondents' Overtime Work Hours has no effect on each dimension.

In the study of Klausegger, Sinkovics, and Zou (2007), the results of analysis of the original data provide empirical support for a substantial influence of information overload on working overtime and taking work home, where Many of those suffering overload worked overtime and took work home with them, with predictable lifestyle consequences, which would presumably further increase stress levels. Two-thirds of respondents (66.2%) said that they worked overtime or took their work home with them either regularly or very often. The consequences were that almost half found it a “burden on personal relationships” (47.5%), and almost as many cited “having to cancel social commitments” (46.2%) or “excessive fatigue preventing leisure activities” (45.9 %).

5.4.6.13 There are significant differences among respondents regarding the impact of information overload on management in the workplace attributed to The number of daily overtime hours

Table (5.35) shows the Independent Samples T-Test of the dimensions and their p-values for The number of daily overtime hours.

**Table (5.35)
Independent Samples T-Test of the dimensions and their p-values for The
Number of Daily Overtime Hours**

No.	Dimension	Test Value	Sig.	Means	
				2 to 4	5 to 7
1.	Fulfillment of job responsibilities	1.236	0.221	3.28	3.04
2.	Planning	0.379	0.706	3.22	3.14
3.	Occurrence of stress	0.588	0.558	3.17	3.05
4.	Personal information management	-0.174	0.862	3.37	3.40
5.	Individual factors	1.014	0.315	3.99	3.73
	All dimensions together	0.698	0.488	3.33	3.23

Table (5.35) shows that the p-value (Sig.) is greater than the level of significance $\alpha = 0.05$ for each dimension, then there is insignificant difference in respondents' answers toward each dimension due to The Number of Daily Overtime Hours. It can be concluded that the characteristic of the respondents' Number of Daily Overtime Hours has no effect on each dimension.

5.4.6.14 There are significant differences among respondents regarding the impact of information overload on management in the workplace attributed to What sources used to find information

The tests cannot be performed on the questions that have more than one answer.

Prasitratarnaporn (2010) found that the extent of use of all types and sources of information is positively correlated with perceptions of information overload.

Kim, Lustria and Burke (2007) proposed that the use of the Internet for seeking information was not found to be significantly associated with overload. This implies that overload may be more related to issues of content rather than the channel of delivery or even source selection.

In the study of Farhoomand and Drury (2002), (60%) of the respondents generally pointed to the Internet and email as the number one external sources of their personal information overload.

Edmunds and Moris (2000), who argued that the problem of information overload existed before the arrival of the Internet.

Bawden, Holtham and Courtney (1999) mentioned that Internet, Intranet and electronic mail are considered to be major contributor to information overload.

Near a half of those surveyed in the Reuters (1996) study- *Dying for information?*- saw new developments such as the Internet as the main cause for information overload in the near future.

Chapter 6

Conclusions and Recommendations

6.1 Introduction

6.2 Conclusions

6.3 Recommendations

6.4 Future Research Directions

6.1 Introduction

This chapter includes a summary of the most important results that have been reached by this study, as well as the recommendations proposed in the light of the results.

6.2 Conclusions

The objectives of this study are to highlight the impact of information overload on top and middle management in universities in Gaza through:

1. The examine of the impact of information overload on the Fulfillment of Job Responsibilities.

The results show that there is a statistically significant effect at ($\alpha \leq 0.05$) of information overload on fulfillment of job responsibilities.

This agreed with the studies of Klausegger, Sinkovics, and Zou (2007), The Reuters (1996) study "Dying for information", Farhoomand and Drury (2002), Banas (2011), and The 2010 International Workplace Productivity Survey, commissioned by LexisNexis.

2. The examine of the impact of information overload on Planning.

The results show that there is a statistically significant effect at ($\alpha \leq 0.05$) of information overload on Planning.

This agreed with the studies of Banas (2011), Zeldes (2012) and Klausegger, Sinkovics, and Zou (2007).

3. The examine of the impact of information overload on the Occurrence of Stress.

The results show that there is a statistically significant effect at ($\alpha \leq 0.05$) of information overload on the Occurrence of Stress.

This agreed with the studies of Zeldes (2012), Banas (2011), Snooks (2009), Klausegger, Sinkovics, and Zou (2007), The Reuters (1996) study "*Dying for information*", and Stanley and Clipshain (1997)

4. The examine the impact of Personal information management on information overload.

The results show that there is a statistically significant effect at ($\alpha \leq 0.05$) of Personal information management on information overload.

This agreed with the studies of salim (2003) and Etzel (1995).

5. The examine the impact of Individual factors on information overload.

The results show that there is a statistically significant effect at ($\alpha \leq 0.05$) of Individual factors on information overload.

This agreed with the studies of Prasitratanaporn (2010), Kim, Lustria and Burke (2007), Bakker (2007), Larson and Kulchitsky (2007), Eppler and Mengis (2004), Hall and Walton (2004), Buchanan (2000), Edmunds and Morris (2000), Meyer (1998) and Althaus (1997).

6. To measure the demographic factors effects such as Gender, Age, Education Level, Academic Education Major-Area-of-Study, Years of Experience, Managerial Level, Job Category, Palace of Work, College/Department, Time in Current Position, Overtime Work Hour, Number of Daily Overtime Hours and Sources Used to Find Information.

The results show that:

- There is a significant differences among respondents regarding the impact of information overload on management in the workplace attributed to (Age and Daily Work Hours).
- There is no significant differences among respondents regarding the impact of information overload on management in the workplace attributed to (Gender, Education Level, Academic Education Major-Area-of-Study, Years of Work Experience, Managerial Level, Job Category, Place of Work, College/Department, Time in Current Position, Overtime Work Hour, Number of Daily Overtime Hours).

6.3 Recommendations

Based on the results that have been reached, the researcher offers the following set of recommendations, wishing adoption of them, and these recommendations are:

- Conduct objective studies, continuous and periodic surveys to measure the impact of information overload on the staff in all institutions and in view of the importance of the subject in achieving better performance levels and thus achieve the objectives of these institutions.
- Creating a kind of compatibility between the duties and responsibilities assigned to the managers, and identify clear functional tasks in work.
- Hiring specialists in information management, and training staff on how to deal with information overload.
- The need to develop the information technology infrastructure and keep pace with the latest developments in the world of information technology and communications to facilitate overcome of information overload.
- The advice to human resource managers is to screen existing and potential employees if the ability to deal with work related information is an important requirement. The screening should use established measuring instruments for personality traits with additional measures of gender, age, income, and level of education. in order to identify individuals who are at risk of experiencing overload and this screening procedure may be used to place an employee in a work environment where their exposure to overload can be controlled, monitored, and minimized in order to improve their satisfaction and productivity.
- Understanding the phenomenon of information overload should be a part of employee training and education programs especially for those who are identified as being at risk of experiencing overload.
- Promote conferences and scientific and academic seminars on the subject of the information overload so that it is promoting intellectual debate and scientific interaction that broadens the base of managerial literature in this field.
- Because this is the first research of this kind to be conducted in Palestine it is strongly recommended that the research be repeated in order to establish the external validity of the findings.

6.4 Future Research Directions

Information overload is a complex phenomenon that is worthy of further research to help us gain insight into conquering the information age.

In light of the above findings and recommendations, the following studies were suggested:

- Future researches may extend to study the impact of information overload in other industries or in the public sector.
- Future researches can investigate the effects of information overload in more details and from different angles and include other variables that are not being used in this study.
- Future researches can focus on particular types or sources of information and individuals working at particular levels within an organization.
- Future researches can investigate activities probably show a serious problem of information overload in management and where to start trying to reduce the overload.
- Future researches to determine the extent of information overload currently being experienced and what strategies are being used to combat this problem.

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Interviews

- Interview with Dr. Sami Abu Nasser, Dean of the Faculty of Information Technology, Al-Azhar University of Gaza, on 07/08/2012 at 10:30 am.
- Interview with Dr. Khalid Al-Halaaq, Assistant Vice President for Administrative Affairs, Islamic University of Gaza, on 07/08/2012 at 11 am.
- Interview with Dr. Ali Shaheen, Assistant Vice President for Administrative Affairs, Islamic University of Gaza, on 07/08/2012 at 11:30 am.
- Interview with Prof. Majed Al-Farra, Dean of the Faculty of Commerce, Islamic University of Gaza, on 07/08/2012 at 12 pm.

Appendices

Appendix A
Questionnaire
(English Version)

Islamic University of Gaza
Deanery of Graduate Studies
Faculty of Commerce
Business Administration Department



Questionnaire

This questionnaire is conducted by Rasha Abu Rouk, a Master of Business Administration student in the department of Business Administration In the Islamic University of Gaza.

The study is entitled " The impact of Information Overload on the management in the workplace (Universities in Gaza Strip) ", submitted in partial fulfillment of the requirements for the degree in Master of Business Administration.

In order to achieve my goal of this study your participation is crucial.

Filling out this questionnaire will not take more than 10 minutes of your valuable time. We would like to emphasize that all questionnaires will be treated anonymously, and there will be no trace between your person and your answers.

In advance, thank you very much for your time and support.

Rasha Abu Rouk

Group 1: Demographic Data

Tick (✓) in the appropriate box:

▪ **Gender:**

Male Female

▪ **Age:**

25 to 29 30 to 39 40 to 49 50 or more

▪ **Education level:**

Diploma Bachelor Master Doctorate or more

▪ **Your Academic Education Major-Area-of-Study:**

Liberal Arts Sciences Applied Science

Social Sciences Medical Sciences Other. Specify

- **Your years of Work Experience:**
 - 0 to 1 2 to 4 5 to 9 10 to 15 16 to 19 20 to more
- **Managerial level:**
 - University President / Vice and assistants Dean Deputy / Assistant Dean
 - Manager Deputy / Assistant Manager Acting Director
 - Head of administrative department Head of academic department
 - Supervisor Other. Specify
- **Your job category:**
 - Administrative Academic administrative
- **Place of work:**
 - Islamic University Al-Azhar University Al-Aqsa University
- **College/ Department you work in:**
 - Liberal Arts Sciences Applied Science
 - Social Sciences Medical Sciences Other. Specify
- **Time in current administrative position (years):**
 - 0 to 1 2 to 4 5 to 9 10 to 15 16 to 19 20 to more
- **Daily work hours:**
 - 5 hours 7hours More
- **You have overtime work hours:**
 - Yes No
- **The number of daily overtime hours:**
 - 2 to 4 5 to 7 More. Specify
- **What sources you use to find information?**
 - Library's catalog Internet (Free resources) Internet (Paid resources)
 - Electronic indexes Electronic journals Bookstore
 - Other. Specify

Group 2: Paragraphs of Questionnaire

		Strongly agree	Agree	Moderately agree	Disagree	Strongly disagree
Fulfillment of job responsibilities						
1	You spend too much time looking for information.					
2	You are dealing with too much current information more than you can handle.					
3	There is a need for a large amount of information where it is necessary to support decisions.					
4	There is a lot of information that must be managed daily and this makes it difficult for you to prioritize tasks.					
5	Information overload adversely affect the implementation of administrative decisions and follow-up.					
6	You are fully incapable of dealing with all the information related to work and making decisions within the period specified to perform the work.					
7	Decisions were delayed because of information overload.					
8	Information overload adversely affects the communication skills with others.					
9	Information overload adversely affects the efficiency and effectiveness of the work.					
10	Your workload mainly comes from the information load you have to deal with at work.					
11	Information collection distracts managers from their main responsibilities.					
12	You constantly check your email, Twitter or other online service because you are afraid that if you don't, you will become so far behind that you will never catch up.					
13	You have email messages sitting in your inbox more than 6 months old that are "pending" further action or unread.					
14	You find yourself easily distracted by online resources that allow you to					

	avoid other, pending work.					
Planning						
15	Information overload adversely affect the achievement of the basic tasks required for planning.					
16	Managers find it difficult to develop strategies for dealing with the information they retrieve, which negatively affects the planning process.					
17	Information overload adversely affect the analysis of the work environment and the resources available to achieve the goals.					
18	Information overload adversely affect the workflow in the direction of achieving the goals.					
19	Information overload adversely affect the preparation of plans and administrative procedures and operational programs.					
20	Information overload make you feel like you can't keep up with all the new developments in your area of expertise, which negatively affects the planning process.					
21	There is a potential increase in productivity if all distractions were removed.					
Occurrence of stress						
22	Information overload contributes to the tension and make you suffer from stress.					
23	information load relevant to work make you feel tired and burdened.					
24	You experience frustration at the amount of electronic information you need to process daily.					
25	Attribute ill-health to this stress and burdens?					
26	Information overload lead to tension with colleagues.					
27	You have to cancel social activities as a result of information overload ?					
28	You feel very tired and need leisure activities.					

29	The working environment tends to be extremely stressful.					
30	Stress levels in the next two years, generally expecting that “the working environment will be far more stressful”.					
31	When you open your email client, it make you feel anxious about the work that you don't have time to do.					
32	You get anxious if you are away from the Internet for too long.					
33	The only time you're off line is when you are sleeping.					
34	You frequently forget information you need to know.					
35	You feel that you often cannot concentrate.					

Personal information management

36	I find it easier to store and retrieve information using a computer.					
37	I find it easier to store and retrieve information using a paper filing system.					
38	I have no preference between electronic and paper storage/retrieval systems.					
39	You find it difficult to read from the computer monitor (compared to reading from a paper document).					
40	You tend to print out on-line documents so as to read them in paper format.					
41	The holding of files in different software formats contribute to spend too much time looking for information.					
42	The speed of the internet at critical times of day contribute to spend too much time looking for information.					
43	Taking training programs to augment your information literacy and information processing skills make it easier for you to overcome your feeling of information overload.					
44	Improving your personal information management skills make it easier for you to overcome your feeling of information overload.					

45	Select the appropriate media for obtaining the task information make it easier for you to overcome your feeling of information overload					
46	Employ tools that enable and assist with understanding and use of the information make it easier for you to overcome your feeling of information overload.					
47	Employ an approach that defines specific, clear goals for use of the information make it easier for you to overcome your feeling of information overload.					
48	You subscribed to so many blogs that you can't read them and it makes you feel bad.					
49	You feel that you have to read word for word all information that comes into your email box or RSS reader or Twitter.					
50	You always seeking out additional information from the Internet or friends online to support a decision or complete a project but never processing it all.					
51	You open up multiple tabs in your browser and then forget what you were going to do.					
52	Your email, Google docs or hard drive filled with "virtual piles" of information or "drafts" that haven't been processed.					
53	You are afraid to delete email or old files because you're afraid you might just need it someday.					
Individual factors						
54	You feel need to collect information to keep up with colleagues.					
55	Improving your information screening skills make it easier for you to overcome your feeling of information overload.					
56	Improving your personal time management skills and techniques make it easier for you to overcome your feeling of information overload.					

57	Increase the number of years of work experience helps overcome information overload.					
58	Improving your academic level of education will help overcome the information overload.					

- Would you imagine an ideal but real situation where the problem of information overload would be solved?

.....

.....

.....

Appendix B

Questionnaire (Arabic Version)



الجامعة الإسلامية - غزة

عمادة الدراسات العليا

كلية التجارة - قسم إدارة الأعمال

الاستبانة

الأخ / الأخت المحترم/ة

السلام عليكم ورحمة الله وبركاته ،،،

□

الموضوع: تعبئة استبانة لرسالة ماجستير

تقوم الباحثة بدراسة حول " أثر الحمل الزائد للمعلومات على العاملين في الإدارة في مكان العمل (الجامعات في قطاع غزة)"، دراسة تطبيقية عن الجامعة الإسلامية، وجامعة الأزهر، وجامعة الأقصى، وذلك استكمالاً لمتطلبات الحصول على درجة الماجستير في إدارة الأعمال بالجامعة الإسلامية بغزة.

الحمل الزائد للمعلومات يشير إلى الحالة التي يوجد فيها عدم تطابق بين كمية المعلومات المتاحة للفرد وقدرة الفرد على التعامل مع هذه المعلومات ومعالجتها. أو وجود فرط في كم المعلومات يتجاوز القدرة المحدودة للإنسان في معالجة المعلومات.

ولإيماننا العميق بأنكم الأكثر معرفة بالوضع القائم في إدارة الجامعة، كونكم أهل خبرة واختصاص، وأنكم خير مصدر للوصول إلى المعلومات المطلوبة، يسرّ الباحثة أن تضع بين أيديكم هذه الاستبانة لتعبئتها وكلها أمل أن تجد التعاون المطلق من قبلكم.

يرجى قراءة فقرات الاستبانة المرفقة واختيار الإجابة التي تعكس الواقع الفعلي، علماً أن المعلومات التي ستعبأ من قبلكم ستعامل بسرية تامة، ولن تستخدم إلا لأغراض البحث العلمي.

وتقبلوا فائق الاحترام والتقدير،،،

الباحثة

رشا وليد أبوروك

المجموعة الأولى: البيانات الديموغرافية:

ضع إشارة (√) في المربع المناسب:

▪ الجنس

ذكر أنثى

▪ العمر

25 إلى 29 30 إلى 39 40 إلى 49 50 فأكثر

▪ مستوى التعليم الأكاديمي:

دبلوم بكالوريوس ماجستير دكتوراه أو أكثر

▪ مجال دراستك الأكاديمية:

الآداب العلوم العلوم التطبيقية
 العلوم الاجتماعية العلوم الطبية أخرى. حدد

▪ سنوات الخبرة العملية:

0 إلى 1 2 إلى 4 5 إلى 9 10 إلى 15 16 إلى 19 أكثر من 20

▪ المستوى الإداري:

رئيس جامعة / نواب ومساعدين عميد نائب / مساعد عميد مدير نائب / مساعد مدير
 قائم بأعمال مدير رئيس قسم إداري رئيس قسم أكاديمي مشرف أخرى. حدد

▪ مهامك الإدارية:

إداري إداري أكاديمي

▪ مكان العمل:

الجامعة الإسلامية جامعة الأزهر جامعة الأقصى

▪ الكلية / القسم الذي تعمل في:

الآداب العلوم العلوم التطبيقية

العلوم الاجتماعية العلوم الطبية أخرى. حدد

▪ المدة في الوظيفة الحالية (سنوات):

0 إلى 1 2 إلى 4 5 إلى 9 10 إلى 15 16 إلى 19 أكثر من 20

▪ عدد ساعات العمل اليومية:

3 إلى 5 6 إلى 8 أكثر من ذلك

▪ لديك ساعات عمل إضافية:

نعم لا

▪ عدد ساعات العمل الإضافية اليومية:

2 إلى 4 5 إلى 7 أكثر من ذلك. كم ساعة؟

▪ ما هي المصادر التي تستخدمها لجمع المعلومات؟

فهرس المكتبة الإنترنت (المصادر المجانية) الإنترنت (المصادر المدفوعة)

الفهارس الإلكترونية المجلات الإلكترونية الكتب والدوريات موارد أخرى. وضح.....

المجموعة الثانية: فقرات الاستبانة

م	الفقرة	موافق بشدة	موافق	متوسطة	لا أوافق بشدة	لا أوافق
تحقيق المهام الوظيفية						
1	تمضي الكثير من الوقت في البحث عن المعلومات.					
2	كم المعلومات الذي تتعامل معه حاليًا أكثر مما يمكنك التعامل معه.					
3	هناك حاجة إلى وجود كم كبير من المعلومات حيث أنها ضرورية لدعم القرارات.					
4	هناك الكثير من المعلومات التي يجب عليك إدارتها يوميًا وهذا يصعب عليك تحديد أولويات المهام.					
5	الحمل الزائد للمعلومات يؤثر سلبًا على تنفيذ القرارات الإدارية ومتابعتها.					

					أنت غير قادر تمامًا على التعامل مع كل المعلومات المتعلقة بالعمل واتخاذ القرارات خلال الفترة المحددة لأداء العمل.	6
					تتأخر بعض القرارات بسبب الحمل الزائد للمعلومات.	7
					الحمل الزائد للمعلومات يؤثر سلبًا في مهارات الاتصال والتواصل مع الآخرين.	8
					الحمل الزائد للمعلومات يؤثر سلبًا على كفاءة وفعالية العمل.	9
					عبء المهام الذي تتعرض له يأتي بشكل أساسي من الحمل الزائد للمعلومات التي يجب أن تتعامل معها في العمل.	10
					انشغال المدراء في جمع المعلومات يصرفهم عن مسؤولياتهم الرئيسية.	11
					عليك مراجعة بريدك الإلكتروني أو حسابك على تويتر أو أي خدمة أخرى عبر الإنترنت لأنك تخشى أنه إذا لم تقم بذلك سوف تصبح بعيدًا جدًا من إدراكها.	12
					لديك رسائل بريد إلكتروني تبقى في صندوق البريد الوارد أكثر من 6 أشهر معلقة دون اتخاذ مزيد من الإجراءات، أو غير مقروءة.	13
					تجد نفسك مشتتًا بمصادر الإنترنت التي تصرفك عن إنجاز أعمالك الأخرى المعلقة.	14
التخطيط						
					الحمل الزائد للمعلومات يؤثر سلبًا في إنجاز المهام الأساسية اللازمة للتخطيط.	15
					المدراء يجدون صعوبة في تطوير استراتيجيات للتعامل مع المعلومات التي يتم الحصول عليها مما يؤثر سلبًا في عملية التخطيط.	16
					الحمل الزائد للمعلومات يؤثر سلبًا على تحليل بيئة العمل والموارد المتوفرة لتحقيق الأهداف.	17
					الحمل الزائد للمعلومات يؤثر سلبًا على سير العمل في اتجاه تحقيق الأهداف.	18
					الحمل الزائد للمعلومات يؤثر سلبًا على إعداد الخطط والإجراءات الإدارية والبرامج التنفيذية.	19
					الحمل الزائد للمعلومات لا يمكنك من مواكبة كل التطورات الجديدة في مجال اختصاصك مما يؤثر سلبًا في عملية التخطيط.	20
					هناك زيادة محتملة في الإنتاجية إذا ما تم إزالة كل الانحرافات والتغلب على الحمل الزائد للمعلومات.	21

حدوث الإجهاد

					الحمل الزائد للمعلومات يساهم في التوتر ويجعلك تعاني من الإجهاد.	22
					الحمل الزائد للمعلومات الذي يسببه العمل يجعلك تشعر بالتعب وتقل الأعباء.	23
					تواجه الإحباط من كمية المعلومات الإلكترونية التي تحتاج إلى معالجتها يوميًا.	24
					هذه الضغوط والأعباء يمكن أن تؤدي إلى سوء الوضع الصحي.	25
					الحمل الزائد للمعلومات يؤدي إلى التوتر مع الزملاء.	26
					عليك إلغاء الأنشطة الاجتماعية نتيجة للحمل الزائد للمعلومات.	27
					تشعر أنك متعب جدًا وبحاجة للأنشطة الترفيهية.	28
					بيئة العمل مرهقة للغاية.	29
					مستويات التوتر في العامين المقبلين المتوقعة عمومًا أن "بيئة العمل سوف تكون أكثر إرهاقًا".	30
					عند فتح بريدك الإلكتروني، فإنه يجعلك تشعر بالقلق من العمل الذي ليس لديك الوقت للقيام به.	31
					تحس بالقلق إذا كنت بعيدًا عن الإنترنت لفترة طويلة جدًا.	32
					الوقت الوحيد الذي تكون فيه غير متصل بالإنترنت هو عندما تكون نائمًا.	33
					كثيرا ما تنسى معلومات تحتاج إلى معرفتها.	34
					في كثير من الأحيان لا يمكنك التركيز بسبب الحمل الزائد للمعلومات.	35

إدارة المعلومات الشخصية

					من الأسهل تخزين وإدارة المعلومات باستخدام الحاسوب.	36
					من الأسهل تخزين وإدارة المعلومات باستخدام النظام الورقي.	37
					ليس لديك أي تفضيل بين أنظمة تخزين وإدارة المعلومات الإلكترونية والورقية.	38
					وجود صعوبة في القراءة من شاشة الحاسوب (مقابل القراءة من ملفات ورقية).	39
					لديك ميل لطباعة المستندات من الإنترنت وذلك لقراءتها في شكل ورقي.	40
					حفظ الملفات في تنسيقات مختلفة تساهم في إنفاق الكثير من الوقت في البحث عن المعلومات.	41

					سرعة الإنترنت في الأوقات الحرجة من اليوم تساهم في قضاء الكثير من الوقت في البحث عن المعلومات مما يزيد من الحمل الزائد للمعلومات.	42
					أخذ برامج تدريبية لزيادة مهاراتك المعرفية، ومهارات معالجة المعلومات تجعل من الأسهل لك التغلب على الشعور بالحمل الزائد للمعلومات.	43
					تحسين مهارات إدارة المعلومات الشخصية الخاصة بك تجعل من الأسهل لك التغلب على الشعور بالحمل الزائد للمعلومات.	44
					تحديد الوسائل المناسبة للحصول على المعلومات اللازمة للمهمة يجعل من الأسهل بالنسبة لك التغلب على الشعور بالحمل الزائد للمعلومات.	45
					توظيف الأدوات التي تمكن وتساعد على فهم واستخدام المعلومات تجعل من الأسهل بالنسبة لك التغلب على الشعور بالحمل الزائد للمعلومات.	46
					توظيف نهج يعرف أهداف محددة وواضحة لاستخدام المعلومات يجعل من الأسهل التغلب على الحمل الزائد للمعلومات.	47
					لديك اشتراك في العديد من التطبيقات بحيث لا يمكنك قراءتها وهذا يجعلك تشعر بالسوء.	48
					عليك قراءة كل المعلومات التي ترد إلى بريدك الإلكتروني أو قارئ RSS أو تويتر كلمة كلمة.	49
					لديك سعي دائم إلى معلومات إضافية من الإنترنت أو الأصدقاء لدعم قرار أو إكمال مشروع لكنك لا تستطيع التعامل معها جميعًا.	50
					تفتح العديد من علامات التبويب في المتصفح ومن ثم تنسى ما كنت تنوي القيام به.	51
					بريدك الإلكتروني، ومحرر مستندات Google، أو القرص الصلب مليئة بأكوام من المعلومات أو المسودات التي لم يتم معالجتها.	52
					تخشى حذف رسائل البريد الإلكتروني أو الملفات القديمة لأنك تخشى أنك قد تحتاجها يومًا ما.	53

العوامل الفردية

					تشعر بحاجة لجمع المعلومات لمواكبة زملائك.	54
					تحسين مهاراتك في فحص المعلومات يجعل من الأسهل لك التغلب على الشعور بالحمل الزائد للمعلومات.	55
					تحسين مهارات وتقنيات إدارة الوقت الخاصة بك تجعل من الأسهل لك التغلب على الشعور بالحمل الزائد للمعلومات.	56
					زيادة عدد سنوات الخبرة في العمل يساعد في التغلب على الحمل الزائد للمعلومات.	57
					تحسين مستوى تعليمك الأكاديمي يساعدك في التغلب على الحمل الزائد للمعلومات.	58

■ هل يمكنك تصوّر وضع مثالي ولكن واقعي لحل مشكلة الحمل الزائد للمعلومات؟

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Appendix C

Referees



الجامعة الإسلامية - غزة

عمادة الدراسات العليا

كلية التجارة - قسم إدارة الأعمال

الاستبانة

الدكتور/ المحترم.

السلام عليكم ورحمة الله وبركاته ،،،

تقوم الباحثة بدراسة حول " أثر الحمل الزائد للمعلومات على الإدارة في مكان العمل (الجامعات في قطاع غزة)" دراسة تطبيقية عن الجامعة الإسلامية-غزة، وجامعة الأزهر - غزة، وجامعة الأقصى - غزة، وذلك استكمالاً لمتطلبات الحصول على درجة الماجستير في إدارة الأعمال بالجامعة الإسلامية بغزة.

ولقد أعدت الباحثة استبانة أولية كأداة رئيسية للدراسة والتي تتكون من خمسة محاور رئيسية، ولإيماننا العميق بأنكم الأكثر معرفة في هذا المجال، كونكم أهل خبرة واختصاص، يسر الباحثة أن تضع بين أيديكم هذه الاستبانة لإبداء آرائكم وتضمين ملاحظاتكم ومقترحاتكم حولها.

وتقبلوا فائق الاحترام والتقدير،،،

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الباحثة

رشا أبوروك

المشرف

أ.د. يوسف عاشور

Referees

#	Name	University
1	Dr. Majed Al-Farra	Islamic University of Gaza
2	Dr. Yousif Bahar	Islamic University of Gaza
3	Dr. Sami Abu Al Ross	Islamic University of Gaza
4	Dr. Nafiz Barakat	Islamic University of Gaza
5	Dr. Samir Safi	Islamic University of Gaza
6	Dr. Waseem Al Habil	Islamic University of Gaza
7	Dr. Ali Shaheen	Islamic University of Gaza
8	Dr. Salim Helles	Islamic University of Gaza
9	Dr. Hamdi Zourb	Islamic University of Gaza
10	Dr. Maher Durgham	Islamic University of Gaza
11	Dr. Hatem Al Aydi	Islamic University of Gaza
12	Dr. Asaad Abu Jasser	Islamic University of Gaza
13	Dr. Sami Abu Naser	Al-Azhar University