INFORMATION OVERLOAD AMONG UNIVERSITY OF NAIROBI MBA STUDENTS

BY

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DECLARATION

This research project is my original work and has not been presented for award of a degree in any other university.

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This project paper has been submitted for examination with my approval as the university supervisor.

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DEDICATION

I dedicate this project to my Dear Wife Mildred and our lovely children, Bivorn, Griffin and Grace, who are the icons of our hope for the future. Their understanding and moral support during my study gave me fresh energy every day enabling me finish this program successfully. May God keep and bless you abundantly.

ABBREVIATIONS AND ACRONYMS

CUM	Cumulative
ICT	Information Communications Technology
MBA	Master of Business Administration
MIS	Management Information Systems
SOB	School of Business
STD DEV	Standard Deviation
SPSS	Statistical Package for the Social Sciences
UON	University of Nairobi
UNESCO	United Nations Educational, Scientific and Cultural Organization
VAR	Variance
PC	Personal Computer

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ABSTRACT

Information Technology plays a very important role in enabling production, processing, storing and distributing huge amounts of information every day. Recent information technology has facilitated the exponential rate at which information is generated allowing information users to access too much information. Despite a lot of advantages realized from advancement of Information Technology in generating diverse information required for knowledge gain for academicians and decision-making for managers, the same technology has contributed a great deal towards Information Overload. Organizations, institutions of higher learning and students alike invest a lot of resources in terms of money, time and efforts to improve themselves but these are neutralized by Information Overload. The purpose of this study was to investigate existence of Information Overload among University of Nairobi MBA students focusing on the following four objectives of the study: To establish the causes of information overload to University of Nairobi MBA students, to determine if University of Nairobi MBA students experienced information overloaded and up to what extent, to determine the extent of Information Overload effect on University of Nairobi MBA students on their various activities and interactions and finally to establish strategies applied by University of Nairobi MBA students to combat Information Overload. This study adopted descriptive survey design where the target population was University of Nairobi 2700 registered MBA students. Simple random sampling technique was used to select respondents. The researcher used a questionnaire as the research instrument which was self-administered and collected back after completion by the researcher. Collected data was analyzed using SPSS frequency tables, Descriptive Statistics and Factor Analysis. The findings were presented using pie chart, bar graph, frequencies tables, percentages, Means and Standard Deviations. Study findings revealed majority of University of Nairobi MBA students were aware of Information overload and more than 90% of them experienced information to a great extent. It was also established that information overload affected majority of MBA students in executing their operations and interactions to a great extent. Further, the study revealed that some MBA students applied some strategies to manage information overload while others did not. From the study findings, the following recommendations where made: First, the University of Nairobi School of Business to incorporate an information literacy course to enable MBA students learn how to handle information, secondly, school of business MBA office to put in place information and communication policy to prevent unnecessary information overload to students.

CHAPTER ONE: INTRODUCTION

1.1 BACKGROUND OF THE STUDY

Information Technology has facilitated the exponential rate at which information is generated allowing users to access too much information (Ruff, 2002). However, having too much information causes information overload, which is the inability to extract needed knowledge from massive quantity of information (Nelson, 1994). Information overload can refer to: the quantity of information, the processing of information, or the retrieval of information (Burge, 1994).

It can further be referred to a mismatch between the amount of information available to an individual and the individual's ability to process the information (Jacoby et al., 1974). Having excess information than once can process leads to dysfunctional consequences (Malhotra, 1984). Butcher, Edmunds & Morris (2000) defined information overload as a burden where an individual is being loaded with a huge supply of spontaneous information where only a little of this may be relevant. Despite the fact that more information increased decision-makers confidence and satisfaction in their decisions, decision makers tend to seek more information than necessary resulting to information overload reducing performance in decision-making O'Reilly (1980). Even though individuals believed that more information was better, it was not the case because perceived information overload was associated with a decrease in overall performance O'Reilly (1980).

A Meta-analysis of 97 peer reviewed information overload studies between 1970 and 2004 in the fields of accounting, organizational science, marketing, and management

information systems discussed the causes, symptoms and countermeasures of information overload (Eppler & Mengis, 2004). In this review it was found out that individual performance positively correlates with the amount of information an individual receives up to a point of optimality. After this point the individual's performance declines as information increases (Eppler & Mengis, 2004). The review also established that Management Information Systems research had surprisingly fewer articles dealing with information overload than the other disciplines despite technology-mediated information having exponentially increased the propensity of overload. In addition, Management Information Systems research often did not systematically define the construct and lacked a clear link between conceptual and empirical studies of information overload. Instead, Management Information Systems research most often focused on information overload as simply a problem that needed to be solved (Eppler & Mengis, 2004).

Hiltz & Turoff (1985) illustrates the above observation, when focusing on minimizing information overload while using computer-mediated communication systems. Miller (1965) found out that the span of absolute judgment and the span of immediate memory impose severe limitation on the amount of information that a person is able to receive, process and remember. Evesto (1993) also found out that, if a person is given more information than he can handle, he will experience information overload.

1.1.1 Causes of Information Overload

Causes of information overload can majorly be grouped into the following five categories: People-related, Technology-related, Organization-related, Tasks and processes causes and Information attributes causes.

People-Related Causes: Jackson (2001) states that overload of information occur when the amount of information to be processed is more than the individual's processing capacity. When and how capacity is reached is influenced by the education, training, experience and motivation as well as the psychological makeup of the individual. Ruff (2002), Althaus (1967), Hiltz & Turoff (1985, Latting (1994) & Strathlat (1998)) note that people who lack the technical skills required to participate in on-line environments may be more susceptible to experiencing information overload than those who have such skills. Althaus (1997), Fournier (1996) & Latting (1994) also assert that anxiety and feelings associated with computer have also attributed to the experiencing of information overload. Burge (1994) & Hiltz (1986) explain that, it is more likely that information and technology novices experience information overload more often than experts experienced users because the novice have to learn simultaneously how to use the technology and the online media information.

Technology: Advancement in information technology has introduced more information which users have to deal with (for example ICT push systems, e-mail and intranet) that are causing information overload (Ruff, 2002 & Jungwirth, 2002). Additionally, Chard (2002) observed that even if the growing power of technology added some relief, many futurists predict that by 2020, information will double about every 70 days.

The Organization: When organizational change process is poorly implemented information overload can increase. Some of the organization related causes include: - interdisciplinary work, collaborative work, centralization or disintermediation, the reward for and accumulation of information to demonstrate power and group heterogeneity (Eppler, 2002).

Processes and Tasks: The more complex a process or task, the greater the information load and the more time required completing it (Ruff, 2002). Information overload is also more likely if the nature of the work involves interruptions or requires completion of parallel projects. Daft & Weick (1984) and Bettman et al (1996) also state that task complexity contributes to information overload. Additionally, when the amount of time available does not equal the time needed to complete a task, adjustment will be made to accommodate the lack of time and this result to inaccuracies, Evasto (1993).

Information Attributes: The following are the causes related to information overload attributes: number of items comprising information, information needed versus information available, variety of information, increase in number of alternatives, ambiguity of information, complexity of information, information quality and excess irrelevant information (Eppler, 2002).

1.1.2 Extent of Information Overload

The extent to which information overload is experienced depends on several factors. To start with, it depends on the attributes of the individuals handling given information. It also depends on the information being processed. The environments where given tasks are performed also determine the extent to which information overload is experienced. Paulo (1999) and Vacke (2002) pointed out that, technical skills required by individuals participating in computer mediated communication influenced the level of information overload. Further, quantity of information for example from internet determines the extent of information overload experienced by information users (Bawden *et al*, 1999). Demands of course readings and difficult learners' materials also influence extent of

information overload experienced by students (Heap, 2007) and (Vanderwell & Zachariah, 2005).

1.1.3 Effects of Information Overload

Effect on Performance: Decision-makers increase their information processing as the result of an increase in information load (Ruff, 2002). However; once capacity is surpassed additional information becomes noise and results in a decrease in information processing and decision quality (Hwang, 1999). Chan (2001) study on bank loan officers operating under information overload, established that the officers required more time to make predictions that were inaccurate compared to when information overload was not experienced.

Effect on Physical Health and Social Relationships: Jackson (2001) found out that information overload increases the level of stress already experienced by individuals which eventually results to heart disease. According to Chard (2002) 25% of workers experienced poor health as a result of significant stress due to the volume of information, 36% of the managers reported ill health as the result of excessive information in the workplace and 64% of those managers felt that information overload had a negative impact on personal and friendly relationships.

Effect on Organizations: Information overload is a very real and serious threat to an organization's performance (Leighton, 2002, & Jackson, 2001). 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 (Baldacchino, 2002). This renders change initiatives, training or developing creativity meaningless and a waste of time, effort and money.

1.1.4 Strategies of Managing Information Overload

Having known that information overload exists, its causes, extent of overload and its effects, relevant strategies can be applied to solve the problem. Strategies required to combat information overload can be grouped into five categories as follows: Individual strategies, Technology strategies, organizational strategies, information processes and information attributes. All these strategies are discussed in the literature review section below.

1.1.5 The University of Nairobi

The University of Nairobi has grown from a humble beginning as a technical college to the status of a major international teaching and research institution. It has recently experienced stiff competition from other public universities as well as private universities. To survive this competition, the University of Nairobi has consistently offered competitive and innovative training in various specialties which respond to the national, regional and African's high level human resource training needs.

School of Business formally Faculty of Commerce is one of the major schools of the University of Nairobi. This school came into existence in the academic year 1956/57 as part of the former Royal Technical College which was inaugurated in 1956. The faculty offered only Bachelor of Commerce degree program with two options namely, Accounting and Business Administration up to 1972. In 2006, the faculty of commerce was renamed School of Business of the University of Nairobi. From 1972/3 academic

year, the school of business started offering the Master of Business and Administration (MBA). In 1998 the School pioneered Module II programs for self-sponsored students at both undergraduate and postgraduate levels. The school has grown to the current student population of over 13,000 with two satellite campuses in Mombasa which started in the year 2004 and Kisumu which started in the year 2008. School of Business is the leading Business School in the Eastern African region attracting students from neighboring countries with large Alumni found at both public and private sectors of Kenya, the region and in Africa. MBA programme has consistently attracted huge number of students where majority of them work during the day and attend classes in the evening.

1.2 STATEMENT OF THE PROBLEM

Several researches have been conducted on the subject of information overload in organizations of diverse disciplines but not much has been done in higher institutions of learning particularly in Kenya. Additionally, many people seem to acknowledge existence of information overload but a few realize how serious a problem it is. Organizations, institutions of higher learning and individuals invest a lot of resources in terms of money, time and efforts to improve their performance and increase returns but these are neutralized by information overload (Ruff, 2002). This renders information overload to be considered as a general problem for society (Rapple, 2011). Harvard business school Managing Vice President, Communication, Collaboration, and Content points out that business school institutions don't prepare students to cope with decision-making and stream processing resulting to information overload (Roth, 2011).

University of Nairobi MBA students are part of the society and hence not spared from the onslaught of information overload. Some have often been heard complaining about being overloaded with information originating from school work, job and family just to name a few. Besides, majority of this group of students own latest Information Technology devices and services which have been considered major causes of information overload (Rapple, 2011). Additionally, MBA students are required to read relatively more in order to meet the course requirement. This increases information overload and hence affects their ability to successfully perform and or complete their tasks (Evaristo, 1993).

The study explored the following research questions: what were the causes of information overload to University of Nairobi MBA students? To what extent was Information overload experienced by University of Nairobi MBA students? What was the effect of information overload in various operations and interactions carried out by University of Nairobi MBA students? What were the strategies used by University of Nairobi MBA students to manage information overload?

1.3 RESEARCH OBJECTIVES

The following were the objectives of this study:

1. To establish the causes of information overload to University of Nairobi MBA students.
2. To establish if University of Nairobi MBA students felt information overloaded and to what extent.
3. To determine the effect of Information Overload on University of Nairobi MBA students' operations and interactions.

4. To establish the strategies applied by University of Nairobi MBA students in managing Information Overload.

1.4 VALUE OF THE STUDY

The results of the study were expected to have direct or indirect benefit to the following parties:

To increase student's awareness and reflection on information overload specifically the causes of information overload, effect on their academic performance, personal lives and relationships and the strategies used to combat information overload. In a broader sense, the study intended to assist students to know their overall in this information society and gain relatively better strategies of handling information overload, hence enable them lead a balanced life. From the study findings, students would know how to properly distribute their time on schoolwork and other responsibilities which affect them and meet their academic objectives, attain problem solving techniques, attain high orderly thinking, health life and excellent interactions with fellow students, lecturers, university administration and workmates. Finally, the study intended to provide a platform for further research in the area of information overload particularly the University of Nairobi and other Higher Institutions of Learning in Kenya.

The research would also shed light on the future of message design on how to produce, organize message to alleviate information overload on readers, how to assist students filter relevant information from a flood of information available in the internet, promoting retention instead of distracting students. Additionally, study findings would contribute to proper utilization of ICT resources to add value instead of losses resulting

from information overload. Finally, research findings would urge educators specifically policy makers to rethink the advantages and disadvantages of Information Technology and make a lead to the improvement of programs, policy, and regulations.

Further; the study findings and recommendations would result to realization of positive gains of resources put on projects giving a solution to ICT productivity paradox which is contributed by information overload more particularly when it is perceived that ITC is a major cause of information overload. In a bigger picture, students of the University of Nairobi and other universities would benefit from the study by applying information overload handling strategies to perform excellently in their studies and secure good jobs and promotions which would translate to high revenue to the government. It would further give an insight on how the government will deal with information overload in order to achieve Vision 2030.

CHAPTER TWO: LITERATURE REVIEW

2.1 INTRODUCTION

This chapter analyzed various studies that have been done on the subject of Information Overload in both learning institutions of higher learning and other organizations. The review specifically focused on how information overload had been defined by various researchers, extent of information overload, causes, effects and strategies applied in managing information overload.

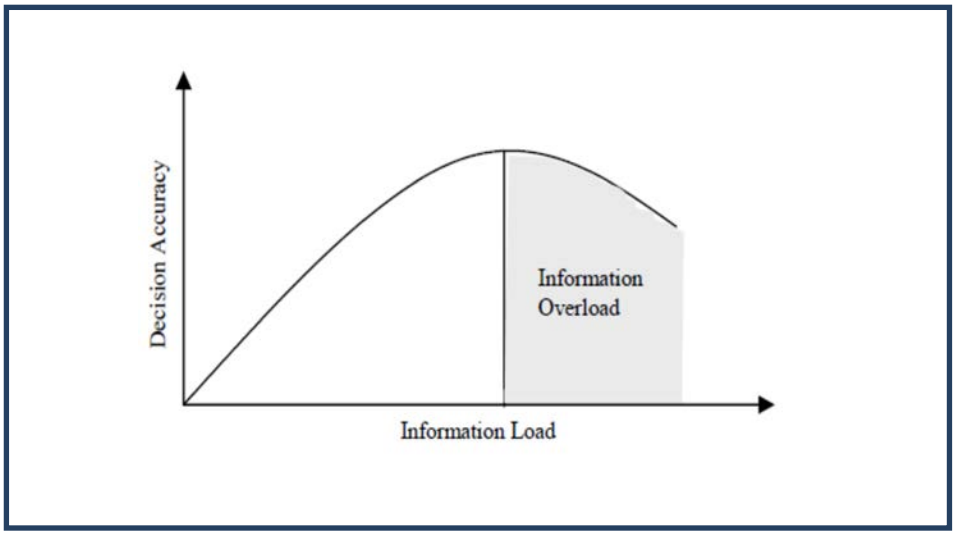
2.2 INFORMATION OVERLOAD

Information overload is a situation where there is a mismatch between the amount of information available to an individual and the individual's ability to process the information (Jacoby et al., 1974). Having excess information than can be processed leads to dysfunctional consequences (Malhotra, 1984). Information overload affects an individual’s ability to successfully perform and or complete a task (Evaristo, 1993). Sheridan & Ferrell (1981) defined information overload as information immersed at a speed too fast for a person to understand. Though there are many different definitions of information overload, what is known as the inverted U curve became one of the first collectively confirmed definitions of information overload (Eppler & Mengis, 2003). The U-curve explains that as both information load and decision accuracy increases, at some point information overload will cause decision accuracy to decrease as shown in Figure 2.2.1.

Researchers across various disciplines have found that the performance or the quality of decisions correlates positively with the amount of information received up to a certain

point. If further information is provided beyond this point, the performance will rapidly decline (Chewning& Harrell, 1990). The information provided beyond this point will no longer be integrated into the decision making process and information overload will be the result (O'Reilly, 1980). The burden of a heavy information load will cause confusion and thus affect ability to set priorities, or makes prior information harder to recall (Schick et al, 1990).

Figure 2.2.1: Information Overload as the inverted U-Curve



Source (Chewning & Harrel, 1990)

2.3 SITUATIONS AND EXTENT OF INFORMATION OVERLOAD

Information Overload is realized when; there is too much information supply, too much information demand, working on parallel tasks, interruptions situations, and the inadequate workplace infrastructure (Kirsh, 2000). Within the research community the daily use of the term has led to various concepts, synonyms and related terms, for instant, cognitive overload, sensory overload, communication overload, knowledge overload, or information fatigue syndrome (Eppler & Mengis, 2003). These concepts have been

applied to a variety of situations, ranging from auditing, strategizing, business consulting management meetings to supermarket-shopping (Eppler & Mengis, 2003). Table 2.3.1 shows a list of some of the situations in which information overload has been discussed in management- related academic literature.

Table 2.3.1: Situations of Information Overload

	Information Overload Situation	**Reference**
Information Retrieval, Organization, and Analysis Processes	• Searching on the Internet • Screening medical information • Financial distress analysis • Evaluating the variety of product functions • Analysis activities (strategic portfolio -, environmental -, new product analysis, service decisions) • Investment analysis • Library management	Berghel, 1997 Bawden, 2001 Chewing & Harring, 1990 Herbig & Kramer, 1994 Meyer, 1998 Tuttle & Burton, 1999 Meier, 1963
	Managerial decisions in general	Ackoff, 1967; Iselin, 1993
Decision Processes	• Management (project, strategic, production management) • Supermarkets (choice of product) • Bankruptcy prediction process • Capital budgeting process • Welfare assistance (decisions about type and amount) • Innovation choice • Price setting • Advertising media selection • Strategy development • Physician's decision making • Financial decision making • Brand choice (consumer decision making) • Aviation	Chervany & Dickson, 1974; Haksever & Fisher, 1996; Meyer, 1998; Sparrow, 1999 Friedmann, 1977; Jacoby et al., 1974 Casey, 1980; Iselin, 1993 Swain & Haka, 2000 O'Reilly, 1980 Herbig & Kramer, 1994 Meyer, 1998 Meyer, 1998 Sparrow, 1999 Hunt & Newman, 1997 Iselin, 1988; Revsine, 1970 Jacoby et al., 1974, 1987; Malhotra, 1982; Owen, 1992; Scammon, 1977; Wilkie, 1974 O'Reilly, 1980
Communication Processes	Meetings	Schick et al., 1990
	• Telephone conversations • The use of Groupware applications • Bulletin Board Systems • Face to face discussions • Telephone company services • Electronic meetings • Idea organization • E-mail • Management consulting • city interactions • Disclosure law, contract complexity, legal disclaimers	Schick et al., 1990 Schultze & Vandenbosch 1998 Hiltz & Turoff, 1985 Sparrow, 1999 Griffeth et al., 1988 Grise & Gallupe, 1999/2000 Grise & Gallupe, 1999/2000 Bawden, 2001; Speier et al., 1999; Denning, 1982 Hansen & Haas, 2001 Milgram, 1970 Grether, Schwartz, & Wilde, 1986

Source (Eppler, 2003)

2.4 CAUSES OF INFORMATION OVERLOAD

Eppler (2002) organized Information overload causes using five categories as given by information overload analytic model given in Fig 2.7.1. Although they have been decomposed into five types, information overload is usually the result of a combination of overlapping factors and not a single factor. These factors (discussed individually) are: Human factors, Technology factors, organizational factors, tasks and process factors and information attributes factors. .

2.4.1 Human Factors

People are the users of information and they play a great role in managing it and influencing information overload. Jackson (2001) states that overload of information occur when the quantity of information to be processed is more than the individual can process in the time available for processing. This means that the point at which information overload occurs is not fixed. When and how capacity is reached (figure 2.2.1) is influenced by the education, training, experience and motivation as well as the psychological makeup of the individual. Ruff (2002) gave some of the following people-causes of information overload: Limitations in the information processing capacity of the individual, motivation, attitude and satisfaction, personal traits (experience, skills, ideology, age), personal situation (time of the day, noise, temperature, amount of sleep), insufficient screening of outgoing information by sender, poor writing skills of information sender, inability to prioritize incoming information just to mention a few.

Althaus (1967), Hiltz & Turoff (1985), Latting (1994) and Strathlat (1998) also found out that individuals who lacked the technical skills required to participate in on-line

environments were more susceptible to information overload than those who had such skills. Althaus (1997), Fournier (1996) and Latting (1994) also affirmed that anxiety and feelings associated with "computer phobias" had also attributed to the experiencing of information overload. Additionally, Burge (1994) and Hiltz (1986) found out that a novice user experienced information overload more often than an experienced user because a novice had to learn simultaneously how to use the technology and the source material that was delivered through online media. The experienced user needed to focus only on the to-be-learned materials.

2.4.2 Technology

Ruff (2002) states that despite Technology helping to create contents and giving us access to vast amounts of information, it has greatly contributed in causing information overload. Information overload is experienced in the process of learning on how to use this technology. Jungwirth (2002) points out that the world produces a billion gigabytes of unique information per year, roughly 250 megabytes for every person on earth where printed documents of all kinds make up only 003% of this total. Additionally, Chard (2002) says that there is no relief added to users of information yet as a result of the growing power of technology added some relief because many futurists predict that by 2020, information will double about every 70 days. Moore's Law also states that computer power doubles every 18 months; this means information will double almost eighteen times faster than computer power. Further, Eppler (2002) lists the following as some of the technology causes related to information overload: New information and communication technologies push systems, e-mail, intranet, and introduction of more technology which creates more information overload.

2.4.3 The Organization

A successful organization must be dynamic as the constant need to organizational change requires intensive communication and coordination which involves exchange of a lot of information. However, if the change process is poorly implemented the result is information overload to employees (Ruff, 2002). The following as some of the information overload organization related causes: work involving several disciplines of the organization, combined work, end-users searching for information instead of information professionals and the reward for and accumulation of information to demonstrate power and group heterogeneity (Eppler, 2002).

2.4.4 Processes and Tasks

The processes and tasks that need to be performed certainly influence information overload (Ruff, 2002). More complex processes or tasks require more information and more time to accomplish. When there is a mismatch of these variables, the result is information overload. Additionally, information overload is more likely if the nature of the work involves interruptions and requires the completion of parallel projects. Daft & Weick (1984), Bettman *et al* (1996) also stated that task complexity contributes to information overload to the person handling the task. Evasto (1993) says that when the amount of time available does not equal the time needed to complete a task, adjustment will be made to accommodate the lack of time resulting to errors. McInnis & Hartley (2002) found out that 72.5% of Australian university students study while working. Besides, a relatively larger proportion of these students are mature-aged with families to take care while only 27.5% aged less than 20 years (Australian Vice-chancellor, 2001).

From this study it was found that work-related information mixed with school work causes information overload to these students.

2.4.5 Information Attributes

Eppler (2002) provides the following causes of information overload related to information attributes: number of items comprising information, information needed versus info available, diversity of information increase in number of alternatives, ambiguity of information, complexity of information, information quality and over-abundance of irrelevant information just to name a few. Ruff (2002) also asserts that the characteristics of the information itself for instance information which is not quality can cause information overload.

2.5 EFFECT OF INFORMATION OVERLOAD ON INDIVIDUALS AND ORGANIZATIONS

Various researches conducted reveal that information overload has got negative impacts on individuals and organizations. Some of these effects are given below:

2.5.1 Effect on Performance

Decision-makers increase their information processing as a result of an increase in information load. However when information amount surpasses processing capacity the individual experiences information overload which consequently affect performance. Hwang (1999) also states that once information processing capacity of an individual is surpassed any additional information becomes noise and results in a decrease in information processing and decision quality. Chan (2001) highlights that in a study carried out on bank loan officers to predict bankruptcy, it was found that officers

operating under information overload required more time to make predictions that were less accurate than when they had not experienced information overload. Zackaruis (2000) states that information overload also interferes with learning and creative problem solving. Availability of too much information prevented venture capitalists from making accurate adjustments to their evaluation process which in turn, impeded learning. Cooley (1980) reveals that at Bernholz in Canada, computers were introduced to enable employees increase their decision-making rate by 1800% or 1900%. However, the objective was not made as this caused a decrease in the ability of workers to solve new problems creatively. Instead creative problem-solving rate decreased by 30% in the first hour, 80% in the second and continued to diminish thereafter. This was really a great negative effect on employee operation caused by information overload.

2.5.2 Effect on Physical Health and Social Relationships of Individuals

Jackson (2001) says that information overload increases the level of stress already experienced by workers. Stress, over an extended period of time, has a negative impact on an individual's health and in particular can cause heart disease. Chard (2002) cites a study where 25% of workers experienced poor health or significant stress due to the volume of information they were required to manage in their jobs where 36% of the managers reported ill health as the result of excessive information in the workplace and 68% of those managers felt that information overload had a negative effect on personal and friendly relationships. Weil (1997) says that "a similar study was conducted with 1,313 senior, middle and junior business managers from the United States, England, Hong Kong, Singapore and Australia. 73% indicated that they needed enormous amounts of information to be successful in their job. In contrast it was believed that information

overload was responsible for 33% of the managers who felt suffered from ill health, 66% who reported tension with fellow workers and diminished job satisfaction and 62% who admitted that social and personal relationships were suffering.

2.5.3 Effect on Mental Health

Allen & Wilson (2003) agree that stress can be a possible cause of information overload and can be an effect on a person's health. They highlighted physical stress and emotional stress as two ways of stress manifestation. In the Reuters' survey, 42% of the respondents identified ill health as an effect of information overload (Allen & Wilson, 2003). The psychologist David Lewis analyzed the Reuter Survey results and came up with the term "Information Fatigue Syndrome" to describe the symptoms of information overload effect (Shenk, 1997).These symptoms are brought on by the stress one faces when dealing with information overload. Emotional Stress manifests itself through emotional symptoms which can include tension with co-workers, a decrease in social activities, and a general and constant feeling of tiredness. Respondents in the Reuters' survey reported their feeling as a result of information overload (Allen and Wilson, 2003). In Tidline (1999) study, some respondents reported headaches and feelings of pressure or confusion as physical and emotional responses to information overload. In the same study, a majority of respondents felt that information overload extended to their leisure hours and described themselves as experiencing conflict or confusion about choosing what to do with scarce free time.

2.5.4 Effect on Organizations' Operations

Leighton & Jones (2002) and Jackson (2001) states that 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 their 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 which is not a sign of organization growth but pulling back growth. Baldacchino (2002) says that making business decisions based on what has worked in the past is like driving a car while looking in the rearview mirror. In an environment where employees resort for previous solutions for guidance in handle current challenges, it makes no business sense why an organization should spend any money on change initiatives, training or developing creativity. What will be realized is wasting of time, effort and money for the organization which is a great negative effect on the organization.

2.6 STRATEGIES OF DEALING WITH INFORMATION OVERLOAD

Various strategies have been proposed by various researchers on information overload. These strategies can be categorized into 5 major categories as explained below:

2.6.1 People Related Strategies

Ruff (2002) gives the following people solutions to information overload which are categorized into proactive and reactive strategies. Proactive strategies attempt to prevent information overload from taking palace while reactive strategies are implemented once information overload has occurred. Preventive strategies of dealing with information as given by Ruff(20012) are: information users to develop a pulse-taking system to form a

constantly changing up-to-date mental model of the organization and key stakeholders, creating a personal system for storing and retrieving information for example notebook, planner, filing and organizing email system, time management training, business and academic writing training, software and technology training and computer literacy for those who are computer illiterate.

Some of the people-reactive strategies of dealing with information overload as given by Ruff (2002) are: focusing attention only on the most useful and essential information while purposefully ignoring other sources, performing two or more job functions at the same time, performing initial steps to tasks that will be completed at a later time, eliminating disturbances by psychologically or physically limiting disruptions from outside world for example not answering phone, closing door, determining and approaching most important tasks first, determining which tasks can be left undone and not being seduced by thinking that more information is better.

2.6.2 Technology Related Strategies

Information technology despite being perceived as the key contributor of information overload by some researchers on this subject, paradoxically several others consider Information Technology as the sole solution to the problem. Etzel (1995) is among the researchers who have suggested that technology is the solution to problem of information overload. Brewster (1997) and Faber (1994) also concur with Etzel (1995) that technology is a solution to information overload for example the use of non-speech sounds provides extra auditory feedback, providing the user with information regarding place and direction of the information, thus reducing one's workload.

Another researcher in this category is Maes (1994) who investigated the use of intelligent agents and found that this development provided users with a sort of computerized personal assistant whose main task is to search for relevant information amongst huge amounts of irrelevant information on behalf of the users. This style of human-computer interactions has dramatically changed from usual interactions, and agents save users of wasted filtering time, thus reducing information overload. In addition, Pacey (1999) proposes use soft science professionals to work with engineers, computer experts and accountants who tend to neglect the human dimensions of the project when designing IT systems.

2.6.3 Organization Related Strategies

Maitland (2002) states that an organization can employ a communications specialist who acts like an air traffic controller by coordinating, organizing, prioritizing, and limiting the amount of internal communication employees receive. Eppler (2002) highlights the following organization strategies in handling information overload: prevent broadcasting of messages to all employees, provide decision-making templates that workers can use when experiencing information overload, train employees on working with information. Standardize communication by creating memo and email templates that allow readers to quickly assess topic, audience, relevance, number of words and approximate read time.

Additionally, the organization can use a well-coordinated team approach to share the burden of information processing, have members rotate through various roles for a better understanding of the big picture, encourage team working while reporting to a leader who puts all the pieces together. Further, the organization can hire knowledgeable and well-

trained secretaries or assistants to help management with information processing load. Devise, implement and train workers on a standardized organization-wide information storage and retrieval system. Finally it can build small, manageable knowledge repositories that give contribution access to a limited number of experts; institute purging and replacement policies for content

2.6.4 Processes and Tasks

Eppler (2002) gives the following process-related strategies which can be used in handling information overload: Handling information once, discontinue subscriptions to periodicals which users have got no time to read, limit time with televisions, reduce time on internet, minimize following of the news and request removal from distribution lists delivering undesired mails.

2.6.5 Information Attributes Strategies

The following strategies related to information characteristics are proposed by Eppler (2002): Use charts, graphs and other graphical representations that allow data to be viewed and assessed more quickly, avoid using charts, graphs and other graphical representations to present more data than required, send only necessary email and only to those who need it, ask friends and colleagues not to send frivolous email like jokes, and cartoons, write clear, short and succinct memos and email, use informative subject line to put message in context, in first paragraph, state intended audience and purpose so that the reader can determine relevance, introduce most important content first and summarize content in the beginning of the communication and limiting web page content to one or two screens just to name a few.

2.6.6 Information Literacy

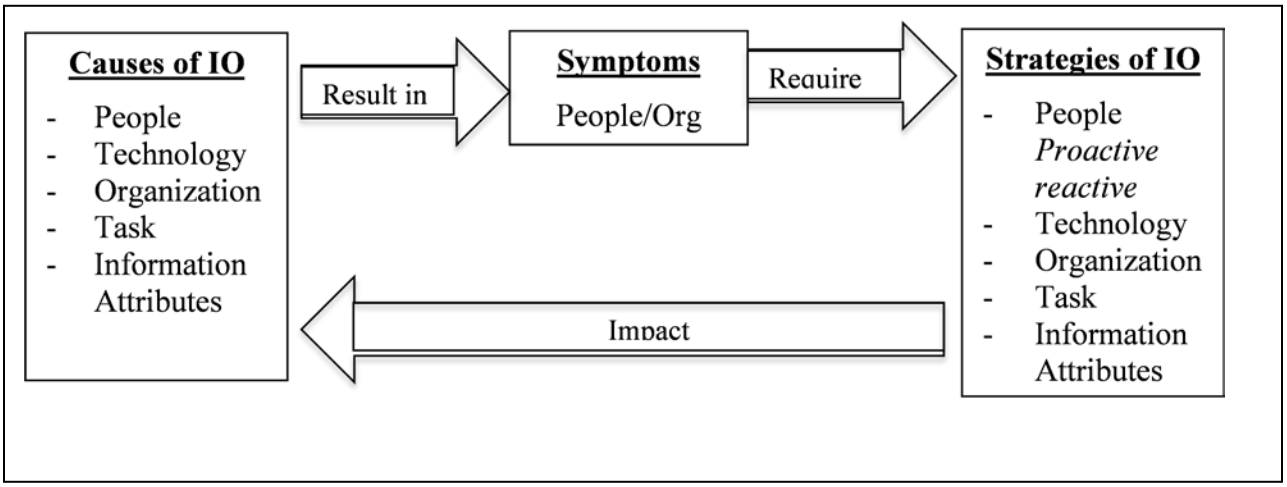
Welsh Information Literacy Project (2011) states that being able to use different ways of sourcing for information and being able to judge whether the information is trustworthy or accurate is vital. Information literacy opens up choices, empowers and gives information consumers more confidence. UNESCO (2005), states that information literacy is basic to negotiating meaning in the information environment of the 21st century. It empowers people in all walks of life to seek, evaluate, use and create information effectively to achieve their personal, social, occupational and educational goals. It is seen as a basic human right in a digital world and promotes social inclusion of all nations.

In her conference paper Ratanya (2012), expresses her acknowledgement that explosion and emerging new technology have led to a tremendous increase in the amount of information singling out the academic scenario where students are bombarded with lots of information making it difficult to differentiate what is valuable from what is not valuable. Ratanya (2012) study on information literacy examined the levels of information literacy skills among post-graduate Egerton University students. This study revealed that students have challenges in locating, retrieving and using information sought for their academic and research excellence. From the study findings, she recommended acquisition of information literacy skills by students as one of the strategies needed to adopt and sensitize students on information available in electronic format.

2.7 CONCEPTUAL MODEL

Ruff (2002) uses an analytic model, which is a modification of Eppler (2002) framework to explain information overload. The tool comprises three components which are presented in a cyclical rather than linear fashion. Any solution introduced to combat information overload will influence other causes. The tool also shows that there is no single factor that will eliminate information overload; it rather requires a continuous cycle of improvement and refinement (Eppler, 2002). The model divides causes and solutions into the following five categories: people, technology, the organization, processes or tasks and information attributes. Solutions directed towards people are further classified into proactive strategies, which are an attempt to prevent information overload from occurring and reactive strategies, where information overload is combated once it has appeared. All symptoms have been categorized under people because that is where causes of information overload are recognized.

Figure 2.7.1: Information Overload Analytic Model



Source (Eppler, 2002)

2.8 SUMMARY OF LITERATURE

The literature review gave various definitions of information overload as given by various researchers. Majority of the researchers pointed out that information overload has various definitions and not a single definition. The literature reviewed situations where information overload is experienced for instance in organizations, learning institutions and among individuals, various factors causing information overload, information overload effect factors and strategies used to combat information overload. Most researchers attributed Information Technology as the greatest contributor towards Information overload. Paradoxically, other researchers highlighted information technology as sole savior of users of information from information overload menace. In summary, various researches reviewed indicated clearly that information overload exists and is a major problem in the 21st century and if not properly taken care of organizations, institutions and individuals' efforts, resources and time will be frustrated. The society's hope in dealing with this vast growing danger of information overload lies on latest Information Technology and the people who are the consumers of information.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 INTRODUCTION

This chapter describes the methods that were used to provide answers to research questions. The following phases of research methodology are discussed: Research design, data collection, population and sample design, research instrument, data collection procedure and data analysis.

3.2 RESEARCH DESIGN

This study used descriptive survey which the researcher considered the most appropriate to meet the objectives of the study (Parahoo, 2006) and to generate answers to the research questions (Orodho, 2003). Simplicity of this technique also made the researcher prefer it over other techniques. The researcher posed a series of questions in form of questionnaire which was administered to willing MBA students to complete. The study aimed to provide data on information overload among MBA students under school of Business, University of Nairobi.

3.3 POPULATION OF THE STUDY AND SAMPLE DESIGN

The target population was University of Nairobi 2700 Registered MBA students for the year 2012/2013 as per the records obtained from MBA coordinating office at Ambank 15th Floor on Aug 26th 2013.

This study used simple random sampling to collect data from MBA students given that a sample is part of a target population procedurally selected to represent population (Mugenda and Mugenda, 2003). The researcher identified Ambank 1st Floor Foyer

where most of the common unit classes are held as a strategic place to administer questionnaires. From the registered student registers at the class entrance, four common units with more than 200 students were identified as the most appropriate target. These registers served as the sample frame for the researcher and the respondents were randomly selected and issued with questionnaires to complete. Respondents were chosen from the following four common unit classes: Strategic Management class of Tuesday 5.30-8.30 pm where more than 60 questionnaires were issued, Marketing Management class of Wednesday 5.30-8.30 pm where more than 50 questionnaires were issued, Management Accounting class of Thursday 5.30-8.30 pm where more than 55 questionnaires were issued and Financial Management class of Friday where more than 60 questionnaires were issued. In total more than 230 questionnaires were issued in the four classes. Besides, the researcher distributed more than 40 questionnaires via email attaining the sample size of 270 respondents as per the study sample size.

The researcher considered the following criteria to determine the appropriate sample size: the sampling error, the level of confidence and the degree of variability in the attributes being measured (Miaoulis & Michener, 1976). To choose the sample size, the researcher had the following two options: (i) Yamane (1967:886) statistical formula; $n = N/1 + N (e)^2$ where n=sample size, N=Population and e= sampling error, and (ii) Gay (1983) suggestion of choosing a sample size where 10% of the target population is proposed as sufficient for descriptive studies. Before deciding on the method of choosing the sample size, the researcher considered factors like; population representativeness, convenience, time and cost to choose the sample size. The first

option gave a sample size of 348 (2700/1+2700(0.5)2 while the second option gave a sample size of 270 (2700 * 10%). Although the first option would be more representative having a higher sample size of 348, the researcher preferred to use the second option with a sample size of 270 given the limited time that was available to collect and analyze data. Besides, the researcher perceived a sample size of 270 as sufficient enough to represent the target population because MBA students share most of the attributes.

3.4 DATA COLLECTION

The study used primary data which was collected through a questionnaire structured in a manner to cover all the research objectives. The questionnaire comprised of closed ended questions for ease of administration. Likert type questions were provided whereby respondents were required to indicate the extent to which the statements representing various variables applied to them. The questionnaire comprised of the following sections: demographic details, causes of information overload among MBA students, extent of information overload among MBA students, effects of information overload on tasks and interactions carried out by MBA students and Strategies used by University of Nairobi MBA students to combat information overload.

The questionnaire was preferred because it is a fast way of obtaining data as compared to other instruments (Mugenda & Mugenda, 2003). It was preferred also because it would give comprehensive data on a wide range of information overload objectives. Additionally it would allow greater uniformity in the way questions are asked, ensuring greater compatibility in the responses. Further, by use of a questionnaire a large amount

of information could be collected from University of Nairobi MBA student population conveniently.

3.5 DATA ANALYSIS

Completed questionnaires were first edited for accuracy, completeness and consistency. A codebook was prepared using SPSS where all variables were coded, defined and labeled for easy analysis. Collected data were then subjected to various analyses.

Demographic data were analyzed using frequencies percentages and then were presented using tables. The demographic data covered: respondents' age groups, gender, marital status, thematic areas of specialization, employment status, monthly income, ownership of personal computer or laptop, installation of information management software and computer proficiency.

All the four study objectives (i.e. causes of information overload to University of Nairobi MBA students, extent of information overload to University of Nairobi MBA students, effects of information overload to University of Nairobi students' operations and interactions and strategies applied by University of Nairobi MBA students to manage information overload) were analyzed using; mean, standard deviation and factor analysis. The results were presented using tables and scree plot graphs.

CHAPTER FOUR: DATA ANALYSIS, INTERPRETATION AND PRESENTATION OF RESULTS

4.1 INTRODUCTION

This chapter presents analysis and findings of the study as per the research methodology. The results are presented on respondents' demographic information, causes of information overload to respondents, extent to which the respondents experienced information overloaded, effect of information overload on various tasks and interactions carried out by the respondents and strategies applied by the respondents to combat information overload. Out of 270 questionnaires administered to the respondents, 211 were returned for data analysis while 59 respondents failed to return the questionnaires. This translates to 78.1% return rate and 21.9% return failure of issued questionnaires. Generally, the response rate can be said to have been high and sufficient for the research data analysis and presentation.

4.2 DEMOGRAPHIC INFORMATION

The researcher presented the results in frequencies and percentages and equally discussed the analysis completed questionnaires to give an interpretation of expectation of each question.

4.2.1 Respondents' Age group

The respondents were asked to give this information to enable the researcher establish the age groups of University of Nairobi MBA students. Table 4.2.1 shows the distribution of respondents' age groups, frequencies and percentages.

Table 4.2.1: Distribution of Respondents by Age Groups

Age Group	Frequency	Percent
18-25 Years	25	11.9
26-30 Years	55	26.1
31-35 Years	61	28.9
36-40 Years	41	19.4
40 Years and above	29	13.7
Total	**211**	**100.0**

Source (Researcher, 2013)

Table 4.2.1 indicates the age group distribution in years of registered MBA students during the period 2012/2013 starting with the highest to the lowest: 31-35 (translating to 28.9%), 26-30 (translating to 26.1%), 36-40 (translating to 19.4%), more than 40 (translating to 13.7%) and finally 18-25 (translating to 11.9%). From the analysis, majority of University of Nairobi MBA students are aged 26 years and above.

4.2.2 Respondents' Gender

The researcher asked this question to know the number of male and female students who registered for MBA program and the analysis is presented as per Table 4.2.2.

Table 4.2.2: Distribution of Respondents by Gender

Gender	Frequency	Percent
Male	113	53.6
Female	98	46.4
Total	**211**	**100.0**

Source (Researcher, 2013)

Table 4.2.2 shows that, 113 male students registered for MBA program while 98 female registered for the program. From the findings therefore majority of University of Nairobi MBA students are male.

4.2.3 Distribution of Respondents by Marital Status

This question was asked in order to know the frequency of those MBA students with families and those who did not have families from their marital status.

Table 4.2.3: Distribution of Respondents by Marital Status

Marital Status	Frequency	Percent
Single	74	35.1
Married	137	64.9
Total	**211**	**100.0**

Source (Researcher, 2013)

From Table 4.2.3 the highest frequency i.e. 137 translating to 64.9% of the respondents are married while 74 which translates to 35.1% are not married. From the literature review, it was argued by some researchers that married students who work during the day and study in the evenings experience more information overload originating from: Family responsibilities, work and school. Unmarried students on the other hand don't have family responsibilities hence experience information overload less.

4.2.4 Thematic Area of Specialization

This question was asked in order to establish the number of respondents from various areas of specializations under University of Nairobi School of Business. Table 4.2.4 presents the frequencies and percentages of respondents from the 10 University of Nairobi, School of Business thematic areas of specialization.

Table 4.2.4: Distribution of Respondents by Thematic Area of Specialization

Thematic are of Specialization	Frequency	Percent
Accounting	17	8.1
Human Resource Management	18	8.5
Insurance	14	6.6
Marketing	18	8.5
Operations Management	20	9.5
Finance	24	11.4
Strategic Management	34	16.1
International Business Management	18	8.5
Management Information Systems	29	13.7
Procurement & Supply Chain Management	19	9.0
Total	**211**	**100.0**

Source (Researcher, 2013)

Table 4.2.4 shows that majority of respondents came from Strategic Management specialization with the highest frequency of 34 which is 16.1% of the total response while insurance registered the least frequency of 14 which is 6.6% of the total response.

4.2.5 Employment Status

This question was asked to enable the researcher get information on the number of MBA students who are employed. From the introduction it was hypothesized that MBA students who work during the day and attend classes in the evening experience information overload more than those who don't work. Employed students also comfortably afford purchasing IT devices which are said to contribute to information overload.

Table 4.2.5: Distribution of Respondents by Employment Status

Employment Status	Frequency	Valid Percent
Employed	193	91.5
Not Employed	18	8.5
Total	**211**	**100.0**

Source (Researcher, 2013)

Table 4.2.5 indicates that out of 211 respondents 193 which represent 91.5% of the total respondents are employed while 18, which represent 8.5% of the total respondents are not employed. This analysis justifies the hypothesis made by the researcher in the introduction part of this study that majority of MBA students work during the day and attend classes in the evening.

4.2.6 Monthly Income

This question was asked to know the levels of monthly income for respondents so as to answer the hypothesis given by the researcher that those MBA students who get more income afford to purchase information technology devices and afford information technology services which have been associated with causing information overload.

Table 4.2.6: Distribution of Respondents by Monthly Income

Monthly Income Bracket	Frequency	Percent
Kshs: 30,000-50,000	5	2.5
Kshs: 50,001-70,000	25	12.6
Kshs: 70,001-100,000	44	22.1
Kshs: 100,001-120,000	25	12.6
Kshs: 120,001-150,000	74	37.2
Kshs: 150,001 and above	26	13.1
Total	**199**	**100.0**
No Response	12	4.4

Source (Researcher, 2013)

From Table 4.2.6, the highest frequency is 74 which represents 37.2% of total respondents indicates that majority of the respondents fall in the monthly salary bracket of between Kshs: 120,001 and Kshs: 150,000 followed by those who earn between Kshs: 70,001 and Kshs 100,000. The least monthly income earners fall under a monthly income bracket of between Kshs 30,000 and Kshs 50,000. From this analysis, it can be concluded that that majority of the respondents owned personal computers or laptops. The table also indicates that 12 respondents which represent 4.4% of total respondents did not indicate their monthly income bracket giving no reason of failing to do so.

4.2.7 Ownership of Personal Computers or Laptops

This question was asked to find out the number of respondents who owned personal computers or laptops as well as those who did not. A computer is an important IT device in information generation, processing, storing and dissemination. Table 4.2.7 shows the frequencies and percentages on computer ownership by respondents.

Table 4.2.6: Distribution of Respondents by Monthly Income

Personal computer ownership	Frequency	Percent
Owned	185	88.1
Did not own	26	11.9
Total	**211**	**100.0**

Source (Researcher, 2013)

Table 4.2.7 shows that, 185 which represent 88.1% of total respondents owned personal computers or laptops while 26 which represent 11.9% of total respondents did not own a personal computer or laptop. From the analysis therefore, it can be concluded that majority of the respondents own personal computers or laptops.

4.2.8 Installation of Information Management Software on Personal Computers

This question was asked to establish if those who owned personal computers or laptops installed them with any information management software to enable them manage information in a better way.

Table 4.2.8: Distribution of Software Installation on Respondents' Computers

Information Management Software	Frequency	Percent
Installed software on personal computer	147	69.69
Did not install software on personal computer	43	20.38
No Response	21	9.95
Total	211	100.0

Source (Researcher, 2013)

Table 4.2.8 indicates that 147 respondents installed their personal computers or laptops with information management software, 43 respondents did not and 20 respondents did not indicate if their computers were installed with any information management software or not. Those who did not indicate status of software installation did not give any reason.

4.2.9 Computer Proficiency

The researcher posed this question to the respondents in order to know the respondents' level of computer proficiency. From the literature review, some researchers argued that expert computer users experienced less information overload compared to the novices who struggle to learn on how to use the computer as well as to get the information required. Table 4.2.9 shows computer proficiency with percentages.

Table 4.2.9: Distribution of Respondents According to Computer Proficiency

Computer Proficiency	Frequency	Percent
Expert	34	16.1
Intermediate	150	71.1
Novice	27	12.8
Total	**211**	**100.0**

Source (Researcher, 2013)

From Table 4.2.9 34 respondents which translate to 16.1% were experts in using computers, 150 which represent 71.1% of the respondents were intermediate level computer users and 27 which represent 12.8% of the respondents were novice computer users. From this analysis, it can therefore be said that majority of the respondents were intermediate level users of computers. This indicates that majority of the respondents still experienced challenges in using computers in managing information.

4.3 CAUSES OF INFORMATION OVERLOAD TO THE RESPONDENTS

4.3.1 Introduction

A list of factors causing Information overload was designed to enable the researcher find out the factors which caused information overload to the respondents. The researcher used the Likert scale rating where the respondents rated the extent to which various factors caused information overload to them. The value 1 represented “no extent”, 2 represented “little extent”, 3 represented “moderate extent”, 4 represented “great extent” and 5 represented “very great extent”. This part shows the mean and standard deviation on causes of information overload as indicated by the respondents.

4.3.2 Mean and Standard Deviation

Causes of Information Overload variables resulted to means and Standard Deviations corresponding to various variables as indicated in Table 4.3.1. From the Likert scale ratings explanation in part 4.3 above, the means and standard deviations did not match exactly to the Likert rating values (1, 2, 3, 4 & 5) but falls in between depending on the response. The researcher therefore presumed the mean value between 1-1.4 to interpret to "no extent", 1.5-2.4 to interpret to "little extent', 2.5-3.4 to interpret to "moderate extent", 3.5-4.4 to interpret to "great extent" and 4.5-5.0 to interpret to "very great extent".

Table 4.3.2: Mean and Standard Deviation

Information Overload Causing Factors	Mean	Std. Dev
1. Lack of information management guidance from university library	3.42	1.222
2. Pressure originating from work and studies	4.00	1.148
3. Overwhelming amount of information due information technology	4.08	1.193
4. Overwhelming responsibilities from family, work and course work	3.79	1.266
5. Registering for more units than i can handle in a semester	3.49	1.160
6. Inadequate computer and related Information Technology skills	3.27	1.406
7. Lack of information management skills to manage information	3.17	1.272
8. Complex assignments requiring more time than is available	3.52	1.006
9. Abundant unfiltered course-related alternative information	3.68	.955
10. Excessive lecture materials against available time to read them	3.17	.913
11. Acquisition of several similar information technology devices	3.14	1.221
12. Searching and reading irrelevant course-related information	3.70	1.047
13. Dealing with a variety of information generating networks	3.49	.933
14. Inadequate experience in filtering internet information	3.29	1.404
15. Anxiety and feelings associated with computer phobia	2.66	1.435
16. Interruptions from non-lecture information while attending classes	2.82	1.120

Source (Researcher, 2013)

From Table 4.3.2, the factor "Overwhelming amount of information due to Information Technology" has the highest mean value of 4.08 which is interpreted as "Great Extent" while the factor "Inadequate experience in filtering internet information" has the lowest mean value of 2.66 which is interpreted as "moderate extent". The factor "Pressure

originating from work and studies" has the mean value of 4 which is exactly the rating of "Great Extent" as per the Likert scale used. The values of Standard Deviation indicate varied opinions of respondents on how various factors caused information overload to them. From Table 4.3.2, the highest value (1.435) Standard Deviation indicates that respondents had varied opinions on how the factor "Anxiety and feelings associated with computer phobia" caused information overload to them. On the other hand, the least value (0.913) Standard Deviation indicates that most of the respondents agreed on the extent to which the factor "Excessive lecture materials against available time to read the materials" caused information overload to the respondents.

4.3.3 Factor Analysis

4.3.3.1 Introduction

Information overload causing variables were subjected to factor analysis to identify the most significant factors out of the 16 variables designed by the researcher. Factor analysis generated the following tables and figure: Correlation Matrix, Communalities, and Scree Plot graphs, Factor Extraction, Rotated Component Matrix and Factor Isolation.

4.3.3.2 Correlation Matrix

Correlation matrix was used to summarize the correlation between causes of information overload variables. Letter "C" combined with numbers; 1-16 in Table 4.3.3.2 represents causes of information overload. The full label of these causes represented by letter "C" is given in Table 4.3.3.3 (Factor Analysis-Communalities). Correlation matrix was used to summarize the correlation between causes of information overload variables as indicated in Table 4.3.3.2.

Table 4.3.3.2: Correlation Matrix

	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
C1	1.000	.390	.336	.243	.486	.434	.578	.429	.321	.242	.574	.391	.277	.364	.446	.305
C2	.390	1.000	.245	.721	.527	.392	.287	.444	.333	.342	.416	.368	.109	.314	.321	.325
C3	.336	.245	1.000	.312	.274	.437	.577	.243	.478	.106	.436	.360	.417	.493	.544	-.035
C4	.243	.721	.312	1.000	.426	.397	.287	.296	.183	.253	.354	.301	.188	.371	.376	.112
C5	.486	.527	.274	.426	1.000	.538	.629	.524	.349	.514	.625	.501	.238	.490	.513	.311
C6	.434	.392	.437	.397	.538	1.000	.757	.381	.487	.421	.633	.575	.347	.746	.747	.454
C7	.578	.287	.577	.287	.629	.757	1.000	.482	.589	.374	.675	.555	.341	.699	.833	.244
C8	.429	.444	.243	.296	.524	.381	.482	1.000	.522	.627	.524	.530	.332	.524	.260	.383
C9	.321	.333	.478	.183	.349	.487	.589	.522	1.000	.441	.546	.500	.309	.463	.514	.240
C10	.242	.342	.106	.253	.514	.421	.374	.627	.441	1.000	.405	.543	.170	.408	.246	.395
C11	.574	.416	.436	.354	.625	.633	.675	.524	.546	.405	1.000	.723	.541	.711	.587	.284
C12	.391	.368	.360	.301	.501	.575	.555	.530	.500	.543	.723	1.000	.466	.655	.527	.486
C13	.277	.109	.417	.188	.238	.347	.341	.332	.309	.170	.541	.466	1.000	.478	.271	.179
C14	.364	.314	.493	.371	.490	.746	.699	.524	.463	.408	.711	.655	.478	1.000	.615	.248
C15	.446	.321	.544	.376	.513	.747	.833	.260	.514	.246	.587	.527	.271	.615	1.000	.138
C16	.305	.325	-.035	.112	.311	.454	.244	.383	.240	.395	.284	.486	.179	.248	.138	1.000

Source (Research, 2013)

The analysis of Table 4.3.3.2 indicates that several of the observed relationships were very strong. The strongest relationship was between "Lack of information system management skills to effectively manage information" and "Anxiety and feelings associated with computer phobia" (r=.833) which indicates that if a respondent lacked information management skills to effectively manage information, he/she was more likely to server from anxiety and feelings associated with computer phobia: thus, MBA students who responded that "Lack of information management system to effectively manage information was the cause of information overload also indicated that anxiety and feelings associated with computer phobia caused information overload to them to a great extent than those who did not.

4.3.3.3 Communalities

The communalities were used to check the pattern of variable relationships. First the significance values were scanned to look for variable which were less than 0.5 and

remove them so as to retain variables with a value between 0.5 and 0.9. Existence of any value greater than 0.9 could indicate that there was a problem of singularity in the data. This check found two variables (i.e. Lack of information management guidance from university library staff with 0.393 and Dealing with a variety of information generating networks with 0.460) which were removed remaining with 14 variables. However no greater than 0.9 communalities were identified.

Table 4.3.3.3: Communalities

	Initial	Extraction
1. Pressure originating from work and studies	1.000	.842
2. Overwhelming amount of information due information technology	1.000	.649
3. Overwhelming responsibilities from family, work and course work	1.000	.797
4. Registering for more units than i can handle in a semester	1.000	.620
5. Inadequate computer and related information technology skills	1.000	.686
6. Lack of info. Management skills to effectively manage information	1.000	.806
7. Complex assignments which require more time than the available time	1.000	.647
8. Availability of abundant unfiltered course-related alternative information	1.000	.498
9. Excessive lecture materials vas available time to read the materials	1.000	.649
10. Acquisition of several similar information technology devices	1.000	.733
11. Searching and reading irrelevant course-related information	1.000	.701
12. Inadequate experience in filtering internet information	1.000	.701
13. Anxiety and feelings associated with computer phobia	1.000	.754
14. Interruptions from non-lecture information while attending classes	1.000	.574

Source (Research, 2013)

Table 4.3.3.3 shows remaining variable communalities after dropping the two variables which had less than 0.5 communality values. The communalities in the column labelled Extraction reflect the common variance in data structure.

4.3.3.4 Factor Extraction

Table 4.3.3.4 lists the Eigenvalues of all factors before extraction and after extraction. Before extraction 14 factors within the dataset are identified.

Table 4.3.3.4: Factor Extraction (Total Variance)

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cum. %	Total	% of Var.	Cum. %
1	7.117	50.833	50.833	7.117	50.833	50.833
2	1.534	10.957	61.790	1.534	10.957	61.790
3	1.230	8.786	70.576	1.230	8.786	70.576
4	.875	6.252	76.827			
5	.676	4.831	81.659			
6	.551	3.936	85.594			
7	.463	3.304	88.898			
8	.400	2.859	91.757			
9	.359	2.563	94.321			
10	.249	1.776	96.097			
11	.198	1.413	97.510			
12	.157	1.122	98.631			
13	.102	.727	99.358			
14	.090	.642	100.000			

Extraction Method: Principal Component Analysis.

Source (Researcher, 2013)

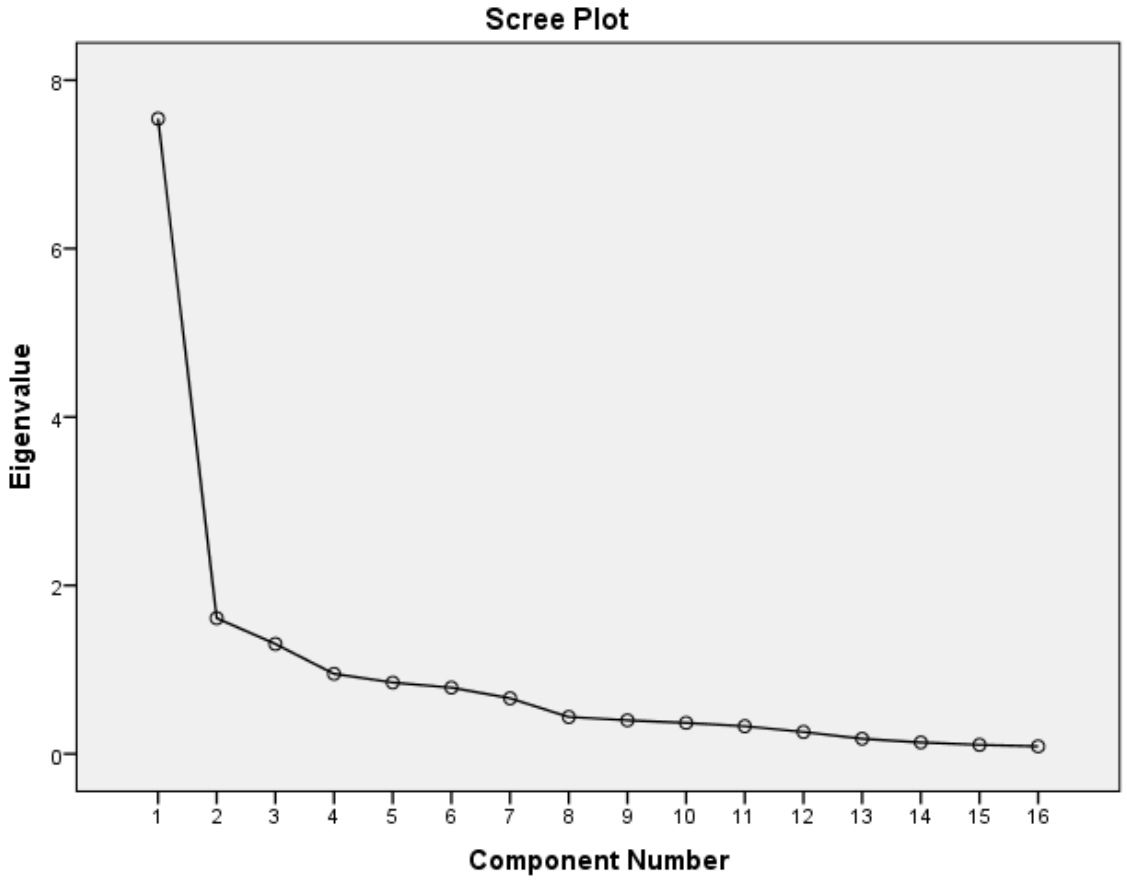
Table 4.3.3.4 shows the Eigenvalues associated with each factor representing the variance by the particular factor. The table displays the Eigenvalue in terms of the percentage of variance where all factors with Eigenvalues greater than 1 are extracted while those factors with Eigenvalue of less than 1 are left out. According to Table 4.3.3.4, only 3 factors were significant for the analysis.

4.3.3.5 Scree Plot Graph

This is a graph of the factor Eigenvalues against the component numbers. The scree plot in Figure 4.3.3.5 indicates that only 3 factors could be considered for analysis because the curve tends to tail from the 3rd component onwards due to low factor Eigenvalues.

The graph is used to determine how many factors to retain. The point of interest is where the curve starts to flatten. From Figure 4.3.3.5 the curve begins to flatten between factor 3 and 4. From Table 4.3.3.4 factor 4 has value of less than 1, so only three factors have been retained for further analysis.

Figure 4.3.3.5: Scree Plot Graph



Source (Researcher, 2013)

4.3.3.6 Rotated Component Matrix

After extracting the most significant variables, the variables were rotated using rotational component matrix to reduce the number factors on which the variables under investigation had high loading.

Table 4.3.3.6: Rotated Component Matrix

Causes of Information Overload to University of Nairobi MBA Students	Component		
	1	2	3
1. Lack of info. Management skills to effectively manage information	.882		
2. Anxiety and feelings associated with computer phobia	.870		
3. Inadequate experience in filtering internet information	.760		
4. Overwhelming amount of information due information technology	.750		
5. Inadequate computer and related information technology skills	.747		
6. Acquisition of several similar information technology devices	.690		
7. Availability of abundant unfiltered course-related alternative information	.605		
8. Excessive lecture materials vas available time to read the materials		.774	
9. Interruptions from non-lecture information while attending classes		.736	
10. Complex assignments which require more time than the available time		.729	
11. Registering for more units than i can handle in a semester			
12. Overwhelming responsibilities from family, work and course work			.896
13. Pressure originating from work and studies			.851

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. a. Rotation converged in 5 iterations.

Source (Researcher, 2013)

The rotation matrix groups variables into 3 components. However; complex structure was identified on the variable "Searching and reading irrelevant course-related information" i.e. variable 11 in Table 4.3.3.3 with a loading of 0.551 on component 1 and a loading of 0.630 on component 2. The variable was removed and component principal analysis repeated to give the result in Table 4.3.3.6.

4.3.3.7 Factor Isolation

As shown in Table 4.3.3.6, the information in seven of the variables can be represented by component Factor 1, information in the three variables can be represented by component Factor 2 and information in the two variables can be represented by component Factor 3.

Table 4.3.3.7: Factor Isolation

Component	Variables
Factor 1	1. Lack of info. Management skills to effectively manage information 2. Anxiety and feelings associated with computer phobia 3. Inadequate experience in filtering internet information 4. Overwhelming amount of information due information technology 5. Inadequate computer and related information technology skills 6. Acquisition of several similar information technology devices **7.** Availability of abundant unfiltered course-related alternative information
Factor 2	1. Excessive lecture materials vas available time to read the materials 2. Interruptions from non-lecture information while attending classes 3. Complex assignments which require more time than the available time
Factor 3	1. Overwhelming responsibilities from family, work and course work 2. Pressure originating from work and studies

Source (Researcher, 2013)

Interpretation of the Principal Components in Table 4.3.3.6

Component Factor 1, 2 and 3 variables are shown in Table 4.3.3.6. Factor 1 variables can collectively be called "Information Technology related", Factor 2 can collectively be called "Course related" and Factor 3 can collectively be called "pressure related".

Variance Explanation in Individual and Total Variables

The components explain at least 70.28% of the variance in each of the variables included in the final analysis as shown in Table 4.3.3.3. The 3 components explain 65.36% of the total variance in the variables which are included on the components as shown in Table 4.3.3.4.

Caution: A caution is added to the researcher findings because of the inclusion of ordinal level variables in the analysis and the incomplete data available for analysis. Only 211 received completed questionnaires were analyzed out of the 270 administered questionnaires.

4.4 EXTENT TO WHICH RESPONDENTS EXPERIENCED INFORMATION OVERLOAD

4.4.1 Introduction

This part comprised of two general questions where respondents were asked if they felt information overload and up to what extent. Further several situations and interactions where information overload is experienced where designed for the respondents. The researcher asked these questions so as to ascertain generally the views of respondents on information overload. Further, the researcher wanted to know the extent of information overload for those who indicated that they were overloaded by information. Finally, the researcher wanted to find out the level of information overload experienced by respondents in carrying out various situations and interactions.

4.4.2 Respondents' Information Overload Status

The researcher asked this question so as to ascertain generally the views and experience of the respondents on information overload.

Table 4.4.2: Distribution of Respondents by Information Overload experience

Felt overloaded by coursework information	Frequency	Percent
Yes	194	91.9
No	17	8.1
Total	**211**	**100.0**

Source (Research, 2013)

Table 4.4.2 indicates that 194 (91.9%) respondents felt information overloaded while 17 (8.1%) felt that they were not information overloaded. Generally from this analysis, it can be concluded that majority of MBA students felt overloaded with information.

4.4.3 Extent to Which Respondents were Information Overloaded

This question was asked to know the extent to which the respondents felt that they were overload with information.

Table 4.4.3: Distribution of Respondents by Information Overload Extent

Information Overload Extent	Frequency	Percent
No Extent	13	6.2
Little Extent	24	11.4
Moderate Extent	54	25.6
Great Extent	91	43.1
Very Great Extent	29	13.7
Total	**211**	**100.0**

Source (Researcher, 2013)

From Table 4.4.3, 13 respondents which represents 6.2% of the total respondents indicated that they were not information overloaded, 24 which represents 11.4% were information overloaded to a little extent, 54 which represents 25.6% were overloaded to a moderate extent, 91 which represents 43.1% were overloaded to a great extent and 29 which represents 13.7% were overloaded to a very great extent. From this analysis, it can be concluded that majority of the respondents were information overloaded to a Great Extent.

4.4.4 Mean and Standard Deviation

Analysis of Various operations and interactions performed by respondents resulted to Means and Standard Deviations corresponding to the operational variables. From the Likert scale ratings where 1 represented “No Extent”, 2 represented “Little Extent”, 3 represented “Moderate Extent”, 4 represented “Great Extent” and 5 represented “Very Great Extent”, the resulting means and standard deviations did not exactly correspond to the Likert Scale ratings. The researcher therefore presumed the mean value between 1-1.4 to interpret to “No Extent”, 1.5-2.4 to interpret to “Little Extent’, 2.5-3.4 to interpret to

"Moderate Extent", 3.5-4.4 to interpret to "Great Extent" and 4.5-5.0 to interpret to "Very Great Extent". The means and Standard Deviations are shown in Table 4.4.4.

Table 4.4.4: Factor Analysis-Mean and Standard Deviation

Operations and interactions carried out by Respondents	Mean	Std. Dev.
1. When registering for maximum allowed number of units per a semester	4.19	1.096
2. When doing assignment and term-papers with short-deadlines	4.09	.869
3. When sourcing course-related materials from the library	3.41	1.045
4. When handling job tasks with deadlines alongside course studies	3.84	.976
5. When reading more than class lectures and given lecturers' materials	3.33	1.043
6. When attending to emails while studying and doing assignments	3.15	1.094
7. When receiving job-related mobile calls while in class	3.18	1.141
8. When chatting using smartphone while lectures are on	2.94	1.291
9. When searching for course-related materials from the internet	3.73	1.042
10. When working on school-related projects	3.84	1.152
11. When carrying out assignments requiring internet searching	3.79	1.103
12. When revising for semester regular exams	3.36	.836
13. When revising for special exams	3.74	1.093

Source (Researcher, 2013)

From Table 4.4.4 the mean rate of extent of information overload experienced "When respondents register for maximum allowed number of units per a semester" is given as 4.19 which is interpreted as "Great Extent".

The values of Standard Deviation indicate varied opinions of respondents on how they were overloaded with information when carrying out various tasks. From Table 4.4.4 the highest Standard Deviation value of 1.291 indicates that respondents had varied opinions on information overload extent "when chatting using their smartphones while lectures are on". On the contrary the lowest Standard Deviation value of 0.836 indicates that most respondents had common opinion on the extent of information overload experienced "when revising for semester regular exams".

4.4.5 Factor analysis -Extent to which Respondents Experienced Information Overload

4.4.5.1 Introduction

The researcher designed various operational activities and interactions in order to get information on the extent to which the respondents experienced information overload when carrying out the activities and interactions. The 13 variables were subjected to factor analysis to identify the most significant factors out of the 13 variables designed by the researcher. Factor analysis generated the following tables and figure: Correlation Matrix, Communalities, Scree Plot graphs, Factor Extraction, Rotated Component Matrix and Factor Isolation

4.4.5.2 Factor Analysis - Correlation Matrix

Correlation matrix was used to summarize the correlation between causes of information overload variables. Letter "C" combined with numbers; 1-16 in Table 4.4.5.2 represents causes of information overload. The full label of these causes represented by letter "C" is given in Table 4.4.5.3 (Communalities). Correlation matrix was used to summarize the correlation between causes of information overload variables.

Table 4.4.5.2: Correlation Matrix

	O1	O2	O3	O4	O5	O6	O7	O8	O9	O10	O11	O12	O13
O1	1.000	.423	.227	.130	.075	.043	.167	.314	.004	.126	-.022	.236	.268
O2	.423	1.000	-.055	.246	-.110	-.069	.330	-.046	.084	.618	.312	.167	.259
O3	.227	-.055	1.000	.059	.260	.220	.245	.337	.411	.139	.296	-.015	.195
O4	.130	.246	.059	1.000	.406	.286	.381	.370	.314	.444	.106	.117	.422
O5	.075	-.110	.260	.406	1.000	.570	.587	.146	.403	.250	.156	.512	.506
O6	.043	-.069	.220	.286	.570	1.000	.471	.408	.509	.110	.378	.293	.248
O7	.167	.330	.245	.381	.587	.471	1.000	.308	.503	.573	.455	.510	.550
O8	.314	-.046	.337	.370	.146	.408	.308	1.000	.532	.096	.312	-.098	.326
O9	.004	.084	.411	.314	.403	.509	.503	.532	1.000	.419	.786	-.070	.288
O10	.126	.618	.139	.444	.250	.110	.573	.096	.419	1.000	.603	.106	.511
O11	-.022	.312	.296	.106	.156	.378	.455	.312	.786	.603	1.000	-.106	.238
O12	.236	.167	-.015	.117	.512	.293	.510	-.098	-.070	.106	-.106	1.000	.532
O13	.268	.259	.195	.422	.506	.248	.550	.326	.288	.511	.238	.532	1.000

Source (Researcher, 2013)

In Table 4.4.5.2, Operational variables were abbreviated as "O" combined with variable numbers in the order given in Table 4.4.5.3 and was used to check the pattern of variable relationships.

4.4.5.3 Communalities

The communalities were used to check the pattern of variable relationships. First the significance values were scanned to look for variable which were less than 0.5 and remove them so as to retain variables with a value between 0.5 and 0.9. Existence of any value greater than 0.9 could indicate that there was a problem of singularity in the data. This check found two variables (i.e. when sourcing for course related materials from the library with 0.469 and when handling job related deadlines alongside course work with 0.349) which were removed remaining with 11 variables. However no greater than 0.9 communalities were identified.

Table 4.4.5.3: Communalities

Situations in which Information Overload was Experienced	Initial	Extraction
1. When registering for maximum allowed number of units per a semester	1.000	.853
2. When carrying out assignment. And term-papers with short-deadlines	1.000	.840
3. When reading more than class lectures and given lecturers' materials	1.000	.798
4. When attending to emails while studying and doing assignments	1.000	.684
5. When receiving job-related mobile calls while attending classes	1.000	.771
6. When chatting using smartphone while lectures are on	1.000	.857
7. When searching for course-related materials from the internet	1.000	.870
8. When working on school-related projects	1.000	.860
9. When carrying out assignments requiring internet searching	1.000	.864
10. When revising for regular exams	1.000	.843
11. When revising for special exams	1.000	.648

Source (Researcher, 2013)

Table 4.4.5.3 shows remaining variable communalities after dropping the two variables which had less than 0.5 communality values. The communalities in the column labelled

Extraction reflect the common variance in data structure. For instance it can be said that 80.8% associated with the variable "When revising for semester regular exams" is common or shared variance.

4.4.5.4 Factor Analysis –Factor Extraction

Table 4.4.5.4 shows the Eigenvalues of all factors before extraction and after extraction. Before extraction 13 factors within the dataset are identified. The Eigenvalues associated with each factor represent the variance by the particular factor.

Table 4.4.5.4: Factor Extraction (Variance)

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Var.	Cum.	Total	% of Var.	Cum. %
1	4.146	37.693	37.693	4.146	37.693	37.693
2	1.821	16.551	54.244	1.821	16.551	54.244
3	1.737	15.789	70.033	1.737	15.789	70.033
4	1.185	10.768	80.802	1.185	10.768	80.802
5	.644	5.858	86.659			
6	.414	3.761	90.420			
7	.339	3.078	93.498			
8	.324	2.941	96.440			
9	.187	1.704	98.144			
10	.115	1.044	99.187			
11	.089	.813	100.000			

Extraction Method: Principal Component Analysis

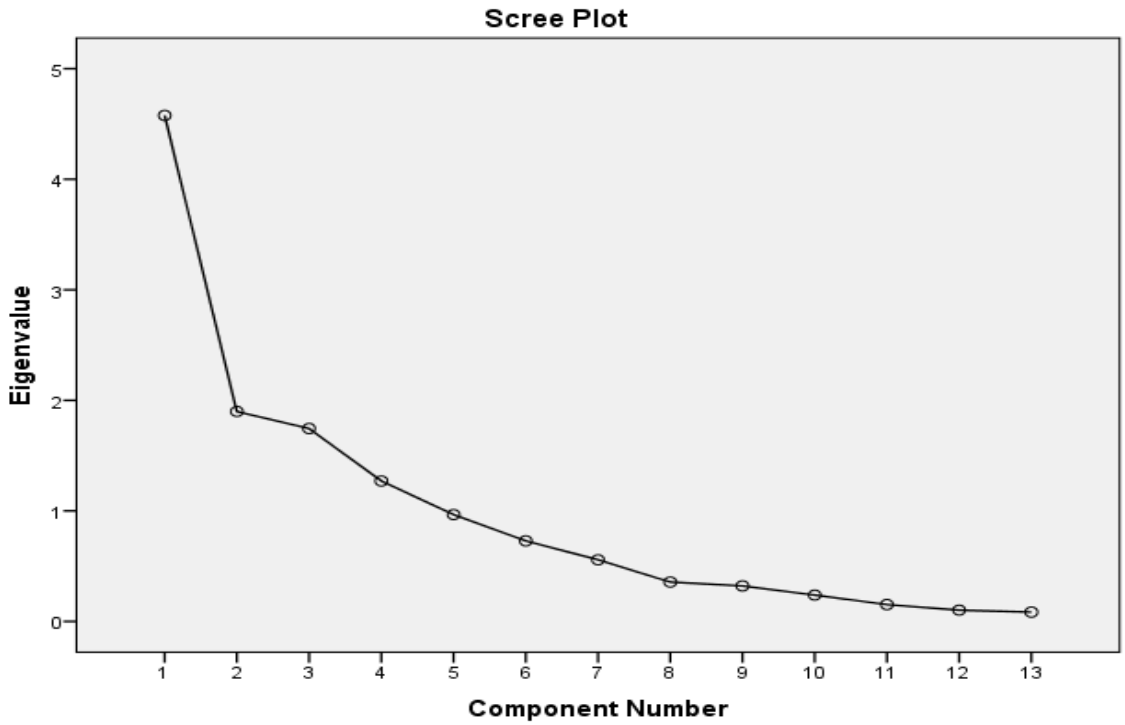
Source (Researcher, 2013)

The table displays the Eigenvalue in terms of the percentage of variance where all factors with Eigenvalues greater than 1 are extracted while those factors with Eigenvalue of less than 1 are dropped. According to Table 4.4.5.4, only 4 factors were significant for the analysis.

4.4.5.5 Scree Plot Graph

This is a graph of the factor Eigenvalues against the component numbers. The graph is used to determine how many factors to retain. The point of interest is where the curve starts to flatten indicating the most significant variables.

Figure 4.4.5.5: Scree Plot Graph



Source (Researcher, 2013)

From Figure 4.4.5.5 the curve begins to flatten between factor 5 and 6. From Table 4.4.5.3 (Communalities) variable 5 has a value of less than 1, so only four factors have been retained for further analysis.

4.4.5.6 Rotated Component Matrix

After extracting the most significant factors, the factors were rotated using Rotational Component Matrix to reduce the number factors on which the variables under

investigation had high loading. Table 4.4.5.5 below was generated from variance rotation.

Table 4.4.5.6: Rotated Component Matrix

Situations when information overload is experienced	Component		
	1	2	3
1. When revising for regular exams	.855		
2. When reading more than class lectures and given lecturers' materials	.843		
3. When revising for special exams	.693		
4. When receiving job-related mobile calls while in attending classes	.688		
5. When working on school-related projects		.876	
6. When carrying out assignment. And term-papers with short-deadlines		.870	
7. When chatting smartphone while lectures are on			.853
8. When searching for course-related materials from the internet			.835

Extraction Method: Principal Component Analysis, Rotation Method: Varimax with Kaiser, Normalization, a Rotated converged in 9 iterations.

Source (Researcher, 2013)

The rotation matrix groups variables into components. However; complex structures were identified on the variables "when carrying out assignments requiring internet searching" i.e. variable 2 in Table 4.4.5.3 and "when attending to emails while studying and doing assignments" i.e. variable 4 in Table 4.4.5.3 The variables were removed and component principal analysis repeated to give the result in Table 4.4.5.6.

4.4.5.7 Factor Isolation

As shown in Table 4.4.5.6, the information in four of the variables can be represented by component Factor 1, information in the two variables can be represented by component Factor 2 and information in the two variables can be represented by component Factor 3. The component Factor 4 had only one variable and was dropped.

Table 4.4.5.7 shows four Factors Groups containing the most significant variable components on the situations where information overload was experienced by the respondents. Factor Group 1 has the highest number of variables (5), Factor Group 2, and Factor groups 3 and 4 have two variables each.

Table 4.4.5.7: Factor Isolation

Component	Variables
Factor 1	1. When revising for regular exams 2. When reading more than class lectures and given lecturers' materials 3. When revising for special exams 4. When receiving job-related mobile calls while in attending classes
Factor 2	1. When working on school-related projects 2. When carrying out assignment and term-papers with short-deadlines
Factor 3	1. When chatting with smartphone while lectures are on 2. When searching for course-related materials from the internet

Source (Researcher, 2013)

Interpretation of the Principal Components in Table 4.3.6

Component Factor 1, 2 and 3 variables are shown in Table 4.4.5.7. Factor 1 variables can collectively be called "Lecture and exam related", Factor 2 can collectively be called "School projects and coursework related" and Factor 3 can collectively be called "Technology Related".

Variance Explanation in Individual and Total Variables

The components explain that at least 80.80% of the variance in each of the variables is included in the final analysis as shown in Table 4.4.5.3. The 3 components explain 80.802% of the total variance in the variables which are included on the components as shown in Table 4.4.5.4.

Caution: A caution is added to the researcher findings because of the inclusion of ordinal level variables in the analysis and the incomplete data available for analysis. Only 211 received completed questionnaires were analyzed out of the 270 administered questionnaires.

4.5 Information Overload Effect on Respondents Activities

4.5.1 Introduction

A list of operational activities and interactions which were affected by information overload was designed to enable the researcher find how the respondents were affected by information overload when carrying out the operations. The researcher used the Likert scale rating where the respondents rated the extent to which information overload affected respondents while carrying out the activities. The value 1 represented “no extent”, 2 represented “little extent”, 3 represented “moderate extent”, 4 represented “great extent” and 5 represented “very great extent”. This part shows the mean and standard deviation on causes of information overload as indicated by the respondents.

4.5.2 Mean and Standard Deviation

Analysing the response on effect of information overload on respondents’ operational variables and interactions resulted to means and Standard Deviations corresponding to various variables as indicated in Table 4.3.2. From the Likert scale ratings where 1 represented “No Exnted”, 2 represented “Little Extent”, 3 represented “Moderate Extent”, 4 represented “Great Extent” and 5 represented “Very Great Extent” the means and standard deviations did not match exactly to the Likert rating values (1, 2, 3, 4 & 5) but falls in between depending on the response. The researcher therefore presumed the

mean value between 1-1.4 to interpret to “no extent”, 1.5-2.4 to interpret to “Little Extent’, 2.5-3.4 to interpret to “Moderate Extent”, 3.5-4.4 to interpret to “Great Extent” and 4.5-5.0 to interpret to “Very Great Extent”.

Table 4.5.2: Means and Standard Deviations

Operations Carried out by Respondents	Mean	Std. Dev.
1. Meeting deadlines for class assignments and term papers	3.98	1.121
2. Final semester examinations	3.53	.917
3. Searching for specific course-relevant materials from the internet	3.87	1.139
4. Attending class lectures for full unit(s) credit hours	3.15	1.025
5. Relating with fellow students, Lecturers and University Administration	3.30	1.192
6. Relating with colleagues at the workplace	3.11	1.168
7. Level of concentration while attending class lectures	2.91	.927
8. Working on activities that require use of Information Technology	3.50	1.415
9. Working on Information Systems units assignments and term-papers	3.54	1.254
10. Working on non-Information Systems assignments and term-papers	2.78	1.261
11. Working on non-school related activities alongside class work	3.20	1.210
12. Revising for University continuous assessment tests and examinations	3.45	1.006
13. Enrolling for maximum allowed semester units	3.48	1.205
14. Attending classes conducted using PowerPoint slides and projectors	3.11	1.198
15. Attending online structured classes using Information Technology	3.38	1.400

Source (Researcher, 2013)

From Table 4.5.2 the Mean value of 3.98 corresponding to “when working on class assignments and term papers to meet given deadlines” stands out to be the highest extent of information overload effect among the respondents. The lowest mean value 3.78 of information overload effect indicates the extent of information overload effect when respondents “carried out activities which required use of IT”. The values of Standard Deviation indicate varied opinions of respondents on the extent of information overload effect when they carried our various operations. The highest Standard Deviation value of 1.415 indicates that respondents had varied opinions on information overload effect when

they performed operations which required use of information Technology. On the other hand the lowest Standard Deviation value of 0.917 shows that most respondents experienced information overload effect when revising for final semester exams.

4.5.3 Factor Analysis

4.5.3.1 Introduction

Operational variables carried by respondents were subjected to factor analysis to identify the most significant factors out of the 15 variables designed by the researcher. Factor analysis generated the following tables and figure: Correlation Matrix, Communalities, Scree Plot graphs, Factor Extraction, Rotated Component Matrix and Factor Isolation.

4.5.3.2 Correlation Matrix

Situational variables were abbreviated as "S" combined with variable numbers in the order given in Table 4.5.2. Table 4.5.3.2 was used to check the pattern of variable relationships. The significance values were scanned first to look for any variable for which the majority of the values were greater than 0.05. The correlation coefficients were then scanned for any value greater than 0.9. Existence of any value greater than 0.9 could indicate that there was a problem of singularity in the data. This check however did not identify any greater than 0.9 value hence no problem. All variables correlated fairly well and none of the correlation coefficients was large and there was no need at this stage to eliminate any variable.

Table 4.5.3.2: Correlation Matrix

	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	S13	S14	S15
S1	1.000	.492	.555	.225	.442	.323	.480	.705	.416	.467	.697	.576	.513	.306	.464
S2	.492	1.000	.339	.183	.284	.235	.492	.367	.365	.516	.651	.591	.150	-.129	.309
S3	.555	.339	1.000	.200	.382	.336	.389	.682	.385	.237	.555	.277	.255	.410	.529
S4	.225	.183	.200	1.000	.356	.387	.461	.215	.197	-.024	.210	.390	.244	.448	.300

S5	.442	.284	.382	.356	1.000	.761	.454	.536	.429	.208	.308	.324	.288	.275	.245
S6	.323	.235	.336	.387	.761	1.000	.507	.345	.434	.081	.167	.150	.311	.221	.126
S7	.480	.492	.389	.461	.454	.507	1.000	.430	.249	.300	.436	.493	.168	.280	.331
S8	.705	.367	.682	.215	.536	.345	.430	1.000	.617	.354	.640	.395	.275	.506	.698
S9	.416	.365	.385	.197	.429	.434	.249	.617	1.000	.180	.254	.201	.274	.152	.483
S10	.467	.516	.237	-.024	.208	.081	.300	.354	.180	1.000	.465	.491	.036	-.117	.126
S11	.697	.651	.555	.210	.308	.167	.436	.640	.254	.465	1.000	.440	.226	.152	.437
S12	.576	.591	.277	.390	.324	.150	.493	.395	.201	.491	.440	1.000	.390	.227	.228
S13	.513	.150	.255	.244	.288	.311	.168	.275	.274	.036	.226	.390	1.000	.326	.198
S14	.306	-.129	.410	.448	.275	.221	.280	.506	.152	-.117	.152	.227	.326	1.000	.670
S15	.464	.309	.529	.300	.245	.126	.331	.698	.483	.126	.437	.228	.198	.670	1.000

Source (Researcher, 2013)

In Table 4.5.3.2, Situational variables were abbreviated as “S” combined with variable numbers in the order given in Table 4.5.3.2.Table 4.5.3.2 was used to check the pattern of variable relationships. The significance values were scanned first to look for any variable for which the majority of the values were greater than 0.05. The correlation coefficients were then scanned for any value greater than 0.9. Existence of any value greater than 0.9 could indicate that there was a problem of singularity in the data. This check however did not identify any greater than 0.9 value hence no problem. All variables correlated fairly well and none of the correlation coefficients was large and there was no need at this stage to eliminate any variable.

4.5.3.3 Communalities

The communalities were used to check the pattern of variable relationships. First the significance values were scanned to look for variable which were less than 0.5 and remove them so as to retain variables with a value between 0.5 and 0.9. Existence of any value greater than 0.9 could indicate that there was a problem of singularity in the data. This check found the variable “Enrolling for maximum allowed semester units” with a

loading of 0.331" which was dropped remaining with 14 variables. However no greater than 0.9 communalities were identified.

Table 4.5.3.3: Communalities

Operations Carried out by Respondents	Initial	Extraction
1. Meeting deadlines for class assignments and term papers	1.000	.718
2. Final semester examinations	1.000	.735
3. Searching for specific course-relevant materials from the internet	1.000	.623
4. Attending class lectures for full unit(s) credit hours	1.000	.759
5. Relating with fellow students, Lecturers and University Administration	1.000	.786
6. Relating with colleagues at the workplace	1.000	.890
7. Level of concentration while attending class lectures	1.000	.668
8. Working on activities that require use of Information Technology	1.000	.880
9. Working on Information Systems units assignments and term-papers	1.000	.639
10. Working on non-Information Systems assignments and term-papers	1.000	.647
11. Working on non-school related activities along side class work	1.000	.721
12. Revising for University continuous assessment tests and examinations	1.000	.744
13. Attending classes conducted using PowerPoint slides and projectors	1.000	.877
14. Attending online structured classes using Information Technology	1.000	.808

Source (Researcher, 2013)

Table 4.5.3.3 shows remaining variable communalities after dropping the variable "Enrolling for maximum allowed semester units" with a loading of 0.331". The communalities in the column labelled Extraction reflect the common variance in data structure. For example 87.7% which is associated with variable 13 (attending classes conducted using Power Point slides and projectors) is common or shared variance.

4.5.3.4 Variable Extraction

Table 4.5.3.4 shows the Eigenvalues of all factors for both before and after extraction. Before extraction 14 factors within the dataset are identified.

Table 4.5.3.4: Variable Extraction (Variance)

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Var.	Cum. %	Total	% of Var.	Cum. %
1	5.934	42.383	42.383	5.934	42.383	42.383
2	1.910	13.641	56.023	1.910	13.641	56.023
3	1.478	10.557	66.580	1.478	10.557	66.580
4	1.174	8.385	74.965	1.174	8.385	74.965
5	.724	5.169	80.134			
6	.633	4.521	84.655			
7	.466	3.330	87.985			
8	.394	2.814	90.799			
9	.386	2.760	93.559			
10	.345	2.466	96.025			
11	.237	1.690	97.714			
12	.163	1.162	98.876			
13	.086	.612	99.488			
14	.072	.512	100.000			

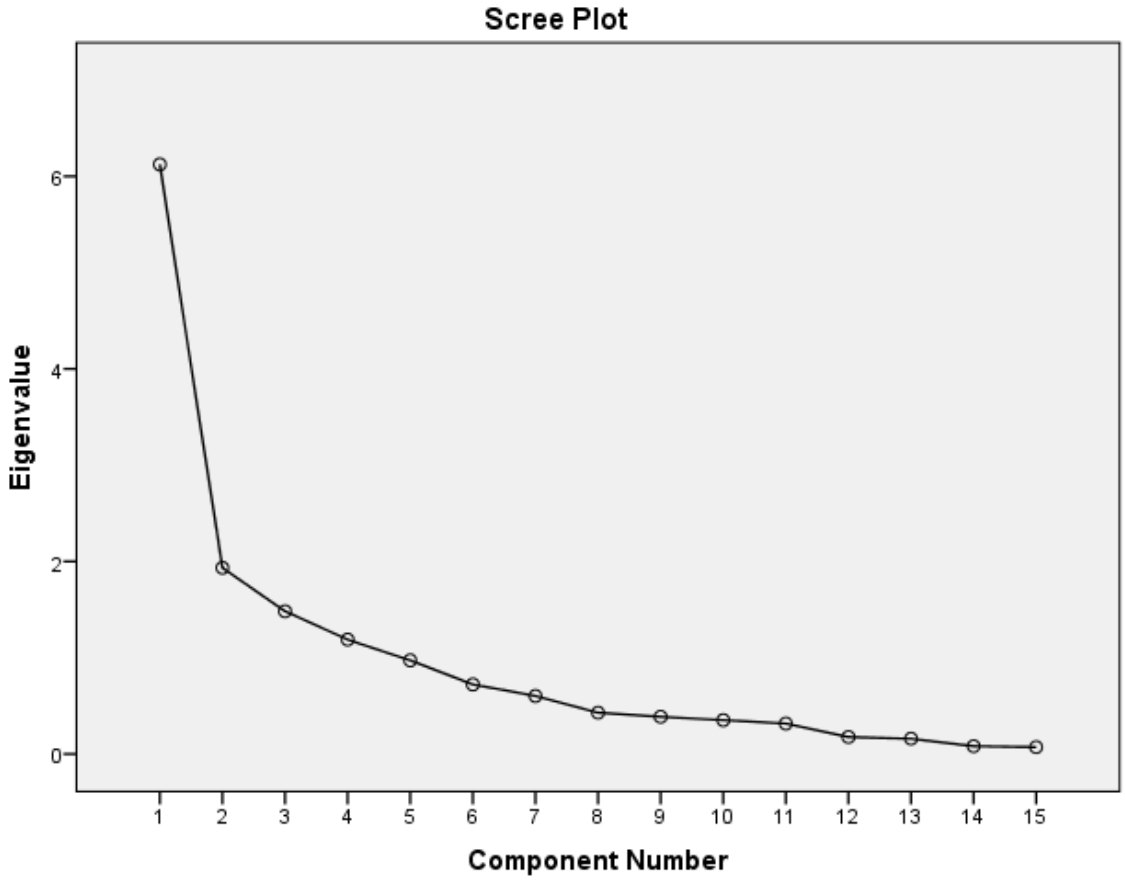
Source (Researcher, 2013)

The Eigenvalues associated with each factor represent the variance by the particular factor. The table displays the Eigenvalue in terms of the percentage of variance where all factors with Eigenvalues greater than 1 are extracted while those factors with Eigenvalue of less than 1 are dropped. According to Table 4.5.4, only 4 factors were significant for the analysis.

4.5.3.5 Scree Plot Graph

This is a graph of the factor Eigenvalues against the component numbers. The graph is used to determine how many factors to retain. The point of interest is where the curve starts to flatten indicating the most significant variables.

Figure 4.5.3.5: Scree Plot Graph



Source (Researcher, 2013)

Figure 4.5.3.5 was used to determine how many factors to retain. The point of interest is where the curve starts to flatten. From Figure 4.5.1 the curve begins to flatten between factor 5 and 6. From Table 4.5.3.4 factor 5 has value of less than 1, so only four factors have been retained for further analysis.

4.5.3.6 Rotated Component Matrix

After extracting the most significant factors, the factors were rotated using Rotational Component Matrix to reduce the number factors on which the variables under

investigation had high loading. Table 4.5.3.6 below was generated from variance rotation.

Table 4.5.3.6: Rotated Component Matrix

Operations Affected by Information Overload	Component		
	1	2	3
1. Working on activities that require use of Information Technology	.856		
2. Attending online structured classes using Information Technology	.826		
3. Searching for specific course-relevant materials from the internet	.732		
4. Working on Information Systems units assignments and term-papers	.705		
5. Relating with colleagues at the workplace		.868	
6. Relating with fellow students, Lecturers and University Administration		.766	
7. Attending class lectures for full unit(s) credit hours		.682	
8. Level of concentration while attending class lectures		.609	
9. Revising for University continuous assessment tests and examinations			.808
10. Working on non-Information Systems assignments and term-papers			.797
11. Final semester examinations			.774

Source (Researcher, 2013)

The rotation matrix groups variables into components. However; complex structures were identified on the variables “meeting deadlines for class assignments and term papers” appearing in both component 1 and 2, “attending classes conducted using power point slides and projectors” appearing in both component 2 and 4 and “working on non-school related activities alongside term-papers”. These variables are shown in Table 4.5.3.3 before they were dropped to obtaining the results in Table 4.5.3.5.

4.5.6 Factor Isolation

As shown in Table 4.5.3.6, the information in three variables can be represented by component Factor 1, information in the other four variables can be represented by component Factor 2 and information in the three variables can be represented by component Factor 3.

Table 4.5.3.7: Factor Isolation

Component	Variables
Factor 1	1. Working on activities that require use of Information Technology 2. Attending online structured classes using Information Technology 3. Searching for specific course-relevant materials from the internet 4. Working on Information Systems units assignments and term-papers
Factor 2	1. Relating with colleagues at the workplace 2. Relating with fellow students, Lecturers and University Administration 3. Attending class lectures for full unit(s) credit hours 4. Level of concentration while attending class lectures
Factor 3	1. Revising for University continuous assessment tests and examinations 2. Working on non-Information Systems assignments and term-papers 3. Final semester examinations

Source (Researcher, 2013)

Component Factor 1, 2 and 3 variables are shown in Table 4.5.3.7. Factor 1 variables can collectively be called "Information Technology Related", Factor 2 can collectively be called "People Related" and Factor 3 can be collectively called "Coursework and Exam Related".

Variance Explanation in Individual and Total Variables

The components explain that at least 74.96% of the variance in each of the variables is included in the final analysis as shown in Table 4.5.3. The 3 components explain 74.97% of the total variance in the variables is included on the components as shown in Table 4.5.6.

Caution: A caution is added to the researcher findings because of the inclusion of ordinal level variables in the analysis and the incomplete data available for analysis. Only 211 received completed questionnaires were analyzed out of the 270 administered questionnaires.

4.6 STRATEGIES USED BY RESPONDENTS TO MANAGE INFORMATION OVERLOAD

4.6.1 Introduction

The strategies given under this objective were meant to establish how respondents applied each strategy to manage information overload.

4.6.2 Mean and Standard Deviation

Various strategies were analysed and resulted to means and standard deviations corresponding with the variable strategies. The Means and Standard Deviations indicate the extent to which a given strategy was applied by respondents to manage information overload. The Likert scale was used to rate the extent to which a given strategy was applied to manage information overload where 1 represented "no extent", 2 represented "little extent", 3 represented "great extent" and 5 represented "very great extent". From Table 4.6.2 however, the means and standard deviations did not match exactly to the Likert rating values (1, 2, 3, 4 & 5) but falls in between depending on the response. The researcher therefore presumed the mean value between 1-1.4 to interpret to "no extent", 1.5-2.4 to interpret to "little extent', 2.5-3.4 to interpret to "moderate extent", 3.5-4.4 to interpret to "great extent" and 4.5-5.0 to interpret to "very great extent".

Table 4.6.2: Means and Standard Deviations

	Mean	Std. Dev
1. Registered for Information literacy courses		
2. Registered for computer literacy classes	2.37	1.198
3. Use computer intelligent agents to assist filter information	2.35	1.232
4. Use of Information management systems to aid in making complex decision	2.71	1.311
5. Focused attention only on the most useful and essential information	2.84	1.372
6. Set a schedule on how to handle various information-related tasks	4.15	.803
7. Switching off phones and closing the door when carrying out studies	3.72	1.095
8. Determined and handled most important information first	3.52	1.298
9. Avoiding being seduced to believe that more information is better	4.03	.918

10. Creating personal system for storing and organizing coursework information	3.26	1.276
11. Attending time management courses and seminars	3.31	.963
12. Learning and training on academic writing	2.70	1.243
13. Forming groups to share the burden of information processing	3.16	1.460
14. Stopping subscriptions to periodicals which they had no time to read	4.00	1.719
15. Limiting the time on internet browsing and social media chatting	3.44	1.541
16. Sending out only necessary emails and only to those who need them	3.85	1.011

Source (Researcher, 2013)

From Table 4.6.2 the highest mean value of 4.15 can be interpreted that respondents applied the strategy "Setting a schedule on how to handle various information-related tasks" to a great extent while the lowest value 2.37 can be interpreted that respondents applied the strategy "Registering for information literacy courses" to a moderate extent.

The values of Standard Deviation indicate varied opinions of respondents on the application of various strategies to combat information overload. From Table 4.6.1, the highest Standard Deviation of value 1.719 indicates that respondents had varied opinions on using the strategy of "Stopping subscriptions to periodicals which they had no time to read" while the lowest Standard Deviation value of 0.803 shows that most respondents applied the strategy of "Set a schedule on how to handle various information-related tasks".

4.6.3 Factor Analysis

4.6.3.1 Introduction

Information overload managing variable strategies were subjected to factor analysis to identify the most significant factors out of the 16 variables designed by the researcher. Factor analysis generated the following tables and figure: Correlation Matrix, Communalities, and Scree Plot graphs, Factor Extraction, Rotated Component Matrix and Factor Isolation.

4.6.3.2 Correlation Matrix

ST in Table 4.6.2 combined with number 1-16 represents 16 information overload strategy variables. The table was used to check the pattern of variable relationships. Each variable in the y-axis was correlated with the each factor in the x- axis and all variables have some relationship with each other.

Table 4.6.3.2: Correlation Matrix

	ST1	ST2	ST3	ST4	ST5	ST6	ST7	ST8	ST9	ST10	ST11	ST12	ST13	ST14	ST15	ST16
ST1	1.000	.759	.482	.247	.078	-.090	.077	.042	.156	.114	.556	.279	.017	.191	.174	.178
ST2	.759	1.000	.344	.210	.044	.096	.225	.313	.077	.195	.371	.373	.094	.316	.233	.158
ST3	.482	.344	1.000	.669	.291	-.097	.031	-.036	.448	.450	.436	.161	.152	.108	.230	.193
ST4	.247	.210	.669	1.000	.230	-.027	.113	.059	.359	.389	.381	.234	.052	.239	.279	.324
ST5	.078	.044	.291	.230	1.000	.548	.382	.403	.390	.532	.030	.329	.325	.305	.453	.287
ST6	-.090	.096	-.097	-.027	.548	1.000	.709	.704	.112	.426	-.022	.546	.425	.666	.500	.179
ST7	.077	.225	.031	.113	.382	.709	1.000	.759	.188	.349	.208	.546	.428	.643	.493	.364
ST8	.042	.313	-.036	.059	.403	.704	.759	1.000	.101	.418	.184	.578	.377	.548	.399	.188
ST9	.156	.077	.448	.359	.390	.112	.188	.101	1.000	.406	.206	.088	.258	.063	.249	.145
ST10	.114	.195	.450	.389	.532	.426	.349	.418	.406	1.000	.163	.295	.321	.234	.227	.132
ST11	.556	.371	.436	.381	.030	-.022	.208	.184	.206	.163	1.000	.617	.251	.419	.377	.312
ST12	.279	.373	.161	.234	.329	.546	.546	.578	.088	.295	.617	1.000	.398	.703	.508	.259
ST13	.017	.094	.152	.052	.325	.425	.428	.377	.258	.321	.251	.398	1.000	.416	.362	.252
ST14	.191	.316	.108	.239	.305	.666	.643	.548	.063	.234	.419	.703	.416	1.000	.655	.504
ST15	.174	.233	.230	.279	.453	.500	.493	.399	.249	.227	.377	.508	.362	.655	1.000	.597
ST16	.178	.158	.193	.324	.287	.179	.364	.188	.145	.132	.312	.259	.252	.504	.597	1.000

Source (Researcher, 2013)

ST in Table 4.6.3.2 combined with number 1-16 represents 16 information overload strategy variables. The table was used to check the pattern of variable relationships.

4.6.3.3 Communalities

The communalities were used to check the pattern of variable relationships. First the significance values were scanned to look for variable which were less than 0.5 and remove them so as to retain variables with a value between 0.5 and 0.9. Existence of any value greater than 0.9 could indicate that there was a problem of singularity in the data.

This check found one variables (i.e. forming groups to share the burden of information processing) with a variance of 0.372 which was removed remaining with 15 variables. However no greater than 0.9 communalities were identified.

Table 4.6.3.3: Communalities

Strategies used to Manage Information Overload	Initial	Extraction
1. Registering for Information literacy courses	1.000	.806
2. Registering for computer literacy classes to boost my computer skills	1.000	.773
3. Using computer intelligent agents to assist me filter information	1.000	.811
4. Using information management systems to aid in complex decision-making	1.000	.645
5. Focusing attention only on the most useful and essential information	1.000	.655
6. Setting a schedule on how to handle various information-related tasks	1.000	.872
7. Switching off phones and closing the door when carrying out studies	1.000	.732
8. Determining and handling most important information related tasks first	1.000	.793
9. Avoiding being seduced to believe that more information is better	1.000	.563
10. Creating personal system for storing and organizing coursework information	1.000	.735
11. Attending time management courses and seminars	1.000	.685
12. Learning and training on academic writing	1.000	.709
13. Stopping subscriptions to periodicals which I have no time to read	1.000	.813
14. Limiting the time on internet browsing and social media chatting	1.000	.740
15. Sending out only necessary emails and only to those who need them	1.000	.725

Extraction Method: Principal Component Analysis

Source (Researcher, 2013)

Table 4.6.3.3 shows remaining variable communalities after dropping the variable "forming groups to share the burden of information processing" which had less than 0.5 communality values. The communalities in the column labelled Extraction reflect the common variance in data For example 70.9% which is associated with variable 12 (Learning and training on academic writing s) is common.

4.6.3.4 Variable Extraction

Table 4.6.4 shows the Eigenvalues of all factors for both before and after extraction. Before extraction 15 factors within the dataset are identified. The Eigenvalues associated

with each factor represent the variance by the particular factor. The table displays the Eigenvalue in terms of the percentage of variance where all factors with Eigenvalues greater than 1 are extracted while those factors with Eigenvalue of less than 1 are left out. According to Table 4.6.3.4, only 4 factors were significant for the analysis.

Table 4.6.3.4: Factor Extraction (Variance)

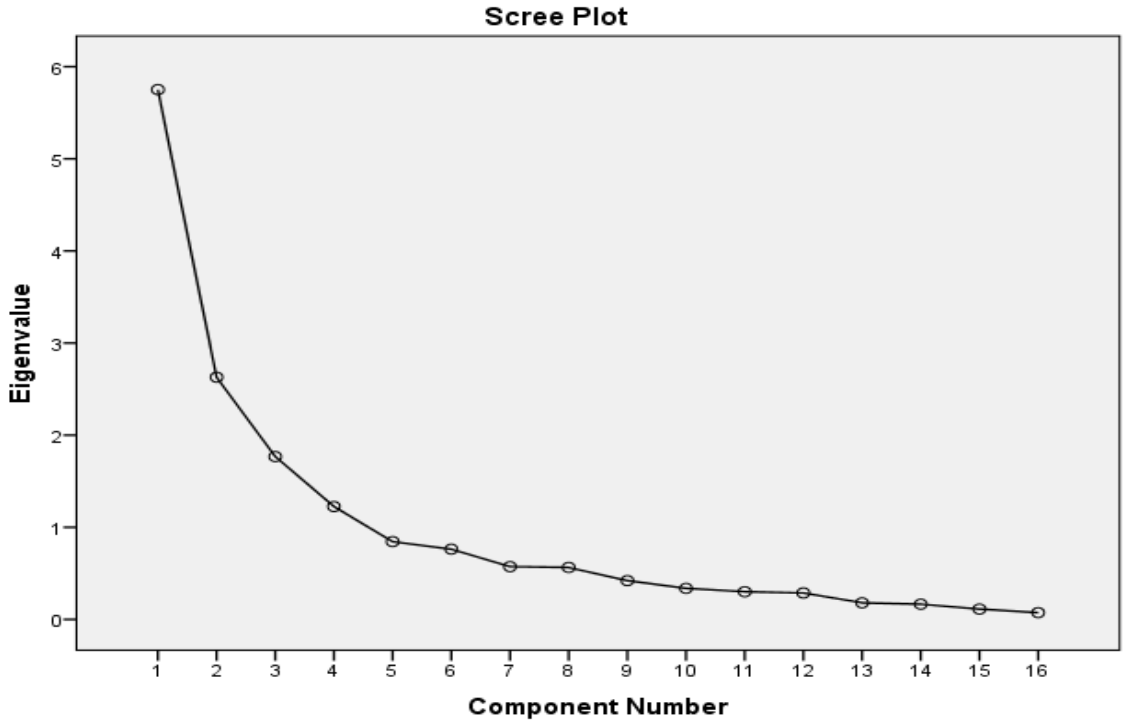
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Var.	Cum. %	Total	% of Var.	Cum. %
1	5.477	36.511	36.511	5.477	36.511	36.511
2	2.598	17.317	53.829	2.598	17.317	53.829
3	1.758	11.718	65.547	1.758	11.718	65.547
4	1.225	8.168	73.715	1.225	8.168	73.715
5	.797	5.317	79.031			
6	.655	4.368	83.400			
7	.571	3.808	87.208			
8	.430	2.867	90.075			
9	.348	2.318	92.393			
10	.305	2.031	94.424			
11	.292	1.949	96.374			
12	.191	1.271	97.644			
13	.165	1.103	98.747			
14	.113	.754	99.501			
15	.075	.499	100.000			

Extraction Method: Principal Component Analysis.
Source (Researcher, 2013)

4.6.3.5 Scree Plot Graph

This is a graph of the factor Eigenvalues against the component numbers. The graph is used to determine how many factors to retain. The point of interest is where the curve starts to flatten indicating the most significant variables.

Figure 4.6.3.5: Scree Plot Graph



Source (Researcher, 2013)

Figure 4.6.3.5 was used to determine how many factors to retain. The point of interest is where the curve starts to flatten. From Figure 4.6.1 the curve begins to flatten between factor 5 and 6. From Table 4.6.3.4 factor 5 has value of less than 1, so only four factors have been retained for further analysis.

4.6.3.6 Rotated Component Matrix

After extracting the most significant factors, the factors were rotated using rotational Component Matrix to reduce the number factors on which the variables under investigation have high loading. Table 4.6.3.6 was generated indicating the variables and component Factor Groups.

Table 4.6.3.6: Rotated Component Matrix

Rotated Strategies used to Manage Information Overload	Component			
	1	2	3	4
1. Setting a schedule on how to handle various information-related tasks	.904			
2. Determining and handling most important information related tasks first	.894			
3. Switching off phones and closing the door when carrying out studies	.828			
4. Learning and training on academic writing	.626			
5. Registering for Information literacy courses		.903		
6. Registering for computer literacy classes to boost my computer skills		.852		
7. Attending time management courses and seminars		.657		
8. Using computer intelligent agents to assist me filter information			.781	
9. Avoiding being seduced to believe that more information is better			.744	
10. Using information management systems to aid in complex decision-making			.720	
11. Creating personal system for storing and organizing coursework information			.706	
12. Sending out only necessary emails and only to those who need them				.852
13. Limiting the time on internet browsing and social media chatting				.726

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 8 iterations.
Source (Researcher, 2013)

The Rotation Matrix Grouped variables into components. However; complex structures were identified on the variables “focusing attention only on the most useful and essential information” appearing in both component 1 and 3, “stopping subscriptions to periodicals which there is no time to read” appearing in both component 1 and 4. These variables are shown in Table 4.6.3.3. The two variables were removed and component principal analysis repeated to give the result in Table 4.6.3.6.

4.6.3.7 Factor Isolation

As shown in Table 4.6.3.6, the information in four of the variables can be represented by component Factor 1, information in the three variables can be represented by component Factor 2, information in the other four variables can be represented by component Factor 3 and information in the remain tow variables can be represented by component factor 4.

Table 4.6.3.7: Factor Isolation

Factor Group	Variables
Factor 1	1. Setting a schedule on how to handle various information-related tasks 2. Determining and handling most important information related tasks first 3. Switching off phones and closing the door when carrying out studies 4. Learning and training on academic writing
Factor 2	1. Registering for Information literacy courses 2. Registering for computer literacy classes to boost my computer skills 3. Attending time management courses and seminars
Factor 3	1. Using computer intelligent agents to assist me filter information 2. Avoiding being seduced to believe that more information is better 3. Using information management systems to aid in complex decision-making 4. Creating personal system for storing and organizing coursework information
Factor 4	1. Sending out only necessary emails and only to those who need them 2. Limiting the time on internet browsing and social media chatting

Source (Researcher, 2013)

Interpretation of the Principal Components in Table 4.6.3.6

Component Factor 1, 2, 3 and 4 variables are shown in Table 4.6.3.6. Factor 1 variables can collectively be called "Personal discipline", Factor 2 can collectively be called "Training", Factor 3 can collectively be called "Technology" and Factor 4 can collectively be called "Personal Schedule".

Variance Explanation in Individual and Total Variables

The components explain that at least 73.71% of the variance in each of the variables is included in the final analysis as shown in Table 4.6.3.3. The 4 components explain 73.72% of the total variance in the variables which are included on the components as shown in Table 4.6.3.4.

Caution: A caution is added to the researcher findings because of the inclusion of ordinal level variables in the analysis and the incomplete data available for analysis. Only 211 received completed questionnaires were analyzed out of the 270 administered questionnaires.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1. INTRODUCTION

This chapter presents the summary of key findings, conclusion drawn from the findings and recommendations of the study. The goal of conclusions and recommendations drawn are meant to address the research objectives which were to: Establish the causes of information overload among University of Nairobi MBA students, Establish if University of Nairobi MBA students felt information overloaded and up to what extent, Determine the extent of Information Overload effect on MBA students' activities and interactions and finally Establish strategies applied by University of Nairobi MBA students in dealing with Information Overload.

5.2. SUMMARY OF FINDINGS

The study targeted a total of 270 University of Nairobi MBA students under School of Business which comprised of the following ten thematic areas of specializations: Accounting, Human Resource Management, Insurance, Marketing, Operations Management, Finance, Strategic Management, International Business Management, Management Information systems and Procurement & Supply Chain Management. The highest number of registered MBA in University of Nairobi School of business is aged between 31 and 35 years with 28.9%. Majority of University of Nairobi MBA students are married representing 64.9% of the total population. From the findings, majority of University of Nairobi MBA students are employed representing 91.5% of the total population and majority of the MBA students own personal computers or laptops, this represents 88.1%.

5.2.1 Demographic Information

From the study findings, the highest number of University of Nairobi MBA students under survey were aged 26 years and above. Among the 211 respondents 113 were male while 98 where female. This indicated almost a balance of gender on University of Nairobi students who registered for MBA program. Of the 211 respondents, 64.4% were married while 35.07% were not married. Students from the ten thematic areas of specialization participated in the survey where the majority came from Strategic Management, Management Information systems and Finance. The least participated students in the survey came from areas of Insurance and Accounting.

From the study findings, majority of University of Nairobi MBA students were employed and their monthly salary ranged between Kshs: 120,001 and Kshs: 150,000. This indicated a financial power to purchase IT devices which have been attributed to causing information overload. Out of 211 respondents, 185 that represented 88.1% of total respondents owned personal computers or laptops but majority of those who owned personal computers or laptops had an intermediate level of computer proficiency. This indicates that majority of University of Nairobi MBA students experience reasonable challenges in using the computer to manage information. This justifies existence of information overload among these students.

5.2.2 Factors which Caused Information Overload to Respondents

From the study findings, all the factors which were investigated caused information overload. However, overwhelming amount of information due to information technology and pressure originating from work and studies were found to cause information overload most to university of Nairobi MBA students.

5.2.3 Extent of Information Overload Experienced in Various Situations and Interactions.

From the study findings majority of University of Nairobi MBA students experienced information up to a great extent (56.8%) while those who did not experience information overload represented only 8.1% of total respondents. Additionally, majority experienced information overload when they register for maximum allowed units per semester and when doing assignments and term-papers with short deadlines.

5.2.4 Information Overload Effect when Carrying out Various Operations

From the study findings Majority of University of Nairobi MBA students experienced information overload when meeting deadlines for class assignments and term and also when searching for specific course-related information from the internet. .

5.2.5 Strategies Applied to Manage Information Overload

The study indicated that all the strategies in under investigation were applied. However, majority of the respondents applied the strategy of setting a schedule on how to handle various information related tasks and sticking to it and avoiding being seduced to believe that more information is better.

5.3. CONCLUSION

From the study findings it can be concluded that Information Overload is real among University of Nairobi MBA students given that 194 respondents representing more than 90% of investigated students indicated that they experienced information overload to some extent. Out of the 194 respondents who experienced information overload, 25% experienced it up to a moderate extent, 43.1% experienced it up to a great extent and 13.7% experienced it up to a very great extent. From the above frequencies of

information overload extent, it can be concluded that more than 80% of the respondents experience information overload up to a great extent.

5.4. RECOMMENDATIONS

From the discussions and conclusions in this chapter, the study recommends that university of Nairobi School of Business to incorporate a course unit dealing with information literacy. This will assist students in managing a lot of available information generated so fast by latest Information Technology. The study also recommends that a balance be made between assignments given to MBA students with the allocated time to complete the assignment. Further, MBA students should continuously attend computer and information technology course to familiarize themselves with ever changing technology. Additionally students should train themselves to design a schedule of tasks to execute and stick to the schedule.

5.5 LIMITATIONS OF THE STUDY

Possible limitations on the results of the study include the followings: The sample only included students who attended evening classes in Nairobi campus. MBA students from other campuses like Mombasa and Kisumu could not be reached to complete the questionnaires. Secondly, no attempt was made to control level of employment and organizations where respondents worked to enable the researcher compare the level of pressure. Normally work-related pressure experienced in public sector is different from that experienced in the private sector. Additionally, investigation of the relationship between information overload constructs which are the basis for emotional quotients and emotional intelligence. Further, other personal factors such as physical influence, mental

influence and personal interests and cross cultural studies which contrast cultural effects associated with personal perception of information overload.

5.6 AREA FOR FURTHER RESEARCH

The study recommends that further research be done in the following areas:

Information overload among lecturers in the school of business, information overload among students of other schools of the University of Nairobi, How latest Information Technology is used to solve a problem of Information Overload in instructions of higher learning in Kenya. The study also recommends that further research be conducted on the effect of information overload among working MBA students at work places. Further research should also be conducted on all University of Nairobi school of business students including those of other campuses like Mombasa and Kisumu. The study as well, recommends further research on information overload in both public and private institutions of higher learning in Kenya and compares the findings from Public Universities with those from private universities.

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APPENDICES:
APPENDIX I: QUESTIONNAIRE

My name is Nyatangi, Richard Atambo an MBA student at the University of Nairobi. I am conducting a study on **"Information Overload among University of Nairobi MBA Students"** and kindly request for your assistance in completing the following questionnaire.

SECTION A: DEMOGRAPHIC INFORMATION

1. Please select your age group in years.
   18-25 [1] 26-30 [2] 31-35 [3] 36-40 [4] Over 40 [5]
2. Please specify your gender: Male [1] Female [2]
3. Please specify your marital status: Married [1] Single [2]
4. Please tick against your thematic area of specialization

Thematic Area of specialization			
Accounting (1)		Finance (6)	
Human Resource Management (2)		Strategic Management (7)	
Insurance (3)		International Business Management (8)	
Marketing (4)		Management Information systems (9)	
Operations management (5)		Procurement & Supply Chain Management (10)	

5. Please specify your employment status: Employed [1] Not employed [2]
6. If employed, please select your level of monthly income in Kenya Shillings.
   30,000-50,000 [1] 50,001-70,000 [2] 70,001-100,000 [3]
   100,001-120,000 [4] 120,001-150,000 [5] Above 150,000 [6]
7. Do you own a personal laptop or desktop computer? Yes [1] No [2]
8. If you own a laptop or computer, is it installed with any information management software?
   Yes [1] No [2]
9. How can you categorize yourself in terms of computer proficiency?
   Expert [1] Intermediate [2] Novice [3]

SECTION B: FACTORS WHICH CAUSE INFORMATION OVERLOAD

10. In a 5-point scale where: No extent=1, Little Extent = 2, Moderate Extent=3, Great Extent=4 and Very Great Extent=5, tick to indicate the extent to which each of the following factors cause information overload to you.

Causes of Information Overload Variables	**1**	**2**	**3**	**4**	**5**
1. Lack of information management guidance from University library staff					
2. Pressure originating from work and studies					
3. Overwhelming amount of information due Information Technology					
4. Overwhelming responsibilities from family, work and course work					
5. Registering for more units than per a semester than can be handled					
6. Inadequate Computer and related Information Technology Skills					
7. Lack of information Management Skills to effectively manage information					
8. Complex assignments which require more time than the available time					
9. Availability of abundant unfiltered course-related alternative information					
10. Excessive lecture materials compared to available time to read the materials					
11. Acquisition of several similar information Technology devices					
12. Searching and reading irrelevant course-related information					
13. Dealing with a variety of information generating networks					
14. Inadequate experience in filtering internet information					
15. Anxiety and feelings associated with computer phobia					
16. Interruptions from non-lecture information while attending classes					

SECTION C: EXTENT TO WHICH YOU EXPERIENCE INFORMATION OVERLOAD

11. Do experience Information Overload when carrying out your coursework and any other activities affecting you as a student? Yes [1] No [2]
12. If you experience Information Overload, in a 5-point scale below where: No extent=1, Little Extent = 2, Moderate Extent=3, Great Extent=4 and Very Great Extent=5, please tick to indicate the extent to which you experience Information Overloaded.

1 No extent	2 Little extent	3 Moderate extent	4 Great extent	5 Very great extent

In a 5-point scale where: No extent=1, Little Extent = 2, Moderate Extent=3, Great Extent=4 and Very Great Extent=5, tick to indicate the extent to which you experience information overload in the following situations.

Information Overload Situation Variables	1	2	3	4	5
1. When registering for maximum allowed number of units per a semester					
2. When carrying out course assignments and term-papers with short-deadlines					
3. When sourcing course-related materials from the library					
4. When handling job tasks with deadlines alongside my course studies					
5. When reading more than class lectures and given lecturers' materials					
6. When attending to emails while studying and doing assignments					
7. When receiving job-related telephone calls while attending classes					
8. When chatting using smartphone while lectures are on					
9. When searching for course-related materials from the internet					
10. When working on school-related projects					
11. When carrying out assignments requiring internet searching					
12. When revising for regular exams					
13. When revising for special exams					

SECTION D: INFORMATION OVERLOAD EFFECTS ON STUDENT ACTIVITIES AND INTERACTIONS

In a 5-point scale where: No extent=1, Little Extent = 2, Moderate Extent=3, Great Extent=4 and Very Great Extent=5, to what extent does information overload affect you in respect to carrying out the following activities or interactions and meeting the objectives? Tick to indicate the extent using the scale given above.

Information Overload Effect Variables	1	2	3	4	5
1. Meeting deadlines for class assignments and term papers					
2. Final semester examinations					
3. Searching for specific course-relevant materials from the internet					
4. Attending class lectures for full unit(s) credit hours					
5. Relating with fellow students, Lecturers and University Administration					
6. Relating with colleagues at the workplace					
7. Level of concentration while attending class lectures					
8. Working on activities that require use of Information Technology					
9. Working on Information Systems units assignments and term-papers					
10. Working on non-Information Systems assignments and term-papers					
11. Working on non-school related activities alongside class work					
12. Revising for University continuous assessment tests and examinations					
13. Enrolling for maximum allowed semester units					
14. Attending classes conducted using PowerPoint slides and projectors					
15. Attending online structured classes using Information Technology					

SECTION E: STRATEGIES USED TO MANAGE INFORMATION OVERLOAD.

In a 5-point scale where: No extent=1, Little Extent = 2, Moderate Extent=3, Great Extent=4 and Very Great Extent=5, tick to indicate the extent in which you apply each of the following strategies to manage Information Overload.

Information Overload Management strategy variables	**1**	**2**	**3**	**4**	**5**
1. Registering for Information literacy courses					
2. Registering for computer literacy classes to boost my computer skills					
3. Using computer intelligent agents to assist me filter information					
4. Using information management systems to aid in complex decision-making					
5. Focusing attention only on the most useful and essential information					
6. Setting a schedule on how to handle various information-related tasks					
7. Switching off phones and closing the door when carrying out studies					
8. Determining and handling most important information related tasks first					
9. Avoiding being seduced to believe that more information is better					
10. Creating personal system for storing and organizing coursework information					
11. Attending time management courses and seminars					
12. Learning and training on academic writing					
13. Forming groups to share the burden of information processing					
14. Stopping subscriptions to periodicals which I have no time to read					
15. Limiting the time on internet browsing and social media chatting					
16. Sending out only necessary emails and only to those who need them					

THANK YOU FOR YOUR PARTICIPATION