

هدية GIFT



IDENTIFICATION OF ENTRY-LEVEL OFFICE AUTOMATION COMPETENCIES
NEEDED FOR OFFICE SUPPORT PERSONNEL IN BAHRAIN

A THESIS
SUBMITTED TO THE FACULTY OF THE GRADUATE SCHOOL OF THE
UNIVERSITY OF MINNESOTA

By



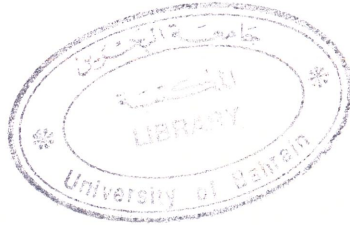
هدية GIFT

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IN THE PARTIAL FULFILLMENT OF THE REQUIREMENTS
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DOCTOR OF PHILOSOPHY

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ABSTRACT

The purpose of this study was to identify what office automation competencies office support personnel (OSP) need for entry-level employment, thereby contributing to the development of a quality Office Management (OM) program at the University of Bahrain. The sample consisted of 130 managers and 130 OSP employed in Bahraini financial institutions. A questionnaire consisted of three parts: (a) Demographics; (b) Office Automation competencies; and (c) software and automated office equipment/hardware used. A total set of usable questionnaires including 122 (94%) from managers and 125 (96%) from OSP was received.

The following conclusions are based on the findings of the study: (1) The two respondent groups (OSP and managers) rated the importance of competencies very similarly regardless of size or type of financial institution. Therefore, almost all the 47 competencies related to databases, general office automation, presentations/graphics, spreadsheets, Windows operating system, and word processing should be required for entry-level OSP positions. (2) Since there is no standardized software for all financial institutions, experience with a software may be more important than having used a specific package. Therefore, all of the following 11 software applications are important and should be required: accounting; calendaring and scheduling; database; desktop publishing; form processing; graphics/presentation; internet; speech recognition; spreadsheets; word processing and workflow. (3) There is no standardized automated equipment for all types of financial institutions; therefore, experience with automated office equipment categories such as microcomputers, printers, records management, and

electronic communication may be more important than experience with specific equipment. (4) A two-year college degree is the minimum requirement to get a job. From the findings, the following recommendations have been made: (1) Continuous research into new hardware and software should be conducted on a larger scale and in different sectors. (2) Technology curriculum should be re-evaluated on an annual basis to assure that it reflects current needs. (3) Instructors need to maintain a direct connection with business professionals to keep learning activities consistent with business needs.

Professor Charles R Hopkins (Adviser)

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CHAPTER 1

INTRODUCTION

The technological revolution has had a significant impact on the lives of most workers. Although we may think of computer programmers and network engineers as those most intrinsically involved in the new information technology workplace, this assumption leaves out a major group of professionals whose work lives have been radically altered by changing technology—office support personnel. Fifty years ago, the typical secretary filed paper, answered phones, and operated a manual typewriter. Today, that same secretary is at the hub of a company's information nerve center, handling database management, sophisticated layout, and global communication.

The challenge of this new environment is for workers' skills to keep pace with employers' needs and expectations. To compete effectively in a technology-based society, it is necessary to rethink priorities, clearly identify the needs of employers, and provide future workforce members with competencies that will have a positive impact on the economy. Therefore, the need for qualified office staff is high, especially in the area of office automation, and departments of office administration at the collegiate level are faced with the overwhelming responsibility of maintaining programs that keep pace with the information age (Ownby, 1989).

In Bahrain, the situation is no different. Office and secretarial jobs are among the four top employment categories, according to the University of Bahrain (University of Bahrain Graduate Alumni handout [UOBGAH], 1995). Bahrain is the Gulf region's financial center, and an important international business hub as well, due partially to its strategic location between Europe, the Far East, and Australia. Most major Arab

financial institutions are in Bahrain, as are many international banks. The country is an international and regional wholesale interbank money market, primarily because of its offshore banking sector, which was first established in 1975 and has assets of US\$70 billion. Bahrain's financial sector has an average daily foreign exchange turnover of US\$3 billion. The growth of the international financial sector has attracted leading local and international professional service organizations such as accountants, lawyers, management and public relations consultants, financial analysts and advisers, and companies offering information technology. In turn, this has stimulated the development of other related business sectors, further strengthening Bahrain as a financial services center (Bahrain: The Middle East's Financial Center, 1997).

This economic development has been accompanied by rapid job opportunity expansion, especially in those fields touched by technology. Therefore, changes in office management curriculum must keep pace with changes in the workplace. In order to stay up to date with new competencies, hardware, and software, the University of Bahrain's Department of Office Management must be on the cutting edge. According to an economic policy report issued by the Bahrain Promotion and Marketing Board (BPMB) Bahrain: Island of Opportunities (1997), the aim of the government's national economic, commercial and industrial policy is to attract the capital necessary to produce high value-added goods and services. Emphasis will necessarily be placed on the emerging areas of information technology, banking, finance, and tourism to attract foreign exchange. This policy will drive the type of training necessary in Bahrain, and the report identified the following programs as needs: information technology, technical and vocational, banking and finance, business and office management. If educators are to keep up with rapid

innovations in technology and the needs of the job market and government, it is imperative that studies be conducted to determine the necessary competencies in a changing workplace. Armed with these, they will be equipped to train potential employees for entry-level OSP positions.

Statement of the Problem

The quality of the office management program at the University of Bahrain (UOB) is often hindered by outmoded instructional programs, which include competencies that later prove to be either irrelevant or outdated in the workplace. In order to prepare office management students for employment in an automated office, the Department of Office Management (OM) must have a clear understanding of the needs of the businesses that will ultimately employ their students. The best way to accomplish this is to study the entry-level office automation competencies in demand by regularly surveying businesses and analyzing current office automation trends.

To date, there is no evidence of research conducted to identify the office automation competencies for entry-level employment of Bahraini office support personnel (OSP). Therefore, it is very hard to guarantee that the competencies taught by the Department of Office Management will meet the current needs of businesses. This problem is exacerbated by the rapid development of computer technology and software applications. The Department of Office Management has developed a program including computer competencies based on their perception of the needs of businesses. Based on the researcher's meetings with a number of Human Resource Managers, however, the program seems to have some serious deficiencies in preparing students for entry-level positions in the office. Specific entry-level computer competencies for Bahraini office

support personnel must be identified and compared to those offered in the actual program. Only then can the necessary changes be made to bridge the gap between the UOB curriculum and the job market. This study sought to investigate Office Support Personnel and managers who work for financial institutions in Bahrain in order to determine what office automation skills entry-level OSP are expected to possess when taking a job.

Purpose of the Study

This study was designed to identify what office automation competencies office support personnel need to have for entry-level employment, thereby contributing to the development of a quality Office Management program at UOB. The research questions were developed as a result of reviewing prior studies and drawing upon previous work experiences in teaching office skills. The primary research question was:

What are the office automation competencies needed by entry-level office support personnel and, is there a difference in office automation competencies needed by entry-level office support personnel when analyzed on the basis of type of respondent (office support personnel and managers), size of financial institution, and type of financial institution?

Secondary research questions were:

1. What software applications are used by office support personnel? Do office support personnel and managers report a difference in the use of software packages?
2. What automated office equipment/hardware is used by office support personnel? Do office support personnel and managers report a difference in the use of automated office equipment/hardware?
3. What are the minimum educational requirements and the sources for entry-level office support personnel candidates?

Assumptions

This study was designed and developed under the following assumptions:

1. The survey method is a valid procedure in meeting the objectives of this study.
2. This study is not designed to develop a competency statement, which includes conditions under which office support personnel perform and the standards to which office support personnel are held.
3. The OSP and Managers possessed the ability to accurately perceive which competencies were required for hiring entry-level OSP and responded to the questionnaire appropriately.

Limitations

This research was conducted with the following limitations:

1. This study is limited to office support personnel classified as: secretaries, administrative assistants, executive assistants, office managers, and clerks, and those managers who supervise one or more office support personnel at selected Bahraini financial institutions. The findings should be generalized with caution to other Bahraini industries with different occupational settings, employment design, and population distribution.
2. This study is limited to the Bahraini financial institutions listed in the Bahrain Financial Institution Directory 1998 who hire entry-level office support personnel.
3. This study was limited to the extent that responses of OSP and managers were based upon their perceptions of skills needed by entry-level OSP.
4. This study is limited to entry-level office automation competencies required in Bahraini financial institutions.

5. The results were limited to the time period of the study (survey question development, data collection, entry of data).
6. This study traces data that was collected through self-report via questionnaire and not through observation.

Definition of Terms

The definitions used in this study are as follows:

1. Bahrain Monetary Agency. Central monetary authority of the State of Bahrain.
2. Competency. “A competency is knowledge, skill or judgement that is performed to a certain standard” (Cook, 1976, as cited in Attiba-Davies, 1994, p. 7).
3. Department of Office Management. The main aim of the Department of Office Management at the University of Bahrain is to provide students with office, managerial and supervisory skills for offices.
4. Entry-level skills. The knowledge, abilities, and/or attitudes required of personnel to perform a primary work-related task in the word processing, data processing, reprographics, records management, and telecommunications areas (Fry, 1984).
5. Office. “The place where information is gathered, processed, transmitted, and stored” (VanHuss & Daggett, 1989, p. 4).
6. Office Automation (OA). The use of computer-based equipment, from word processor to sophisticated network system, in the office for communication, document production, data processing, and data distribution (Goodrich, 1989, p. 69).
7. Office Management. “Management of people, equipment, and office environment. It introduces students to work flows, communication innovations, leadership roles for better human relations, and telecommunications” (Hart, 1983, p. 113).

8. Office Support Personnel (OSP). “One who performs any of the following skills in an office setting: typing, transcribing, processing mail, telephoning, appointment scheduling, greeting visitors, composing and editing documents, researching, interpreting data, transmitting instructions, maintaining files, completing various administrative duties, coordinating meetings, making travel arrangements, and selecting appropriate copying methods” (Reynolds, 1993, p. 8).
9. Size of Organization. Operationally defined as three categories: Small = 1-100 employees, medium = 101-300 employees, large = more than 300 employees.
10. Type of financial institution. Refers to four major categories: The three main categories, based on their listing and reporting to the Bahrain Monetary Agency, are full commercial bank, investment bank, and offshore banking unit. The fourth category is “others,” which includes more than one type of financial institution because they have very few employees. These institutions include money exchanges, representative offices, specialized banks, foreign exchange and money brokerages, insurance companies, and the Bahrain Monetary agency.

Overview of the Study

The present study was designed to identify entry-level office automation competencies needed for office support personnel in Bahrain. This study is organized as follows: Chapter 1 includes an introduction, the statement of the problem, the purpose of the study, the assumptions of the study, limitations of the study, definition of terms and overview of the study. Chapter 2 includes a review of literature on (a) Historical background, (b) Office automation competencies, (c) Role of the office and office support personnel, (d) Office automation competencies and office support personnel, and

a summary. Chapter 3 describes the design and procedures used to collect and analyze the data. Chapter 4 includes analysis and discussion of findings of the data; and finally, Chapter 5 presents a summary of the findings, conclusions and recommendations.

CHAPTER 2

REVIEW OF RELATED LITERATURE

If they are to survive in today's corporate world of technological change, graduates of OM programs must have the right office automation competencies. Therefore, the current gap between what is taught in OM programs and what is actually needed on the job must be narrowed: "To keep pace with global competition, education is responsible for the efficient training and retraining of a work force that can adapt to changing technology" (Maddox, 1995, p. 9). This study seeks to meet that responsibility by identifying the office automation competencies necessary for hiring entry-level OSP in Bahrain. The review of the literature is designed to acquaint the reader with other significant investigations related to the study under consideration in order to provide a broader view of the problem. The following literature review focuses on the identification of office automation competencies and is divided into the following sections: (a) Historical background, (b) Education in Bahrain, (c) Office Automation competencies, (d) Role of the Office and Office Support Personnel, (e) Office Support Personnel and Office Automation Competencies, and (f) Summary.

Historical Background

Bahrain is located 24 kilometers off the east coast of the kingdom of Saudi Arabia. It consists of 33 islands. The capital is Manama. The total land area is only 700 square kilometers. Bahrain is populated mainly by Arabs, originally from the Arab Peninsula (H. G. Henry, 1994). After Bahrain gained its independence from Britain in 1971, state policy concentrated on establishing its personnel infrastructure, but neither the size of the population nor its structure facilitated the achievement of this goal. Therefore, a

qualified labor force was recruited from Arab and non-Arab countries. Hence, the growth of the total population is mainly a result of the large immigration of expatriates to Bahrain since 1971. The population is 586,109; 62 percent are Bahraini. Nearly 82 percent of Bahrainis are under the age of 20, a fact which strongly influences educational policy. It is state policy to provide free education for all Bahraini children (Development of Education in Bahrain, 1996).

Bahrain has a history as a prosperous center for trade and business due to its strategic location in the middle of the Gulf region. Bahrain was the first among the Gulf countries to discover oil in the 1930s. It was also the first base for scheduled airline services, and at present, is a center for regional finance, services, distribution systems and industry. This has led Bahrain to be one of the most open economies in the Gulf region. The Bahraini workforce is competent in industrial, technical and administrative functions, and the country's educational system is geared to the development of vocational skills (Bahrain: Your Industrial Base, 1997).

All Bahrainis are Muslim and their language is Arabic. The English language is widely used and plays an important role in daily activities, especially in business, since Bahrain's economy is focused on global commercial markets where the English language is the mediator. Therefore, starting from the 4th grade of primary school, English as a foreign language is taught to all students.

Education in Bahrain

Formal education began in Bahrain in 1919, with the opening of the first primary school for boys. It consisted of four levels: primary, intermediate, secondary and higher education. However, the first informal primary school for girls was opened in 1892 by

the American Mission (Reformed Church), which followed the Western system of education. Education came under the direct auspices of the state in 1928. Students have historically come from all over the Gulf region to study in Bahrain (H. G. Henry, 1994).

State schools are single sex. All students follow a compulsory common curriculum throughout the six grades of primary education. Primary schooling (six years) and intermediate schooling (three years) jointly provide basic education. Secondary schooling lasts for an additional three years, and students spend three years majoring in their desired fields. Secondary schooling has three divisions: general, commercial education (the term commercial is used for business education), and technical. The commercial or business education division was founded to meet the needs of both government and commercial interests.

Business education is provided in either commercial or industrial schools for boys and girls. Students in the first and second years study general subjects including religion, Arabic, English and physical education, as well as commercial subjects such as accounting, secretarial work, and keyboarding. In the third year, students select one of two courses of study: accountancy or secretarial work.

The purpose of the business education program at the secondary school level is to develop basic clerical vocational skills in the students and an awareness of the occupational opportunities in Bahrain (H. G. Henry, 1994). At the post-secondary level, the purpose is to develop well-trained resources capable of contributing to the economic development of Bahrain. Emphasis is on special skills in technical and managerial areas and on developing positive attitudes towards work. This program also has the goal of replacing key foreign personnel with Bahrainis, in addition to bridging the gap between

colleges and corporations. The Ministry of Education and the Ministry of Labor and Social Affairs jointly manage the structure of post-secondary schooling in Bahrain. The High Council of Education decides policy and provides overall supervision.

Business education in Bahrain at the post-secondary level began in 1968 when the first Gulf Polytechnic school was opened. The Office Management program (then called “secretarial studies”) then consisted of one classroom equipped with manual typewriters and a single steno machine. It was difficult to teach office skills without the proper office equipment (University of Bahrain: College of Business Administration. Bulletin 1990-1992). In 1978, the secretarial studies section was expanded, and electric typewriters and word processors were introduced. At the present time, the department is fully equipped with the latest office automation equipment. The Office Management program at the University of Bahrain is one of the oldest secretarial programs in the Gulf region, and students from all over the Gulf region receive secretarial training at the UOB (Aktar, 1987). The Office Management program offers two-, three-, or four-year courses of study. At the two-year level, students can obtain a certificate in Office Management, and the coursework concentrates on basic secretarial studies. At the three-year level, students obtain a diploma in Office Management and the coursework concentrates on advanced secretarial and basic business studies. At the four-year level, the students obtain a bachelor’s degree in Office Management and the coursework focuses on advanced secretarial and business topics (Saydawi, 1991).

Office Automation Competencies

The purpose of this section is to review the literature and research related to Office Automation competencies that are required for entry-level OSP positions. Office

automation is creating a new order in the office; OSP who possess office automation competencies can efficiently and effectively use and manage information resources in the office. Significant progress has been made in introducing computers to a large population. The management of office activities, which is at the core of most companies, has been revolutionized by computer software. Office automation systems, in which the computer is used to perform routine tasks, gained popularity with secretaries as personal computers (PCs) became more accessible. Also, the cost of PCs decreased as they became more flexible with cheaper maintenance, resulting in more powerful communications tools such as e-mail (Yogho & Kenne, 1997). In this information age, OSP must meet the challenge of new technology: electronic typewriters, word processors, desktop computers, voice processors, image processors, intelligent copiers, computerized records, electronic mail, telecommunications, computerized calculators, and so on (Hart, 1983). Therefore, OSP must be prepared to manage the information flow in the automated office of the future. The organization of this section is as follows: (1) The concept of office automation and (2) The concept of competency.

The Concept of Office Automation

Many definitions of office automation have been proposed, especially over the last two decades of technological explosion. In 1984, Fry (1984) defined the automated office (AO) as “The office workplace where the identification and integration of automated technologies to facilitate information management is taking place” (p. 9). Casady (1989) defined office automation (OA) as “The use of electronic machines to increase office productivity” (p. 511). Goodrich, as cited in Atiba-Davies (1994), defined office automation as, “The use of computer-based equipment (from word processor to

sophisticated network systems) in the office for communication, document production, data processing, and data distribution” (p. 8). Simon (1996) referred to office automation as the use of information technology to automate activities that are typically performed in offices.

Regardless of the size or type of the organization, some office activities occur on a regular basis, such as paying bills, sending messages, balancing the checkbook, and budgeting for the future. You can perform these activities manually, but this is usually much slower than an automated process. In addition, Simon (1996) said that automating the creation of messages such as letters, memos, and reports began years ago with the use of the typewriter in offices. Early typewriters had no memory capabilities, so the typist had to start again if a document required major revision. We now have typewriters with the capability of storing several pages at a time so that changes can be made to a document before it is in final form. The greatest automation of messages of this type has occurred through the capabilities of desktop computers, which have extensive storage capacities as well as methods of combining different types of material into one document. In addition, telephone technology has led to the development of many telecommunications devices, including hardware and software that make digital and analog connections possible. As a result, “voice-based” messages are transmitted and stored in computer memory in the form of voicemail, and “databased” messages can be transmitted across telephone lines and stored on the computer in the form of electronic mail (Akeyo & Pollard, 1992).

“Although computer technology is only one chapter in the history of office work in the twentieth century, its deployment in the office represented a decisive shift from

previous approaches to office management.” (Hedstrom, 1988, p. 1). Hedstrom (1988) added that the computer promised tangible reductions in office costs through the orderly coupling of mental labor with the power of a “thinking machine.” As information technology has improved and people have recognized and understood its capabilities better, new uses of technology have been developed for automating office tasks. Many files are stored electronically now, with a much more accurate and efficient data storage and retrieval processes than the old method of putting paper files in folders in drawers and hoping to locate them later without too much difficulty. In addition to the storage and retrieval benefits, the electronic storage of data makes it possible to automate other activities, such as making changes to data in a file, rearranging it for different purposes, and sharing it with others as needed. Technology also has freed OSP from many routine duties such as typing dictated letters or filing papers, and the global economy brought about by the technology revolution affords them with the opportunity to interact via fax, phone, letters, email and audio and video conferencing with customers and associates from around the world. The proliferation and pace of change in technology now demands a high level of competence simply for selecting and using the appropriate hardware and software tools (Alexa & William, 1997).

The Concept of Competency

Most agree that a competency is a task performed by workers in an occupation (Farig, 1986, as cited in Moore 1993, p. 9). However, the term competency can have many specific definitions based on the context in which it is used. In this section, I will

present research that deals with the concept of competency identification and gives an historical perspective on curriculum development or change by addressing or comparing competencies in practice with competencies in theory.

In 1959, Good (as cited in Erickson, 1996 p.28) defined competence as the ability to apply to practical situations the essential principles and techniques of a particular subject matter field. In 1976, Cook (as cited in Atiba-Davies, 1994) proposed the definition that the researcher found most suitable for this study: “A competency is a knowledge, skill or judgement that is performed to a certain standard” (p. 19). Houston and Howsam’s (1972) definition places emphasis on “the ability to do something rather than the traditional emphasis in most formal educational programs—the ability to demonstrate knowledge.” Nowlen (1988) used a “Competence Model” to refer to the acquisition of sufficient knowledge and ability (competencies) to accomplish specific requirements. Kallaus & Keeling (1991) define “Office Automation Competence” as “the ability to manipulate equipment, hands-on skills, and knowledge associated with equipment utilization (p. 10).

The demand for OSP with office automation competencies is increasing; equally important is the fact that business and industry want OSP to be proficient in office automation prior to employment so they can be productive immediately upon being employed. For this reason, it is the responsibility of educators to close the gap between those competencies required by business and industry and what is taught in the school.

Role of Office and Office Support Personnel

In this section, the literature on the role of the office and office support personnel is reviewed. Business and industry employ OSP to perform and coordinate office

activities and to ensure that information gets disseminated in a timely manner to staff and clients. Executives and staff rely on them to keep administrative operations under control. Their specific duties depend on their level of responsibility and the type of firm in which they are employed. The organization of this section is as follows: (a) Major functions of the office and (b) The evolving role of office support personnel.

Major Functions of the Office

According to Ribbers (1994), the term office has been used throughout history to define a particular kind of workplace. This definition differentiated the workplace from factories. The work done in offices is primarily related to data and information. Often this work is referred to as paperwork, using the carrier of information as a primary indicator of the work. What is an office, then? The narrow definition refers to the physical location where office work is being performed. The broad definition refers to the information processing activities executed in a physical office, but it is not restricted to that. For example, information work is accomplished in meeting rooms. Also, Ribbers (1994) states that office work is basically information work, implying the gathering, registration, storage and processing of data and the distribution, presentation and interpretation of information.

According to Calhoun and Robinson (1993), key office support functions in modern offices are: keyboarding documents, including letters, memoranda, and reports; photocopying documents; searching for information, composing letters and memoranda, editing and proofreading documents; greeting visitors, answering telephone calls, placing telephone calls to accommodate customers, arranging meetings, opening and sorting mail, preparing outgoing mail; inputting data at computer terminals, maintaining files and

databases, preparing forms, including checks, orders, and invoices, maintaining financial records, maintaining calendars, establishing priorities for tasks, and managing the work of assistants. Dye, Harris, and Davis (1991) listed office functions as file management and accounting, document creation, correspondence, appointment scheduling, financial work, desktop publishing, personal information management, and graphics.

The main purpose of office systems is to provide information workers in an organization with information, which enables them to perform tasks properly. The kind of application and technological support they need will depend on the characteristics of their tasks. Ribber (1994) arranges these activities into four categories: secretarial work, accounting work, professional work, and managerial work.

Dagget and Jaffarian (1990) stated that as the functions of the office transformed, so too did the roles and responsibilities of the workers in the office. Computers have changed both the nature of work and the worker. Support staff are using computers and networking to do many tasks formerly delegated to specialists. Having the skills to operate information systems is also important for professionals, managers, and supervisors. Bronner and O'Connor (1989) added that, as automation reduced the need for office personnel to perform repetitive tasks, the potential for fewer clerical office positions coupled with higher expectations combined to force traditional office educators to reexamine the current curriculum offerings, especially at the college level. At the same time, computer literacy became important. We can then say that offices serve as nerve centers for business and other organizations, which have become heavily dependent on information systems. Word processing, data processing, reprographics, and

communications are often integrated into a function made up of many interdependent, complementary units and a network that permits speedier information gathering and communication flow. Through networking, the office can function as the primary center of a business, linking systems and workstations together (Dagget & Jaffarian, 1990).

Technological changes have influenced how people in business communicate, conduct business, approach work, and progress in their careers, Ramey and Barton (1997) stated, “Current technologies involved in the administration of most office functions—computer hardware and software, telecommunications, and work design—will fuse into one supertechnology. Explosive changes are imminent for the office. These changes, driven by consumer needs and demands, will result in new appliances and products” (p. 80).

The Evolving Role of Office Support Personnel

Traditional office activities have changed drastically since the introduction of the microcomputer and office automation (OA). OA systems enable businesses to change the way they do business by streamlining organizational communication, broadening organizational perspective and using people more effectively (Tanlamai, 1990). Sullivan (1996) describes the historical context of the office and office support in the United States. In the first half of the century, office management for the most part involved the recording of information in functional areas, generally in isolation from other areas, and demanded high levels of clerical skill. Then, in the 1970s, the pervasive integration of computer-based technology dramatically changed the office and the role information served in decision-making. An administrative service concept gradually evolved, which unified separate functions, giving the office a central support role in the organization. As

a result, the secretarial profession evolved along with the office. Before 1940, most secretaries had a post-secondary education, but a shortage of workers over the next 25 years resulted in the recruitment of high school graduates, with secondary schools assuming the role of training. During this period, secretarial science curricula at the university level, along with all professionally and vocationally oriented programs, struggled to find a respectable place.

As the title of “secretary” began to designate all clerical/stenographic support personnel and the title lost its status, many collegiate programs took on a management orientation and were called office management or administration, administrative office management, administrative systems and the like. From their heyday in the 1960s, however, enrollments in such majors steadily declined, and many programs were eliminated entirely by the 1980s. No doubt, the women’s movement and the removal of discriminatory barriers partially explains their demise. A survey by O’Niel (1993) in the 1970s, 1980s, and 1990s, showed that graduates believed the administrative office management degree to be a distinct advantage for obtaining high-level secretarial positions, but not management positions, and too often they found themselves in the unenviable position of trying to convince prospective employers that they were more than well-educated typists. In the last decade, office management/administration programs have dropped secretarial courses such as shorthand, renamed and/or upgraded others, and added new office technology courses. In some cases, new programs have been adopted.

Dentzer (1994) reported that corporate restructuring and downsizing has eliminated middle managers and often the secretaries who worked alongside them. Meanwhile, the remaining jobs have been drastically upskilled. Thousands of secretaries

now work with the latest software or organize data and systems for an entire office. Richardson (1998) extended the responsibility list for administrative support staff by adding the role of change agent. He explained that most administrative support personnel have well-developed communication skills, having become skillful at oral communications and listening through the normal process of doing their jobs. Stone (1995) noted that secretaries are under increased workloads and are assuming duties previously performed by management. The increasing responsibilities being assumed by secretaries are necessitating higher education and training, but formal training for technology and managerial/supervisory duties is somewhat lacking. What, then, are the educational needs of the evolving positions of office professionals? Male secretaries (1996) shows that today's secretaries operate more like information managers rather than "coffee-fetching gofers." Successful secretaries have adapted to the information age by expanding their job skills and realizing that knowledge is power. The Administrative Development Institutes (The impact, 1997) surveyed members of PSI and found that 71% of secretaries were taking on duties such as purchasing office materials, hiring personnel, training and supervising, and supervising quality management programs, all of which had been performed by management in the past.

The role of OSP has radically changed to meet the challenges of the electronic office, according to Wiggs, Anderson and, Morgan et al. (1998): "Roles and responsibilities of office professionals have changed dramatically in the past decades. Increasing responsibilities necessitate higher education and training" (p 79). Offices today require OSP to have thorough knowledge of microcomputer systems and to be proficient in the use of software and automated office equipment. The rapid growth of

computer technology and new software development makes it difficult to ensure that what is taught in the classroom meets the current needs of business, and research is needed to update the curriculum based on the needs of the new automated office.

Office Automation Competencies and Office Support Personnel

In this section, literature on OSP and office automation competencies, specifically those required for entry-level positions, is reviewed. Following this introductory part, the rest of this section is organized as follows: (a) Internet technology and the role of office support personnel; (b) Improving preparation to meet changing needs; and (c) Identifying entry-level competencies. As previously discussed, the role of the OSP has expanded dramatically to meet the challenges of the electronic office. OSP now need to be computer literate, operate sophisticated software programs, and help in generating information that is essential to the decision-making process. However, these skills must be learned in an appropriate setting. In fact, the information technology boom has created a need for new types of educational offerings (Reynolds, 1993).

Fell (1994) discusses how the role of the secretary is changing in the modern office, and has suggested the following as reasons for curriculum changes: (a) Recent studies show the microcomputer being used in offices for spreadsheets, graphics, word processing, and database management. Secretaries must be able to select the appropriate software for the job. (b) Secretaries are assuming new administrative duties. They do project work that used to be done by managers, because they have access to a large amount of information due to computers. (c) The secretary is a link between staff and management. (d) Secretaries can now seek better positions and move up. According to a PSI (1997) [online] news release on August 7, 1997, today's automated office provides

expanded opportunities for OSP to take on tasks previously handled by managers and professionals. Because they are now often relieved from dictation and typing, they can support several members of the professional staff. Alexander (1994) conducted research on the new role of secretaries as trainers and found that “Over one quarter of the secretaries surveyed are training co-workers to use computer hardware and almost half are training co-workers to use computer software” (p. 23).

Arneson (1989) conducted a study as a result of concerns of employers, educators and women (who represent 99% of all secretaries and 97% of all typists) about the potential de-skilling and decreased demand for office personnel due to changing office technology. However, the results of the study predicted that office clerical/automation workers would be the fastest-growing temporary help occupational segment in the future, and was currently in the highest demand by employers. The study also showed that word processing positions commanded the highest salaries and were most demanded by employers; IBM or compatible computers were most popular; and WordPerfect, DisplayWrite, WordStar, MultiMate Advantage, and Microsoft Word were the software packages of choice. Spreadsheet and database training ranked second most attractive, with the preferred software packages being Lotus and dBase.

The results of Reynolds’ (1993) study on office automation competencies states that three groups (educators, managers and secretaries) were surveyed to identify skills important for the secretarial graduate. They agreed on the top three skills: (a) skills related to communications; (b) software knowledge of WordPerfect; and (c) knowledge of Lotus 1-2-3 for spreadsheet manipulation. McEwen’s (1998) study reviewed the jobs of business and office education majors at all secondary and postsecondary levels of the

education system to find out to what extent business/office education students are prepared for the job positions that they seek. He found that the critical office support skills include document processing, mail management, copying and faxing, telephone skills, communication, teamwork, and prioritizing work. McEwen further stated that technology, globalization, and leaner, flatter organizations demand higher skills of business support workers. Generally, teachers and students agreed on the development of such administrative competencies and the strongest area of preparation as reported by both were end-user computer skills and professional behaviors. McEwen stated:

“Business and industry expect the education system to send them workers who are prepared in the basic job skills related to the positions that they seek. However, too often graduates are less prepared than an entry-level position requires them to be. This has led to a continuous litany of criticism of the education system and calls from employers for schools to do a better job in preparing entry-level workers” (p. 214).

Regarding telecommunications and office automation equipment, Akeyo and Pollard's (1992) findings indicated that a basic knowledge of telecommunications processes and equipment should include the use of modems, communications software, online services, public databases, voice mail, and email. In addition, students should be able to evaluate telecommunications equipment and processes to determine their suitability for particular applications. Akeyo and Pollard (1992) also stated that to stay current in this fast-paced information society, business curricula must embrace and reflect employers' standards and competencies for qualified workers in business telecommunications.

Internet Technology and the Role of Office Support Personnel

Banham (1995) suggested that the Internet is as significant as the invention of the printing press or telephone. Without a doubt, the Internet is the fastest growing

communication medium of all time. Frueling, Kerin, and Sebastian (1997) stated that employees trained to meet the challenges of the technological workplace will survive and be promoted in the next century. Typically, the information worker needs to use common computer applications, but today those computer applications need to be integrated with intranets and the Internet in order to access information, communicate using e-mail, teleconference and videoconference and conduct business-to-business commerce on a global basis. Frueling et al. (1997), in their study, recommended business educators include internet competency in the curriculum and stated that companies that use the internet have a competitive edge over those who do not, and likewise, students who have internet knowledge, skills, and aptitude have a competitive edge over students who do not as more businesses move towards internet technology. In addition, Hinton (1997) stated that the highest business use of the Internet is for email, with over 15 billion email messages sent each month. E-mail owes its popularity to its speed, convenience, and relatively low cost. Students, therefore, need to be knowledgeable of how to use e-mail locally and abroad.

Batcha and Kunar (1998) conducted a survey study to determine how companies are currently using the Internet and Intranets. The researchers provide valuable information about the importance of Internet/intranet skills and concepts for upper-level administrators, middle-level managers/supervisors, and office support personnel who are commonly those served in business courses. They added that the Internet resulted in traditionally paper- and forms-intensive offices employing technology to streamline many processes. However, when the researchers attempted to determine the degree of usage according to job titles, results showed that upper-level administrators used the

Internet and intranets the most and office support personnel used them the least. In addition, the results of the study stated that companies with 51 or more employees are more apt to have a website than companies with less than 50 employees, and utility and high technology companies are the most likely to have a website, followed by financial/insurance companies. The growing importance of email, digital documents, and composition at the computer will put these skills in high demand and make them necessary for OSP jobs. Other essential skills will also be important, such as presentation preparation, videoconferencing and videotelephone conversation skills, which include more than just the technical skills to conduct the interaction:

“No longer can people do other things while talking on the telephone and appear as though they are hanging on every word a person is saying. They will be seen and will have to appear interested. Thus, active listening and reading body language will take on even more importance in this environment” (Ramey & Barton, 1997 p. 90).

In addition, Batcha and Kunar (1998) stated, “Electronic communication is a phenomenon much like the Industrial Revolution at the turn of the 20th century” (p. 91).

Batcha and Kunar continue:

“Numerous professional groups such as the National Business Education Association, The Ohio Business Teachers Association, and Delta Pi Epsilon, as well as numerous individuals have identified electronic communications as an important part of today’s workplace” (p. 91).

Improving Preparation to Meet Changing Needs

Blair, and Uhl (1992) conducted a study using the Delphi technique to identify essential course components for revision of a program to meet the needs of Atlantic Canadian business, and simultaneously inform guidance counselors and future employers of the changes. Five groups were surveyed: the department advisory board, graduates, students, Atlantic Canadian businesses, and Nova Scotia high school guidance

counselors. Keyboarding was rated as a very important element to be included in the program as a short, non-credit course for students who enter the program without this skill, since keyboarding is offered in most high schools. Knowledge of software applications such as word processing, spreadsheets, and databases was rated as important, as well the competencies of software evaluation, training skills, and telecommunications. It is possible, however, that this also indicates a lack of complete understanding of the technology. Knowledge of software applications such as spreadsheets and databases were emphasized, though surprisingly, graphics and desktop publishing were not. Possibly these areas are still restricted to specialized types of work and only in selected organizations. The low group rating for records management was of some concern.

As O'Neil (1993) pointed out, we are encouraged to rethink and restructure industrial and educational models to meet the changing needs of a technological age as the 20th century draws to an end. We are told that rapid change, fueled by computer-based technology and an emerging global economy, provides an extreme challenge to our educational training system to prepare individuals for lifelong learning. This reality does not fit with the traditional organization of schools into separate academic and vocational curricula. And we are forced as business educators to identify, teach and market the necessary skills for an increasingly technologically and economically competitive global marketplace. Kriebel's study (1993) was conducted to analyze the attitudes of office personnel (managers, supervisors and secretaries) toward specific issues concerning the use of advanced office technology. Respondents thought that automated office technology (AOT) increases the productivity of office managers and supervisors. However, they showed concern that if they do not learn how to use automated office

technology equipment, they might lose their opportunity for promotion. In fact, they believed that AOT would result in elimination of more than 50% of all routine office tasks by 1995.

According to D. C. Henry (1994), computer skills must be part of the secretarial curriculum and training of the modern office worker because computers are fast becoming a part of virtually every office and company operation. Office equipment, including the computer, telephone, facsimile, and photocopier, must be part of the training of secretarial/office administrator students at the college level because such equipment is being incorporated into virtually all business operations. Business communication skills must not only continue to be taught, but must be highlighted in secretarial training programs in order to meet the changing responsibilities of the secretarial worker in light of the dramatic impact of new technology.

Asby, Arnold, Joyer and, Pedersen (1998) conducted a survey study, the focus of which was to identify employers' needs for formal computer hardware and software training. The results of chi-square tests showed that the majority of respondents felt their firm needed formal training in hardware and software. A skilled workforce is essential in today's highly competitive business domain. Employers today are looking for workers who have a broader and deeper education than in the past, so that employees can adjust to changing skill requirements. These requirements are associated with new and ever-changing technologies and workplace practices. With continual revisions and innovations to hardware and software, employees and employers must be trained in order to update their knowledge and effectively utilize the various software and hardware in the workplace. Information-based technology increased the skill requirements and

importance of office employees throughout the business world. “Nearly all office employees operate a computer for word processing or information processing” (Asby et al. 1998, p. 74). There is evidence that a portion of office employees were either not trained or under-trained and therefore a need exists for businesses to examine their office employees and invest in training to meet the skill requirements that information-based technology has placed on business. Employers must continue to train their employees in order to maintain a quality workforce. In order for Bahrain to compete in the current global marketplace, workers must recognize their potential by having the expertise to perform the job assigned through formal training.

Identifying Entry-Level Competencies

As for entry-level competencies in general, a study was designed by Fell (1994) to survey Human Resource Directors at 300 Wisconsin banking and insurance companies with the goal of determining what entry-level competencies were essential for administrative assistants in Wisconsin banking and insurance companies. Chi-square and t-test statistical analyses were also used to compare significant differences in responses from banks and insurance companies and from small and large companies. The resulting data were used to determine significant differences by type and size of company. The survey instrument listed 66 task descriptions in 10 categories. The 10 categories that were listed in the survey were general office management, communication, interpersonal skills, document processing, mail processing, records management, equipment maintenance, meeting attendance, travel arrangements, and financial management. The results of the Fell (1994) study were as follows: Tasks ranked as useful or essential for entry-level employment were: receive/send electronic mail, send/receive voice mail,

develop retention schedules, transcribe machine dictation, create electronic spreadsheets, convert electronic documents, and troubleshoot equipment maintenance.

Professional Secretaries International (PSI) conducted a comprehensive entry-level research study in 1988. From this research, the PSI Entry-Level Certification Program and the PSI Postsecondary Model Curriculum for Office Careers were developed. The study also resulted in a basic list of recommendations. Some of those recommendations listed as related to office automation were: (a) address the increasing demands that are made on today's office workers resulting from new technology; (b) focus on technology; (c) emphasize specific technological skills; and (d) provide opportunities for using specific hardware and software, but emphasize generic concepts. The PSI study has become a source of curriculum foundations for other educational institutions.

Wiedmaier and Owens (1998) conducted a study to identify the skills needed to acquire entry-level business positions. The study identified the following three commonalties among the participants: software competencies used for day-to-day tasks, transferability of basic skills, and usage of technology-enabled communications. Wiedmaier and Owens added that despite the drop in the cost of new computers over the past twenty years, the costs associated with training and retraining staff to use this equipment have risen. This was because educational institutions and training centers had to stay on the cutting edge and have the equipment and software necessary to teach staff and students current skills for employment. Also, today's employees are expected to be computer literate and to achieve particular tasks. This is why employers expect a well-trained and prepared employee to avoid the cost of training. The results of their study

showed that all participants in the study use software to complete a variety of daily tasks such as numeric manipulation, financial reporting and document preparation, however, different software applications were used to carry out these duties. Kerka (1995) noted that in addition to word processing, support staff now deal with faxes, voice mail, email, local area networks, desktop publishing, spreadsheets, and databases. These additional responsibilities require high skill levels.

North and Worth's (1997) research on 1995 workplace competencies found that more than 80% of the entry-level classified advertisements in business/professional areas included technology skills. Waldrop (1994) stated "about half of Professional Secretaries International (PSI) members say they are frustrated by the lack of training available, and 62 percent of secretaries say computer training would benefit them most" (p. 4). Cochrane, Hart, and Morris (1996) emphasized industry's need for end-user learning and universities' obligation to provide programs to prepare students for their roles through training. According to Carnevale and Stone, (1995) employers are looking for ways to provide basic and advanced computer skills and training for their employees. However, training and development were seen as non-essential in a business society that measures success by doing more with less. Therefore, with pressures from cost cutting to technology advances, firms needed employees who are trained not only for current technology but also ever-increasing advances in technology. According to Carnevale and Stone (1995), with today's information-based technology increasing the skill requirements and importance of office employees, more office personnel must have qualifying training and skill upgrading, usually in the form of seminars, to provide the skills required to face the challenge of global competition. Technique (1997), in an

article on Hiring Trends, listed several employer expectations, and among them were knowledge of software applications and Internet skills. The article also listed computer fluency as one of seven employer expectations. It encouraged job seekers to gain computer knowledge and experience. Scheetz (1995) found that computer literacy and command of popular office technology were among the most sought-after skills in future employees. Giles, Valle and, Perryman (1996) stated that office support careers are fairly broad and require a wide variety of skills.

Fisher-Larson (1997) stated in her article that secretaries are expected to have good oral and written communication skills, interpersonal skills, and a wide range of computer and office equipment skills. Office support personnel now work in the information age, and now decisions and communications are transmitted through electronic mail rather than formal memos, letters, or reports. Communication can happen locally or internationally within a minute. To survive successfully, office support personnel need to learn how to use integrated software applications efficiently. Fisher-Larson added the following essential criteria for office workers today: (a) “operating systems/environment” - students should know how to work with multiple applications and transfer information from one application to another; (b) “word processing” - users should be able to create, edit, format, store, and print documents and use features such as spell checker, thesaurus, and grammar checker; (c) “spreadsheets” - user should be able to create, calculate, edit, retrieve, modify, and print graphs, charts, reports and spreadsheets; (d) “desktop publishing” - user should know how to use the desktop-publishing features of word processing applications and principles of basic design and be able to apply the principles to completed documents; (e) “Presentation graphics” - user

should know how to develop presentations using presentation graphics software and how to import documents from other applications to develop presentations; (f) “Personal information management” - user needs to know how to schedule his/her own time as well as others, including the use of calendars, appointment schedulers, to do lists, tickler files, calculator, phone and address lists, and other organizational aids; and (g) “communications” user should be able to communicate using the computer as a tool, including transmission of email, voice mail, and faxes over the computer using communications software.

A study conducted by Wiggs et al. (1998) examined the educational needs of office professionals as perceived by members of professional secretaries international (PSI). In their statement emphasizing the importance of training and education of OSP, Wiggs et al. stated: “Roles and responsibilities of office professionals have changed dramatically in the past decade. Increasing responsibilities necessitate higher education and training” (p 79). Wiggs et al. asked PSI members for their perceptions of: educational preparation needed for different office support positions; specific courses needed for job success, and factors that could bring better identification to the profession. As a result, “Respondents agreed that a 2-year community college degree is minimum preparation needed to get jobs and that a 4-year degree in an office support area merits the greatest potential for promotion” (p 79). The analysis of questionnaire items indicated that the largest number of respondents (27%) believed a 2-year community college degree with a major in business would be required if new employees were hired in office support positions. A fewer number of respondents felt 2-year degrees from business career schools would be needed, while 20% felt four-year degrees in an office support

area would be needed. 32% believe a 4-year business degree is the educational level needed to merit the highest starting salary. Wigg's et al. concluded that the 2-year community college degree with a business major is believed to be most beneficial to new employees and the 4-year business degree is believed to be the level of education providing the greatest potential for promotion.

In Wiggs et al's (1998) study, the largest number of respondents identified three courses as beneficial for job success: keyboarding, computer software applications, and business communication. When asked their opinion of the overall status of office support personnel, about 27% of respondents indicated they believe the status of office support positions is good and 22% believed it is excellent compared to a few years ago. Additional education, becoming more professional, and gaining more technical computer knowledge were all identified as factors needed to improve the status of office support positions. Wiggs et al. (1998) commented that as the secretarial role continues to change with technological advances and changes in the business environment, new education and training demands for the office professional must be considered by educators.

No previous studies have been identified which specifically address office automation competencies needed for entry-level OSP positions in Bahrain. The present study is an attempt to expand the body of knowledge regarding office automation competencies needed for entry-level OSP in Bahrain.

Summary

While findings from previous studies suggest competencies needed for entry-level office support personnel in the automated office, the core component of the current environment is change. Therefore, the need for new research is always critical. It is

necessary to constantly reassess employers' specific priorities regarding entry-level skills for office support personnel. Essentially, researchers agree on the competencies needed. Employers consistently assign a high priority to knowledge of microcomputers and software applications, especially word processing, spreadsheets, presentation graphics, databases, desktop publishing, online services, electronic mail, voice recognition, records management, and automated office equipment including the computer, telephone, facsimile, and photocopier. Although there is agreement on the competencies, several variables will affect the way in which these competencies are implemented: occupational categories, nature of the business, and size of the business. It is obvious that new competency studies need to be done on a continuous basis. As for educational level, studies indicate that a 2-year college degree is the minimum educational requirement needed by OSP to obtain entry-level office support positions and eventually be promoted. The 4-year college degree is perceived to command the highest salaries and to provide the greatest potential for promotion.

For education/training to be targeted, educational competencies must match the on-the-job requirements and experiences of the worker. If there is a mismatch, the individual may not be adequately trained for the job. It is hoped that the outcome of this study will help identify areas of improvement for the Office Management Curriculum at the University of Bahrain. This study should also help other institutions to produce office support graduates with the competencies needed by businesses. As a result, businesses will receive better-trained secretarial employees.

To this point, no study has been conducted to identify entry-level competencies needed for office support personnel in Bahrain. The researcher expects that the outcome

of this study will be used as a guide for changing and updating the Office Management Program at the University of Bahrain. A curriculum review should be done to determine areas where there is a need for change. A local community survey should also be conducted on a regular basis to determine which skills to teach and which ones to drop.

CHAPTER 3

DESIGN AND PROCEDURES

This study was designed to identify the office automation competencies that office support personnel need for entry-level employment as determined by office support personnel (OSP) and managers who work for Bahraini financial institutions, with the goal of contributing to the development of a quality Office Management (OM) program at the University of Bahrain (UOB). The data collected in this study should provide information regarding the office automation competencies required by business and industry for entry-level OSP, as well as recommendations for updating the OM curriculum at the UOB. This will help the UOB to meet the needs of business and industry, while ensuring that graduates meet entry-level employment expectations. This chapter describes the following aspects of the research: (a) populations, (b) sample, (c) Office Support Personnel and Manager Questionnaires, (d) validity, (e) pilot testing, (f) reliability, (g) Human Subjects Committee Approval, (h) data collection methods, (i) data analysis, and (j) summary of design and procedures.

Populations

The target populations of this research were office support personnel and their managers employed in Bahraini financial institutions. The target populations were chosen because financial institutions are considered important employers of office support personnel, according to the University of Bahrain graduate alumni placement handout (1995). For the purpose of this research, office support personnel were identified by their Human Resource Managers as those employed in any of the following job categories: secretary, administrative assistant, senior/divisional secretary, executive

secretary, executive assistant, or personal assistant. Names and addresses of all financial institutions were obtained from the Bahraini Financial Institution Directory (1998), which categorized institutions based on the services/activities they provide. As a result, and because the type of activity is a key differentiator among institutions, the researcher has categorized the sample along the same lines for this study.

Bahrain is the financial service center of the Middle East. Utilizing sophisticated worldwide communications, it serves both a regional and international clientele and provides a complete range of financial and banking services. The directory for the target populations was taken from recent information (1998) to ensure that a correct list was identified, thus reducing the risk of sample error. The directory identified 166 financial institutions.

The institutions were divided into four categories, with the three main categories based on their listing and reporting to the Bahrain Monetary Agency (BMA). The BMA is an independent juristic organization with wide-ranging powers as the central monetary institution of the State of Bahrain. Banks benefit from thorough regulation by the BMA, which has preserved the country's financial integrity (Bahrain: A Businessman's Guide, 1997). The three main categories of financial institutions (according to the BMA) and total number of banks in each category are: full commercial banks ($n=19$) 11%, offshore units ($n=41$) 25%, and investment banks ($n=30$) 18%. A fourth category is simply called "others" ($n=76$) 46%. For the category "others," eight types of financial institutions were combined, and those are: money exchanges, representative offices, investment advisories, specialized banks, foreign exchanges, money brokerages, insurance companies and exempt companies. The reasons for combining these eight

financial institutions in one category were: (a) their size in terms of employees, capital (averaging around BD 15,000 or US\$5,700) and management is very small compared to the other three main categories; (b) their business is simpler than the three main categories and requires less supervision; (c) it would be illogical to have eight additional categories for type of institution with very few members in each; and (d) most of these “other” institutions have fewer activities and no proper financial statements (i.e., the money changers have accounting records, but have no balance sheets and income statements and the representative banks have no financial statements and are mainly doing the job of marketing, therefore they are not as significant in terms of financial service as full commercial banks, offshore banks and investment banks). The population of OSP was 384 and the manager population was 408.

Sample

The participants for this study were selected by stratified random sampling to ensure that the sample was representative of all financial institutions in the population. According to Borg & Gall, “The sample should be selected in such a way that you are assured that certain subgroups in the population will be represented in the sample in proportion to the population” (Borg & Gall, p. 224, 1989). Also according to Sudman (as cited in Borg and Gall, 1989), for survey research, it is generally recommended that there are at least 100 subjects in each major subgroup and 20 to 50 in each minor subgroup whose responses will be analyzed. The two populations for this study consist of OSP (384) and the managers who supervise one or more OSP (408). Erickson (1996), in defining the sample for his study on office automation competencies needed by office managers, stated, “the 120 who responded with usable instruments equated to 22% of the

accessible population of 537” (p. 42). In addition, Gay (1992) offered general guidelines for determining minimum sample size of descriptive studies as 10% of the population. Therefore, the total sample of this study, which is 32% of managers and 34% of OSP, is considered acceptable because it compares favorably with other studies of this type.

The sample selection within each specific category was random, using a computer-generated list of random numbers and applying them to lists of prospective participants. From the 408 members of the total population of managers, the researcher drew a random sample from each of four financial institutions to ensure that it was representative of the total population and to ensure that there was a sufficient number of participants in each subgroup. The total sample from all four types of financial institutions was 130 managers, which is 32% of the total population. The 130 managers selected for the sample were distributed among the four types of financial institutions proportionately. From the 384 members of the total population of OSP, a random sample of 130 was also chosen, which is 34% of the total population. Both samples constitute approximately one third of the total population and should be representative (see Table 2). It should be noted that the selection of OSP and managers was random, and those who worked together were not necessarily included in the study.

The Office Support Personnel and Manager Questionnaires

Two questionnaires were developed by the researcher to obtain data on the office automation competencies needed by entry-level office support personnel. One questionnaire was to be completed by the managers and a similar questionnaire was to be completed by OSP. The two questionnaires were developed based on related literature,

reviewing existing questionnaires and survey models, conducting a focus group with Bahraini secretaries and managers, interviewing Human Resource Managers at Bahraini financial institutions, and reviewing the Professional Secretaries International Model Curriculum for Office Careers (1994). The Professional Secretaries International Model Curriculum for Office Careers is a program that includes cutting-edge technology, is based on extensive research, and is nationally and internationally recognized. V-TECS (1996) was also reviewed.

Borg and Gall's (1989) steps for developing measures were applied when designing the instruments. The following steps were followed: (a) define objectives; (b) define the target population; (c) review related measures; and (d) develop an item pool.

Both the OSP and manager questionnaires consisted of three identical parts and one unique part (Part I) for respondent background information (Appendix A). The manager background section consisted of the following information: gender, professional background in banking, length of employment in the organization, type of licensed financial institution where employed, total number of employees in the entire organization including branches, total number of office support personnel employed by the entire organization including branches, educational level required of OSP for the entry level, and the educational sources for OSP at the entry level. The office support personnel background section consisted of the following information: present title, gender, highest educational level attained, work experience in banking and in general, length of employment in the organization, and type of licensed financial institution where employed.

To best compare the responses of both managers and office support personnel, Parts II and III are identical for both sets of participants, but include different directions. Part II of the instrument consists of office automation competencies on both instruments, classified into six groups as follows: (a) database competencies; (b) general office automation competencies; (c) presentation/graphics software competencies; (d) spreadsheet competencies; (e) Windows operating system competencies; and (f) word processing competencies. For Part II, participants were asked to rate the importance of each office automation competency on the following scale: (4) very important - required competency to be hired; (3) important – must have some knowledge of the competencies; (2) somewhat important - not necessary to have the competency, but would be an asset; (1) not required at all. Part III consists of two parts: (a) software used in the office, and (b) automated office equipment/hardware used in the office. The software section includes: (a) accounting software applications, (b) calendaring and scheduling software, (c) databases, (d) desktop publishing software, (e) form processing software, (f) graphics/presentation software, (g) Internet software, (h) speech recognition software, (i) spreadsheet software, (j) word processing software, and (k) workflow software. The hardware/automated office equipment part of the questionnaire includes: (a) microcomputers (PCs), (b) printers, (c) records management, (d) reprographics, and (e) telecommunications. In Part III for both the software and hardware sections, participants were asked to identify the use or presence of equipment according to the following categories: (4) use; (3) plan to use; (2) do not use; or (1) do not know.

Validity

To establish the content validity of the questionnaires, drafts were submitted to a panel of experts, which included Professional Secretaries International members, vendors of automated office equipment, business educators, and business managers and consultants in the area of office automation. The panel of experts was asked to ensure that all software, automated office equipment and entry-level competencies were relevant. Sufficient space was made available for comments and suggestions from the panel. A copy of the letter and the instructions are included in Appendix (B-C). Comments were reviewed and changes were made to the questionnaire based on the panel's suggestions. Feedback from this panel of experts ensured the content and face validity of the instrument. The group of experts in the area was asked to review the entire instrument by reacting to its format in terms of overall design and layout, and reviewing the statements critically for appropriateness. Members also were asked to comment on the clarity of instructions and the language in general and to provide any competencies they thought were essential or important but not listed on the instrument and delete competencies that are not related to entry-level OSP.

To ensure the applicability of the content of the questionnaire to Bahraini OSP, a panel of experts in teaching and in curriculum development at UOB reviewed the instrument as well. This process was followed to validate that the same competencies, hardware, and software applied to both Bahrain and the United States, since the instrument was developed based on a review of literature focusing on studies and curriculum models from the USA. As expected, the results showed that the basic

competencies, hardware, and software were the same, since the USA is the main supplier for automated equipment and teaching materials, including textbooks.

Pilot Testing

Pilot testing was conducted to determine if the developed questionnaires could obtain the data necessary to answer the research questions (Appendix D-E). According to Fink (1995), questions to ask when pilot testing survey instruments include: (a) Are instructions for completing the survey clearly written? (b) Are questions easy to understand? (c) Do respondents know how to indicate responses (e.g., circle or mark the response, use a special pencil, use the space bar)? (d) Are the response choices mutually exclusive? (e) Are the response choices exhaustive? (f) Do respondents understand what to do with completed questionnaires? (g) Do respondents understand when to return the completed survey? (h) If an incentive is given for completing the survey, do respondents understand how to obtain it (e.g., it will automatically be sent upon receipt of completed survey, it is included with the questionnaire)? (i) Is privacy respected and protected? and (j) Do respondents have any suggestions regarding the addition or deletion of questions, the clarification of instructions, or improvements in format?

The pilot group was randomly selected from the four categories of financial institutions, and included 8 managers and 8 office support personnel, 2 from each of the four categories from the 166 financial institutions. No suggestions for changes were made by the respondents. All employees selected for the pilot test responded to the questionnaire, yielding a 100% response rate.

Reliability

The reliability of the questionnaires was established from a pilot study administered to the OSP and managers at Bahraini financial institutions. After analyzing the results of the pilot testing, it was determined that the instrument was effective in gathering the data essential for responding to the research questions of this study. Wiggs et al. (1998) also recommends using a pilot test to determine the reliability of an instrument. Regarding the reliability of the survey questionnaire in the study, Anderson (1991) stated: "The survey was assumed to be reliable since the responses to the pilot study were all usable and consistent" (p. 18). Anderson also added as a result of the pilot testing, "There appeared to be no difficulty by the respondents to understand the instructions and answer appropriately" (p. 18). If experts agree on validity, then the instrument is reliable, and the consistency of the respondents' answers to the questionnaire is another way of measuring reliability. "A test may be reliable, even though it is not valid. A valid test is always reliable." (Best, 1981, p.199).

As a result of pilot testing this study, the reliability was also established since the respondents in the pilot study indicated that they had no difficulty understanding the instructions and answering the questions appropriately. Therefore, the researcher assumes this questionnaire is reliable since the responses to the questionnaire during the pilot study were usable.

Human Subjects Committee Approval

On March 16, 1998, the researcher submitted a request for approval to the University of Minnesota committee responsible for the review of research involving

human subjects. The Human Subjects Committee approved the instruments and cover letters on March 20, 1998. A copy of the letter of approval is shown in Appendix F.

Data Collection

To begin data collection for the research, a letter was sent to all Bahraini financial institutions directed to the “Human Resource Manager” (Appendix G). The letter explained the study and requested permission for managers and office support personnel to participate in the study. The letter asked the Human Resource Managers to provide the researcher with the total number of office support personnel and managers employed at their institution, along with their names. A support letter from the Bahraini Cultural Attaché at the Bahraini Embassy in the USA was sent with the letter (Appendix H). After receiving the list of names, survey packets were prepared for distribution.

Prior to delivering the surveys to Human Resource Managers, OSP and managers were sent a letter informing them that they had been selected and would be receiving a questionnaire within a week (Appendix I). This was done because “contacting respondents before sending a questionnaire has been found in several studies to increase the response rate” (Borg & Gall, p. 436, 1989).

One week after the dispatch of the letter to each individual participant, an envelope containing the questionnaires to be distributed to managers and office support personnel was personally delivered to the Human Resource Manager at each selected financial institution. The packet of information included the following: (a) cover letter from the University of Bahrain, (b) letter from Cultural Attaché at the Embassy of Bahrain in the USA, (c) questionnaire, (d) envelopes for each participant, and (e) a large envelope for the Human Resource Manager to return all completed surveys. To ensure

the anonymity of the respondents, no identifying questions or codes were included on the survey instrument. The outside of each envelope was coded for follow-up mailings to non-respondents. As soon as the instrument was received, it was marked “received,” and the envelope was destroyed, thereby removing any identifying marks attached to the response instrument. All participants were informed of this procedure in the cover letter.

The cover letter for each participant explained the purpose and importance of the study, and why the participants were selected for the study. A phone number was included for participants who might have questions. Each participant was informed that the results would be available upon request, and it was explained to participants that the confidentiality of their responses would be maintained. The cover letter was printed on University of Bahrain letterhead, because according to Mangione (1995), “Respondents are more likely to respond to surveys that they consider important or prestigious.... Therefore, they are more likely to respond to surveys that are sponsored by government agencies or well-known universities” (p.85-86). As an additional way to encourage quick response, the researcher informed the respondents about a deadline for responding.

The process of delivering survey packets to managers and office support personnel through their Human Resource Managers required three days (24 – 26 June), since they were delivered personally and since some banks are closed on Friday and some are closed on Saturday and Sunday. By July 4, 1998, 74 (57%) questionnaires had been received from managers and 81 (62%) from OSP. A follow-up phone call was made to managers and office support personnel and the researcher spoke to each individual, explaining the importance of their participation in the study and requesting their response by July 18, 1998. A new copy of the questionnaire was also offered at this time, and 32

individuals requested that a second copy of the questionnaire be sent to them. Between July 9 and 11, the 32 questionnaires were handed to the Human Resource Managers of the financial institutions and they were reminded of the July 18 deadline. Between July 18 and July 20 1998, an additional 50 (38%) questionnaires were received from managers and 45 (35%) from OSP, bringing the total of both samples to 250, or a 96% response rate. Only three questionnaires were found to be unusable, bringing the total of usable questionnaires from managers to 122 (94%) and OSP to 125 (96%). The timing for data collection is shown in Table 1.

Table 1

Response Rate and Follow-Up Data

Date	Type of Responses	Response Rate		Usable Response Rate	
		<u>n</u>	%	<u>n</u>	%
June 24-26 1998	Surveys sent Managers (<u>n</u> =130) OSP (<u>n</u> =13)				
July 4 1998	Initial mailing Managers OSP	74 81	57 62	73 80	56 61
July 9-11 1998	Follow-up Managers OSP	50 45	38 35	49 45	38 35
July 20 1998	Total response Managers OSP	124 126	95 97	122 125	94 96

It is recommended that if more than 30 percent of the subjects fail to respond to a survey study, it is desirable to check a portion of the non-responding group (Borg & Gall, 1989). In the case of this study, since the response rates were 94% for managers and 96% for OSP, no further follow-up was needed.

The number of surveys distributed and returned by managers and office support personnel is shown in Table 2.

Table 2

Return Rate by Type of Respondent and Type of Financial Institution

Type of Financial Institution	Population		Stratified Sample				Usable Response Rate			
	MGR	OSP	MGR		OSP		MGR		OSP	
	<u>n</u>	<u>n</u>	<u>n</u>	%	<u>n</u>	%	<u>n</u>	%	<u>n</u>	%
Full Commercial Bank	90	88	29	22	30	23	27	93	26	87
Offshore Bank	117	119	38	29	40	31	36	95	40	100
Investment Bank	74	69	23	18	23	18	22	96	23	100
Other Institutions	127	108	40	31	37	28	37	92	36	97
Total	408	384	130	100	130	100	122	94	125	96

Data Analysis

Since the research was primarily concerned with prevailing facts and conditions, the descriptive research design was most appropriate. Descriptive research includes most surveys aimed at describing the characteristics of a population or an educational phenomenon (Borg & Gall, 1989). The main purpose of this research was to focus on the

status of the defined population and selected variables in an attempt to measure what exists, without questioning why it exists. The data obtained from the returned questionnaires were analyzed by using the statistical software package SPSS 8.0. Responses were analyzed using ANOVA tests, chi-square tests and descriptive statistics. For this research, the company size (small, medium and large), company type (full commercial bank, offshore bank, investment bank and other), and the two respondent categories (office support personnel and managers) categorized the survey responses. These categories will be treated as the independent variables. The competencies, hardware, and software will be treated as dependent variables.

The primary research question was: “What are the office automation competencies needed by entry-level office support personnel, and is there a difference in office automation competencies needed by entry-level office support personnel when analyzed on the bases of type of respondent (office support personnel and managers), size of financial institution, and type of financial institution?” This research question investigated two things: (a) overall, what office automation competencies are needed by OSP for entry-level positions; and (b) is there a difference in requirements within any of the three groups (type of respondent, type of financial institution, and size of financial institution). A frequency for level of importance was used for the first part to determine competencies required for entry-level OSP positions. For the purpose of analyzing the data, very important and important ratings were considered to be requirements for entry-level employment. Since the question in this study is to test the overall market response to the UOB output, when a total of 60% or more of the respondents rate the competency to be very important or important, it will be considered a requirement for entry-level

employment of OSP. For the second part of this primary question, analysis of variance (ANOVA) and Tukey HSD were selected to compare the perceptions of OSP and managers and to see if there are significant differences based on type of respondent, type of financial institution and size of financial institution. These differences would be used to make recommendations for separate programs with varying requirements, or a single program for all candidates. An importance level ratings with a mean of 2.50 or above is considered important as a required competency for entry-level OSP positions, because a mean of 2.50 is at a point somewhere between important and somewhat important.

Secondary research question one was: “What software applications are used by OSP? Do office support personnel and managers report a difference in the use of software packages?” Frequency distribution was used for the first part of this question to determine knowledge of what software applications are required for entry-level OSP positions. For the purpose of this study, the frequency distribution of only current software used by OSP respondents will be considered when determining requirements for hiring entry-level OSP. For the second part of this question, responses on the use of the 11 categories of software packages were analyzed by using a Pearson chi-square to determine if significant differences occurred between different types of respondents—the office support personnel and the managers.

Secondary research question two was: “What automated office equipment/hardware are used by OSP? Do office support personnel and managers report a difference in the use of automated office equipment/hardware?” Frequency distribution was used for the first part of this question to determine what automated office equipment/hardware knowledge was required for entry-level OSP. For the purpose of

this study, the frequency distribution of only current automated office equipment used by OSP respondents will be considered as a requirement for hiring entry-level OSP. For the second part of this question, responses on the use of the five categories of automated office equipment were analyzed by using a Pearson chi-square to determine if significant differences occurred between different types of respondents—the office support personnel and the managers.

Secondary research question three was: “What are the usual educational requirements and the sources for entry-level office support personnel?” Responses were analyzed using descriptive statistics, i.e., frequency counts and percentages.

Summary of Design and Procedures

The target populations of this study were office support personnel (OSP) and managers who direct OSP, all employed in Bahraini financial institutions. The target populations were chosen because financial institutions are considered important employers of office support personnel. The participants for this study (130 OSP and 130 managers) were selected by stratified random sampling, to ensure that the sample was representative of those employed by financial institutions in Bahrain. An envelope containing the questionnaires to be distributed to managers and office support personnel was personally delivered to the Human Resource Manager at each selected financial institution. The packet of information included the following: (a) cover letter from the University of Bahrain, (b) letter from the Cultural Attaché at the Embassy of Bahrain in

the USA, (c) questionnaires, (d) envelopes for each participant, and (e) a large envelope for the Human Resource Manager to return all completed surveys. A total of 122 (94%) managers' and 125 (96%) OSP questionnaires were usable. The statistical procedures used included analysis of variance, Tukey's HSD post hoc test, chi-square test and descriptive statistics.

CHAPTER 4

ANALYSIS AND DISCUSSION OF FINDINGS

The purpose of this study was to identify the office automation competencies needed by entry-level office support personnel in Bahrain in order to make recommendations for office management curricula at the University of Bahrain (UOB). This chapter presents the findings of the study, which consist of: (a) cross tabulation of respondents' demographic data; (b) findings related to research questions; and (c) a summary and discussion of the major findings of this research. The following are the four research questions that were addressed by this study:

The primary research questions was:

What are the office automation competencies needed by entry-level office support personnel and is there a difference in the competencies when analyzed on the basis of type of respondents (OSP and managers), size of financial institution and type of financial institution?

Secondary research questions were:

1. What software applications are used by OSP? Do office support personnel and managers report a difference in the use of software applications?
2. What automated office equipment/hardware is used by OSP? Do office support personnel and managers report a difference in the use of automated office equipment/hardware
3. What are the minimum educational requirements and the sources for entry-level office support candidates?

Of the 130 questionnaires sent to OSP, 125 were usable and of 130 questionnaires sent to managers, 122 were usable. The software SPSS version 8.0 was used to analyze the data for this research and Microsoft Excel was used to create graphs. Statistical procedures used in the data analysis included: (a) analysis of variance, (b) Chi-square, and (c) descriptive statistics.

Respondents' Demographic Data

Respondents in this study consisted of two groups: managers who supervise office support personnel; and office support personnel with the job title classifications of secretary, senior/divisional secretary, executive assistant, administrative assistant, executive secretary, and personal assistant. These respondents were identified as employees who worked in any of the four types of Bahraini financial institutions (full commercial banks, offshore banks, investment banks, and others).

Gender of respondents

Of the two groups of respondents, 125 were OSP and 122 were managers. When gender was categorized according to position, males were the overwhelming majority in managerial positions (86%) and females were the overwhelming majority in OSP positions (90%) (see Table 3).

Table 3

Gender of Respondents Based on Group

Respondents	Male		Female		Total	
	<u>n</u>	%	<u>n</u>	%	<u>n</u>	%
OSP	12	10	113	90	125	51
Managers	105	86	17	14	122	49
Total	117	47	130	53	247	100

Responses by Gender and Type of Financial Institution

As shown in Table 4 below, the two groups of respondents in this study who work in the four types of financial institutions are: (a) the OSP respondents, who were predominantly female, and (b) the manager respondents, who were predominately male. For each category of financial institution, the percentage of male OSP remained relatively

constant (ranging from 7 to 15%), as did the percentage of female managers (ranging from 9 to 19%). This indicates that the majority of females hold OSP positions and the majority of males hold managerial positions across the four types of financial institutions. Therefore, it appears that the gender of the respondents does not vary substantially across the four types of financial institutions (see Table 4).

Table 4

Respondents by Gender and Type of Financial Institution.

Financial institution	Gender	OSP		Managers		Total	
		<u>n</u>	%	<u>n</u>	%	<u>n</u>	%
Full Commercial Banks	Male	4	15	24	89	28	11
	Female	22	85	3	11	25	10
Offshore Banks	Male	3	7	29	81	32	13
	Female	37	93	7	19	44	18
Investment Banks	Male	2	9	20	91	22	9
	Female	21	91	2	9	23	9
Others	Male	3	8	32	86	35	14
	Female	33	92	5	14	38	15
Total		125		122		247	100

Gender of Respondents by Size of Financial Institution

The two groups of respondents who work in small, medium and large financial institutions are: (a) the OSP respondents, who are predominantly female; and (b) the managers, who are predominantly male. More than half (132 or 53%) of both genders work in small banks. About one-fourth of both genders of respondents work in medium-sized banks (63 or 26%) and less than one-fourth (52 or 21%) of both genders work in large financial institutions. The percentage of male OSP (3-17%) and female managers (11-17%) in the total population across the three bank sizes remains relatively steady.

This indicates that the majority of females hold OSP positions and the majority of males hold managerial positions in all sizes of financial institutions. Therefore, it appears that size of financial institution does not have an influence on the nature of position held by gender (see Table 5).

Table 5

Respondents by Gender and Size of Financial Institution

Size of Financial Institutions	Gender	OSP		Managers		Total	
		<u>n</u>	%	<u>n</u>	%	<u>n</u>	%
Small	Male	10	17	65	89	75	30
	Female	49	83	8	11	57	23
Medium	Male	1	3	21	81	22	9
	Female	36	97	5	19	41	17
Large	Male	1	3	19	83	20	8
	Female	28	97	4	17	32	13
Total		125		122		247	100

Office Support Personnel by Current Title/Position

More than a third of the office support personnel who responded to this survey indicated they held the job title “secretary” (47 or 38%), and more than another third responded as “executive secretary” (44 or 35%). This indicates that the titles “secretary” and “executive secretary” are the two most common titles used for OSP in Bahraini Financial Institutions (see Table 6).

Table 6

Office Support Personnel by Current Title/Position

Title	<u>n</u>	%
Secretary	47	38
Senior/Divisional Secretary	1	1
Executive Assistant	4	3
Administrative Assistant	12	10
Executive Secretary	44	35
Personal Assistant	11	9
Other	6	5
Total	125	100

Highest Level of Education and Specialization Achieved by Office Support Personnel

Responses on the highest level of education and specialization achieved by OSP indicate that more than half (64 or 51%) of the OSP respondents hold three-year college degrees. Almost two-thirds of these respondents (39 or 61%) specialized in Office Management. Overall, about half of the total respondents (60 or 48%) are graduates of the Department of Office Management – University of Bahrain (UOB). The remaining 52% received their degrees from different sources, such as high school, private institution, or from overseas. This indicates that there is a strong demand for graduates from the Department of Office Management at the University of Bahrain (see Table 7).

Table 7

Highest Level of Education and Specialization Achieved by Office Support Personnel

Level of Education	Specialization	<u>n</u>	%
Secondary Education	1. Commercial	10	67
	2. Other	5	33
	Total	15	12
Two-year college	1. Office Management Certificate (UOB)	17	94
	2. Other	1	6
	Total	18	14
Three-year college	1. Office Management Diploma (UOB)	29	45
	2. Associate Office Management Diploma (UOB)	10	16
	3. Other	25	39
	Total	64	51
Four-year degree	1. B.Sc. in Office Management (UOB)	4	15
	2. Other	22	85
	Total	26	21
Master's degree		2	100
	Total	2	2
Other		0	0
	Total	0	0
Total		125	100

(UOB) = University of Bahrain

**Length of Employment of Office Support Personnel and Managers at Present
Financial Institution**

The length of employment of the respondents at their present financial institutions ranged from less than a year to over 11 years. About half of all respondents (125 or 51%),

54 (57%) managers and 71 OSP (44%), reported they have been working with the same financial institution for five years or less (see Table 8).

Table 8

Length of Employment of Office Support Personnel and Managers at Present Financial Institution

Years of Employment at Present Financial Institution	Managers		OSP		Total	%
	<u>n</u>	%	<u>n</u>	%		
Less than one year	10	8	24	19	34	14
1 – 5 years	44	36	47	38	91	37
6 – 10 years	19	16	26	21	45	18
11 +	49	40	28	22	77	31
Total	122	100	125	100	247	100

Office Automation Competencies Needed for Entry-Level Office Support Personnel

The primary research question was:

What are the office automation competencies needed by entry-level office support personnel and is there a difference in the competencies when analyzed on the basis of type of respondent (OSP and managers), size of financial institution and type of financial institution?

This research question was designed to find out what office automation competencies are needed by OSP and to test whether the following independent variables -- type of respondent (office support personnel or manager), size of financial institution (small, medium or large), and type of financial institution (full commercial bank, offshore bank, investment bank or “other” banks)--influenced respondents’ ratings of the dependent variables--47 office automation competencies. The purpose of the comparison was to determine what competencies are considered to be important for entry-level OSP

positions and whether the recommendations of different groups of respondents vary significantly. The alpha level was set at .05.

The 47 competencies were divided into six categories: database competencies, general office automation competencies, presentation/graphics competencies, spreadsheet competencies, windows operating system competencies, and word processing competencies. In order to analyze the data for question one, the following analyses were conducted: appropriate descriptive statistics (mean, standard deviation, and frequency of level of importance) and analysis of variance, Tukey HSD post hoc tests. Due to the large number of competencies identified on the survey instrument (47), only those competencies found to be significantly related to one or more of the independent variables (23) will be shown in tables and discussed. The findings for this question will be reported as follows: (a) competencies found to be important and needed by OSP; (b) significant differences in the findings between and within groups (presented in tables 9-14 and discussed under the six competency categories); (c) discussions of significant interactions followed by graphs of interactions (Figures 1 – 21); (d) the mean and standard deviation for each of the 47 competencies reported by each group, as well as p-value for those competencies that were significant (Appendices J-O); and (e) frequency of level of importance for the 47 competencies based on type of respondent, size of financial institution and type of financial institution (Appendices P-R).

The rating system used to indicate the level of importance of office automation competencies for entry-level OSP positions as indicated by OSP and managers is as follows: very important, important, somewhat important and not important. In analyzing the data, the first two responses denoted competencies that were required for entry-level

employment. The third rating was considered neutral because this rating did not indicate a requirement or non-requirement for employment. The last rating indicated that the competency was not required for entry-level employment. For the purpose of analyzing the data, very important and important will be considered to be requirements for entry-level employment. When a total of 60% or more of the total respondents rate the competency to be very important or important, it will be considered a requirement for entry-level employment of OSP. As for the level of importance as a required competency for entry-level OSP positions, a mean of 2.50 or above is considered important, because a mean of 2.50 is at a point somewhere between important and somewhat important. The following outlines the outcome of the study, giving required competencies for entry-level OSP employment in Bahrain, as reported by the respondents (OSP and managers) at different types and sizes of financial institution.

Database Competencies

Database Competencies Found to be Important and Needed by Office Support Personnel

Based on the respondents' ratings, all of the following database competencies included in the questionnaire were rated as important: (a) Create a database; (b) Enter data; (c) Format, edit, delete information and records; (d) Find and sort data; and (e) Print a report.

Analysis of Variance of Database Competencies by Type of Respondent, Type of Financial Institution and Size of Financial Institution

For the category "database competencies," nine statistically significant differences at the .05 and .01 level ($p < .05$ and $p < .01$) were found in terms of

importance as entry-level OSP requirements. Three of nine statistically significant differences were for main effects and six for interactions.

Main effects. Results reported in Table 9 show the following for the main effects.

1. A statistically significant difference resulted for the competency “create database” when type of financial institution was compared. Tukey HSD follow-up tests showed full commercial banks rated the competency as more important ($\underline{M} = 3.19$) than “other” banks ($\underline{M} = 2.68$).

2. For the competency “enter data,” significant differences were found between types of respondents. Managers ($\underline{M} = 3.41$) assigned a significantly higher importance rating to this competency than did OSP ($\underline{M} = 3.16$).

3. Significant differences were found between different types of financial institutions for the competency “format, edit, delete information and records.” Although the ANOVA test was significant, the follow-up test could not identify where the difference(s) among the four types of financial institutions occurred.

Interactions. Results reported in Table 9 above and displayed in Figures 1 – 6 show the following for the six significant interactions:

1. Interaction between type of respondent and type of financial institution for the competency “create database” was found, as shown in Figure 1: (a) OSP in full commercial banks (FCB) assigned this competency a higher importance rating than did OSP and managers in the rest of the financial institution types; and (b) OSP in offshore banks (OB) rated the competency lowest (see Figure 1).

2. Interaction between type of respondent and size of financial institution for the competency “format, edit, delete information and records” was found. As can be seen in Figure 2: (a) both OSP and managers in small and large financial institutions agreed on the level of importance for the competency; (b) both OSP and managers in large financial institutions rated the competency highest; and (c) OSP in medium-sized financial institutions rated the competency lowest (see Figure 2).

3. Interaction occurred between type of respondent and size of financial institution for the competency “find and sort data” as shown in Figure 3: (a) OSP and managers in large financial institutions rated the competency highest; and (b) the lowest rating for the competency was from OSP in medium-sized financial institutions (see Figure 3).

4. Interaction occurred between type of financial institution and size of financial institution for the competency “find and sort data” as shown in Figure 4: (a) all large financial institutions except for investment banks (IB) rated the competency the highest; and (b) large IB rated it the lowest (see Figure 4).

5. Interaction between type of respondent and size of financial institution for the competency “print a report” occurred as shown in Figure 5: (a) OSP and managers in large financial institutions and managers in medium-sized financial institutions rated the competency highest; and (b) OSP in medium-sized financial institutions rated the competency the lowest (see Figure 5).

6. Interaction between type of financial institution and size of financial institution for the competency “print a report” occurred as shown in Figure 6: (a) large other banks (OTHB) rated the competency highest, and (b) medium-sized OTHB rated the competency lowest (see Figure 6).

Table 9

Summary of Significant ANOVAs and Tukey HSD Tests on Database Competencies

Competencies	Source of Variance	<u>SS</u>	<u>DF</u>	<u>MS</u>	<u>F</u>	P-Value	Tukey HSD Test
Create database	Type of financial institution	13.202	3	4.401	4.740	.003**	FCB (3.19) > OTHB (2.68)
	Type of respondent by type of financial institution	9.421	3	3.140	3.382	.019*	See Figure 1
Enter data	Type of respondent	4.780	1	4.780	6.300	.013*	Mgr (3.41) > OSP (3.16)
Format, edit, delete information and records	Type of financial institution	4.811	3	1.604	2.676	.048*	Difference not identified
	Type of respondent by size of financial institutions	4.065	2	2.033	3.395	.035*	See Figure 2
Find and sort data	Type of respondent by size of financial institution	7.208	2	3.604	5.608	.004**	See Figure 3
	Type of financial institution by size of financial institution	8.437	6	1.406	2.188	.045*	See Figure 4
Print a report	Type of respondent by size of financial institution	4.737	2	2.368	3.509	.032*	See Figure 5
	Type of financial institution by size of financial institution	9.133	6	1.522	2.256	.039*	See Figure 6

*Significant difference at .05 level

**Significant difference at .01 level

FCB = full commercial banks, OB = offshore banks, IB = investment banks, and OTHB = other banks

S = small financial institution, Med = medium-sized financial institution, and Lrg = large financial institution.

OSP = Office Support Personnel, Mgr = managers

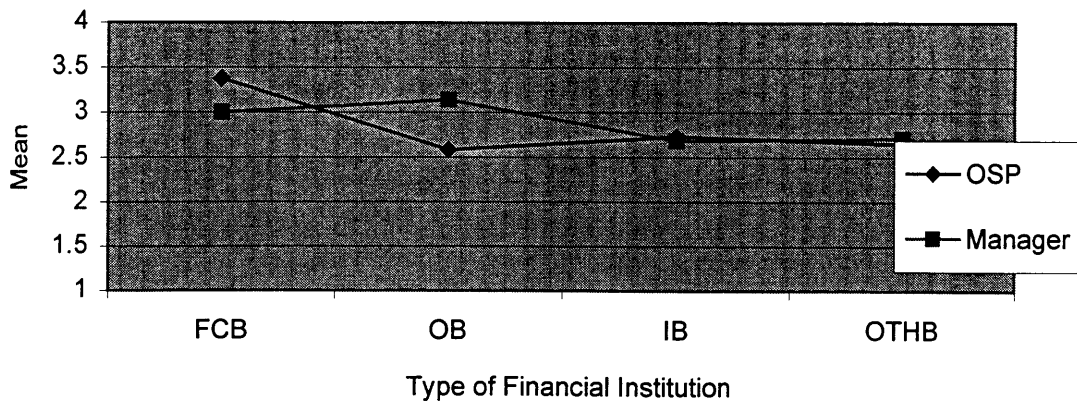


Figure 1: Interaction Between Type of Respondent and Type of Financial Institution for Creat a Databse

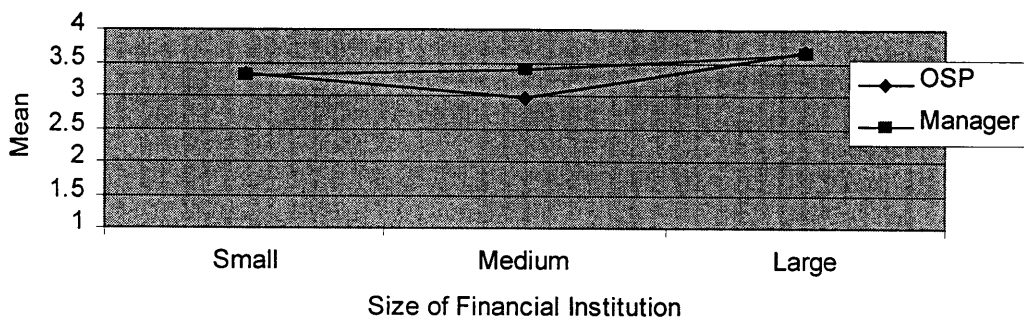


Figure 2: Interaction Between Type of Respondent and Size of Financial Institution for Format, Edit, Delete Information and, Records

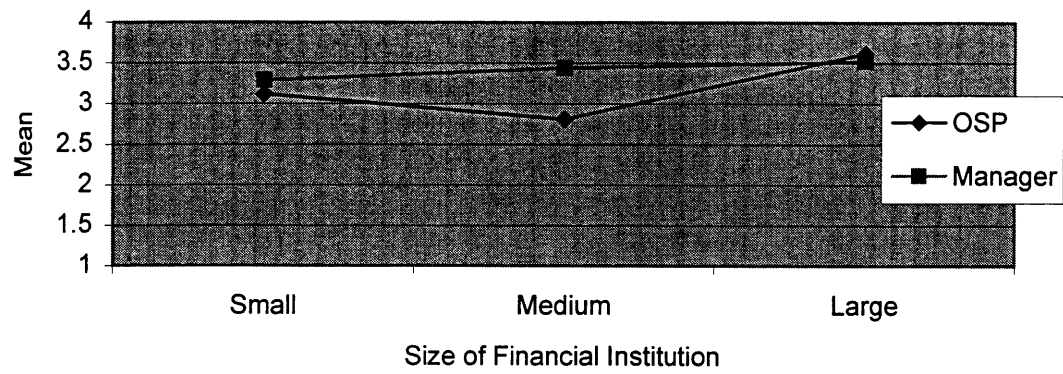


Figure 3: Interaction Between Type of Respondent and Size of Financial Institution for Find and Sort Data

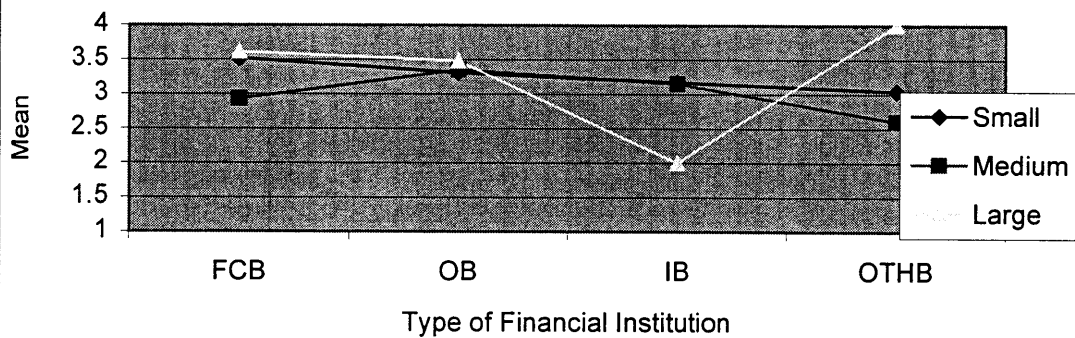


Figure 4: Interaction Between Type and Size of Financial Institution for Find and Sort Data

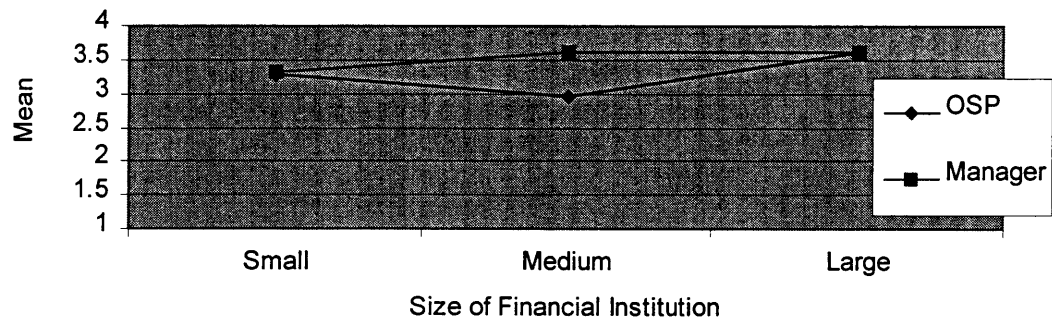


Figure 5: Interaction Between Type of Respondent and Size of Financial Institution for Print a Report

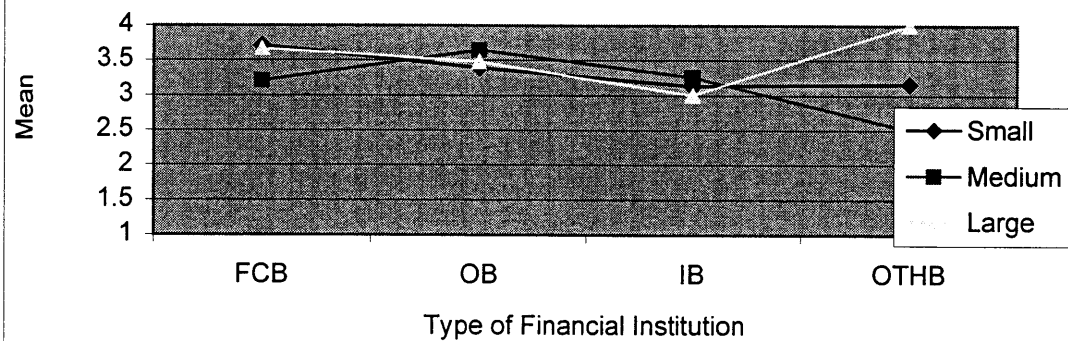


Figure 6: Interaction Between Type and Size of Financial Institution for Print a Report

General Office Automation Competencies

General Office Automation Competencies Found to be Important and Needed by Office Support Personnel

Based on the respondents ratings, all of the following General Office Automation competencies included in the questionnaire were rated as important: (a) exercise safety precautions while operating office equipment, (b) detect and report equipment malfunctions, (c) use computer, (d) use photocopier, (e) use a facsimile, (f) use voice mail, (g) use e-mail, (h) use calculator, (i) use Internet, and (j) knowledge of teleconferencing and videoconferencing.

Analysis of Variance of General Office Automation Competencies by Type of Respondent, Type of Financial Institution and Size of Financial Institution

For the category “general office automation competencies,” 11 statistically significant differences at the .05 and .01 level ($p < .05$ and $p < .01$) were found in terms of importance as entry-level OSP requirements. Four of 11 statistically significant differences were for main effects and seven for interactions.

Main effects. Results reported in Table 10 show the following for the main effects:

1. A statistically significant difference at the .01 level ($p < .01$) resulted for the competency “use of voice mail,” when type of financial institution were compared. Tukey HSD follow-up showed that respondents from investment banks perceived this skill to be more important ($M = 3.02$) than did respondents from offshore banks ($M = 2.96$) and full commercial banks ($M = 2.42$).
2. Results of the analysis of variance indicate a statistically significant difference at the $p < .05$ level in the competency “use of e-mail” when comparing type of financial

institution. Tukey HSD follow-up tests showed that respondents from investment banks perceived this skill to be more important ($\underline{M} = 3.40$) than did respondents from offshore banks ($\underline{M} = 3.32$), “other” banks ($\underline{M} = 2.92$) and full commercial banks, which rated it lowest ($\underline{M} = 2.82$).

3. Results of the analysis of variance indicate a statistically significant difference at the $p < .05$ level in the competency “use of calculator,” when comparing type of financial institution. Tukey HSD follow-up tests showed that respondents from offshore banks perceived this skill to be more important ($\underline{M} = 3.47$) than did respondents from full commercial banks ($\underline{M} = 3.02$).

4. Results of the analysis of variance indicate a statistically significant difference at the .01 level ($p < .01$) for the competency “use of Internet” when comparing type of financial institution. Tukey HSD tests show that respondents from offshore banks rated the competency “use of Internet” ($\underline{M} = 2.71$) higher than respondents from full commercial banks ($\underline{M} = 2.17$).

Interactions. Results reported in Table 10 below, and displayed in Figures 7 – 13, show the following for the seven significant interactions:

1. Interaction between type and size of financial institution for the competency “use of photocopier” as shown in Figure 7: (a) large “other” banks rated the competency highest; (b) large investment banks rated the competency lowest. Except for large investment banks, the mean of all respondents from all types and sizes of financial institutions was above 2.5, (see Figure 7).

2. The analysis of variance revealed a significant difference in the competency “use of facsimile” at the .05 level ($p < .05$), when interaction between type of financial

institution and size of financial institution was analyzed. Figure 8 indicates the following: (a) large OTHB rated the competency highest; (b) large IB rated the competency lowest. However, regardless of the differences in ratings, all means for the independent variables were above 2.50, except for large IB (see Figure 8).

3. Interaction between type of financial institution and size of financial institution at the $p < .05$ level was found for the competency “use of voice mail.” As shown in Figure 9: (a) large OTHB rated the competency highest; (b) medium-sized OTHB rated the competency lowest; and (c) medium- and small-sized FCB, large IB, and medium OTHB rated the competency below 2.50 and the rest rated it at 2.50 and above (see Figure 9).

4. Interaction between type of financial institution and size of financial institution was found for the competency “use of e-mail.” As shown in Figure 10: (a) large OTHB rated the competency highest; (b) large IB rated the competency lowest; and (c) medium-sized FCB, large IB, and medium-sized OTHB rated it below 2.50, while the rest rated it above 2.50 (see Figure 10).

5. Interaction between type of financial institution and size of financial institution was found for the competency “use of calculator.” As shown in Figure 11: (a) large OTHB rated the competency highest; (b) large IB rated the competency lowest; (c) all respondents from all types and sizes of financial institution rated the competency above 2.50, except for large IB and medium OTHB (see Figure 11).

6. Interaction between type of financial institution and size of financial institution was found for the competency “use of Internet.” As shown in Figure 12: (a) the majority of ratings for the competency were low (between $M = 2.89 - 1.00$); (b) large OTHB

rated it highest; (c) large IB rated it lowest; and (d) all means are below 2.50, except for large, medium, and small OB, small IB, and large OTHB (see Figure 12).

7. With regard to the competency “knowledge of teleconferencing and videoconferencing,” a significant interaction was found between type of financial institution and size of financial institution. As shown in Figure 13: (a) large OTHB rated the competency highest; and (b) except for large OTHB, medium-sized OB, and small IB, the means for all respondents from all types and sizes of financial institution were below 2.50 (see Figure 13).

Table 10

Summary of Significant ANOVAs and Tukey HSD Tests on General Office Automation Competencies

Competencies	Source of Variance	SS	DF	MS	F	P-Value	Tukey HSD Test
Use photocopier	Type of financial institution by size of financial institution	11.001	6	1.833	2.447	.026*	See Figure 7
Use of facsimile	Type of financial institution by size of financial institution	10.698	6	1.783	2.355	.032*	See Figure 8
Use of voice mail	Type of financial institution	10.218	3	3.406	3.942	.009**	IB (3.02) > OFB (2.96) > FCB (2.42)
	Type of financial institution by size of financial institution	13.678	6	2.280	2.638	.017*	See Figure 9
Use of e-mail	Type of financial institution	10.258	3	3.419	4.425	.005**	IB (3.40) > OB (3.32) > OTHB (2.92) > FCB (2.82)
	Type of financial institution by size of financial institution	15.595	6	2.599	3.364	.003**	See Figure 10
Use of calculator	Type of financial institution	7.099	3	2.366	3.214	.024*	OB (3.47) > FCB (3.02)
	Type of financial institution by size of financial institution	12.812	6	2.135	2.900	.010**	See Figure 11
Use of Internet	Type of financial institution	11.141	3	3.714	4.040	.008**	OB (2.71) > FCB (2.17)
	Type of financial institution by size of financial institution	15.095	6	2.516	2.737	.014*	See Figure 12
Knowledge of teleconferencing and video conferencing	Type of financial institution by size of financial institution	16.944	6	2.824	3.172	.005**	See Figure 13

*Significant difference at .05 level

**Significant difference at .01 level

FCB = full commercial banks, OB = offshore banks, IB = investment banks, and OTHB = other banks

S = small financial institution, Med = medium-sized financial institution, and Lrg = large financial institution. OSP = Office Support Personnel, Mgr = managers

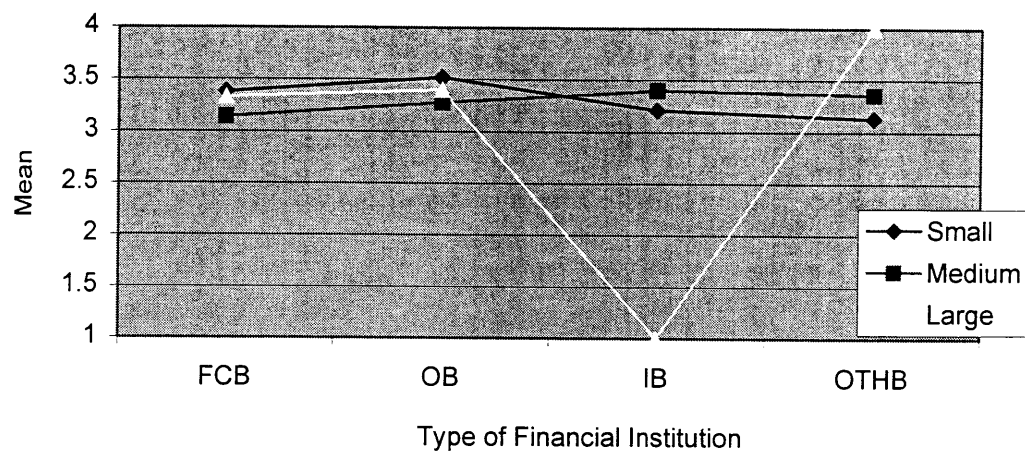


Figure 7: Interaction Between Type and Size of Financial Institution for Use of Photocopier

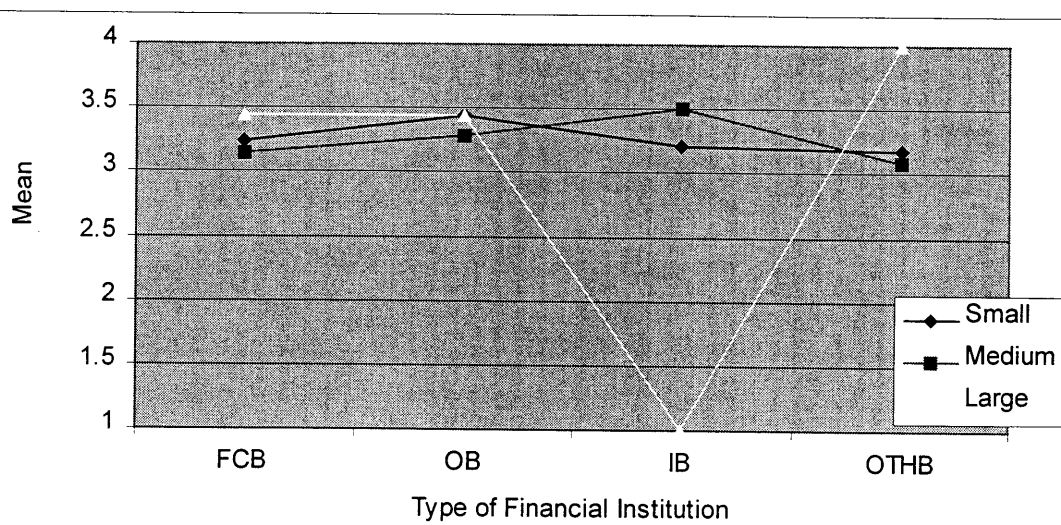


Figure 8: Interaction Between Type and Size of Financial Institution for Use of Facsimile

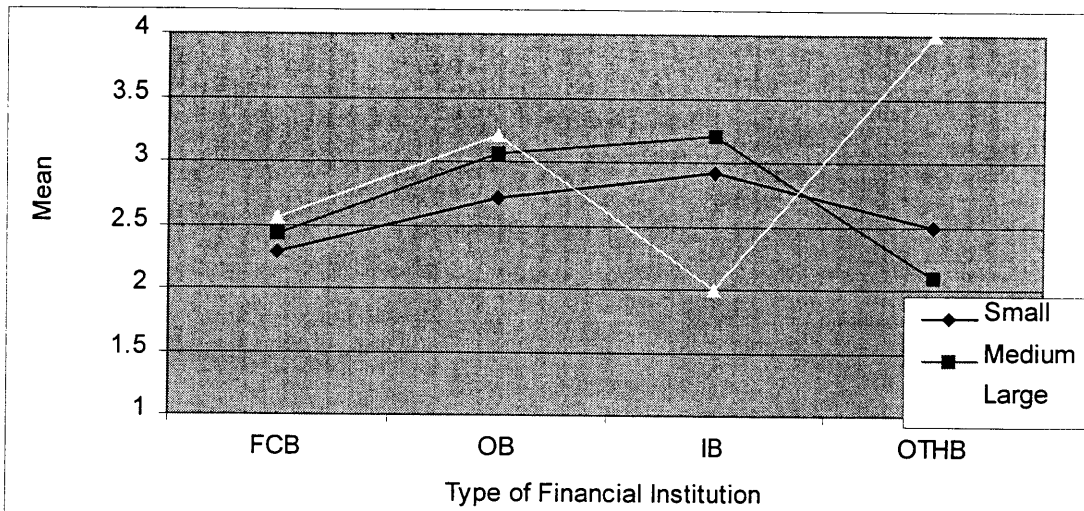


Figure 9: Interaction Between Type and Size of Financial Institution for Use of Voice Mail

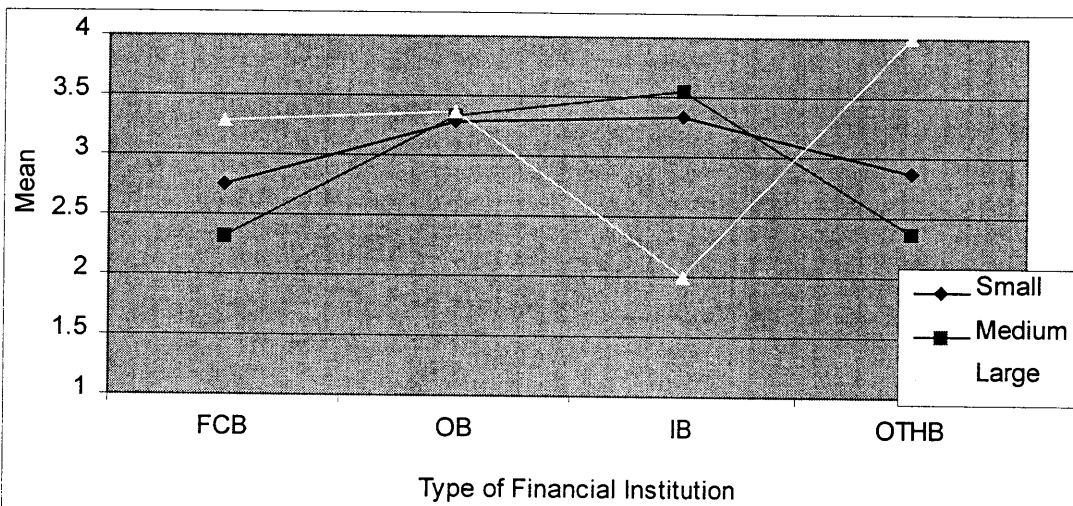


Figure 10: Interaction Between Type and Size of Financial Institution for Use of E-Mail

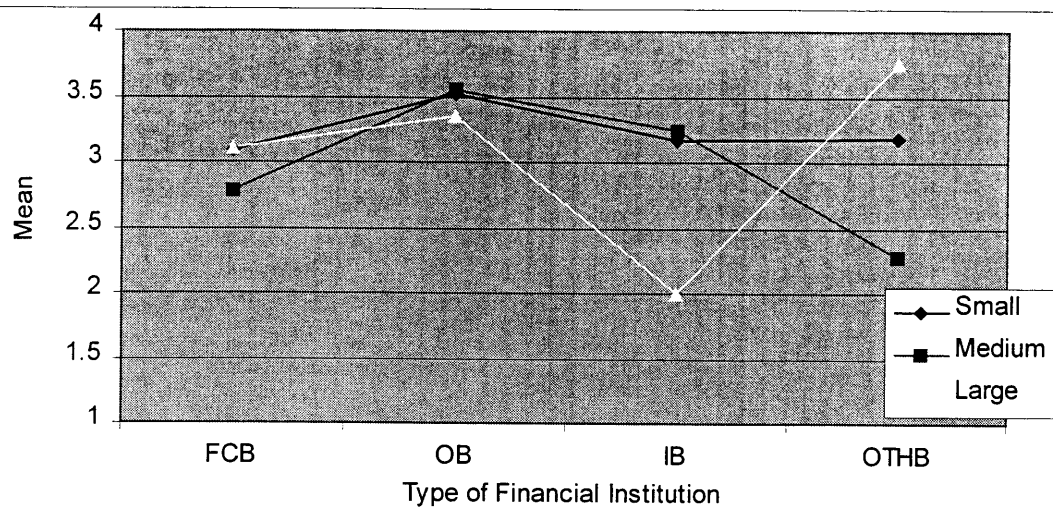


Figure 11: Interaction Between Type and Size of Financial Institution for Use of calculator

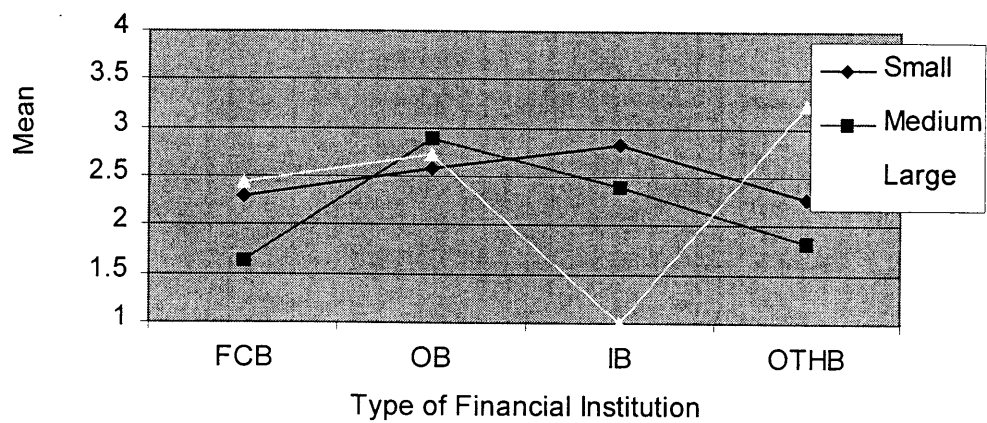
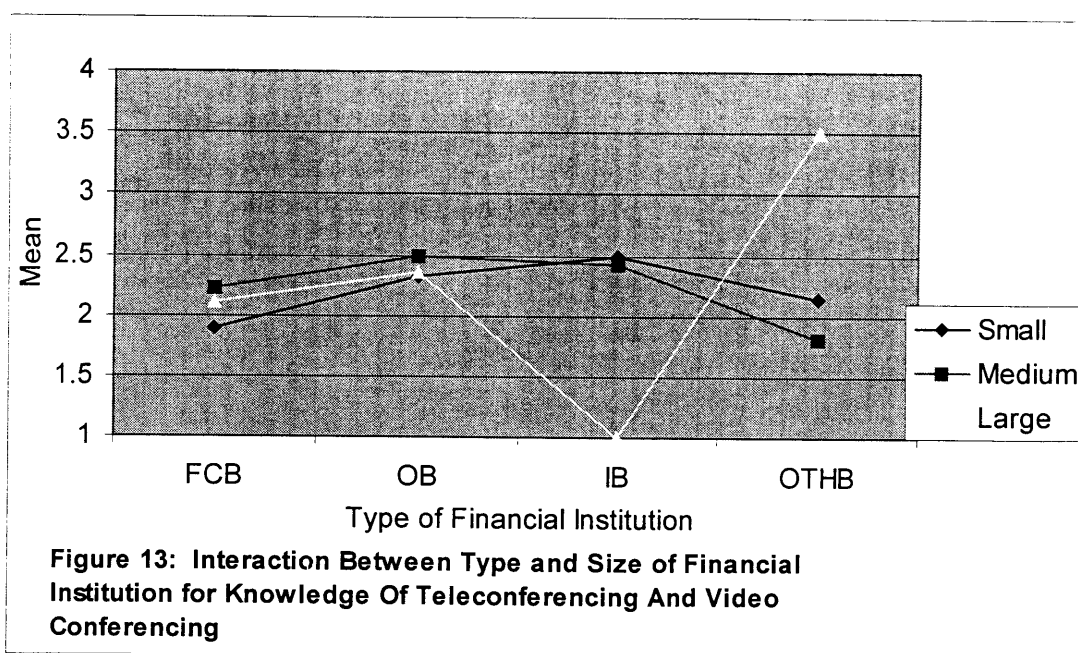


Figure 12: Interaction Between Type and Size of Financial Institution for Use of Internet



Presentation/Graphics Software Competencies

Presentation/Graphics Software Competencies Found to be Important and Needed by Office Support Personnel

Based on the respondents' ratings, all of the following "presentation/graphics software competencies" included in the questionnaire were rated as important: (a) Create and edit text, pie, bar, and line charts; (b) Organize presentations; (c) Prepare and print information; (d) Create multi-page and multi-column documents; and (e) Import graphics, charts, text or tables from other software programs.

Analysis of Variance of Presentation/Graphics Software Competencies by Type of Respondent, Type of Financial Institution and Size of Financial Institution

For the category "Presentation/Graphics Software Competencies," seven statistically significant differences at the .05 and .01 level ($p < .05$ and $p < .01$) were found in terms of importance as entry-level OSP requirements. Two of seven statistically significant differences were for main effects and five for interactions.

Main effects. Results reported in Table 11 show the following for the main effects:

1. Results of the analysis of variance indicate a statistically significant difference at the .05 level ($p < .05$) for the competency “creating multi-page and multi-column documents,” when comparing size of financial institution. Tukey HSD tests show that respondents from large financial institutions rated the competency “creating multi-page and multi-column documents” higher ($M = 3.10$) than respondents from medium-sized financial institutions ($M = 2.69$).

2. Results of the analysis of variance show a statistically significant difference at the .05 level ($p < .05$) for the competency “importing graphics, charts, text or tables from other software programs,” when comparing size of financial institution. Although the analysis of variance test was significant, the follow-up test could not identify where the difference(s) were among different sizes of financial institution.

Interactions. Results reported in Table 11 and displayed in Figures 14 – 18 show the following for the five significant interactions:

1. Results of the analysis of variance show a statistically significant interaction when type of financial institution and size of financial institution are analyzed to find the importance of the competency “create and edit text, pie, bar and, line charts” for entry-level OSP. As shown in Figure 14: (a) large OTHB rated the competency highest; (b)

large IB rated the competency lowest; and (c) all except for large IB and medium OTHB rated it at 2.50 or above (see Figure 14).

2. With regard to the competency “add clip art,” a significant interaction was noted when type of financial institution and size of financial institution were analyzed. As shown in Figure 15: (a) large OTHB rated the competency the highest; (b) medium OTHB rated it the lowest; and (c) all but large IB, and medium and small OTHB rated it at 2.50 and above (see Figure 15).

3. With regard to the competency “use of drawing tools,” a significant interaction was noted when type of financial institution and size of financial institution were analyzed. As shown in Figure 16: (a) large OTHB rated the competency the highest; (b) medium FCB and OTHB and large IB rated it lowest; (c) medium FCB, large IB, and small and medium OTHB rated it below 2.50, and (d) the rest rated it above 2.50 (see Figure 16).

4. With regard to the competency “use of masters, templates and wizards,” a significant interaction was noted when type of financial institution and size of financial institution were analyzed. As shown in Figure 17: (a) large OTHB rated the competency highest; (b) large IB and medium OTHB rated it lowest; (c) and except for medium FCB and OTHB and large IB, the rest rated the competency at 2.50 and above (see Figure 17).

5. The other significant finding was the interaction effect between type of financial institution and size of financial institution for the competency “importing

graphics, charts, text or tables from other software programs.” As shown in Figure 18:

(a) large OTHB rated the competency the highest; (b) large IB rated the competency the lowest; and (c) all but large IB and medium OTHB rated the competency at 2.50 and above (see Figure 18).

Table 11

Summary of Significant ANOVAs and Tukey HSD Tests on Presentation/Graphics Competencies

Competencies	Source of Variance	<u>SS</u>	<u>DF</u>	<u>MS</u>	<u>F</u>	P-Value	Tukey HSD Test
Create and edit text, pie, bar, and line chart	Type of financial institution by size of financial institution	18.508	6	3.085	3.627	.002**	See Figure 14
Add clip art	Type of financial institution by size of financial institution	10.749	6	1.791	2.431	.027*	See Figure 14
Use drawing tools	Type of financial institution by size of financial institution	13.841	6	2.307	2.783	.013*	See Figure 14
Use masters, templates, wizards	Type of financial institution by size of financial institution	14.320	6	2.387	2.835	.011*	See Figure 14
Create multi-page and multi-column documents	Size of financial institution	6.431	2	3.215	4.089	.018*	Lrg (3.10) > Med (2.69)
Import graphics, charts, text or tables from other software programs	Size of financial institution	6.015	2	3.007	3.705	.026*	Difference not identified
	Type of financial institution by size of financial institution	11.112	6	1.852	2.738	.020*	See Figure 14

*Significant difference at .05 level

**Significant difference at .01 level

FCB = full commercial banks, OB = offshore banks, IB = investment banks, and OTHB = other banks

S = small financial institution, Med = medium-sized financial institution, and Lrg = large financial institution.

OSP = Office Support Personnel, Mgr = managers

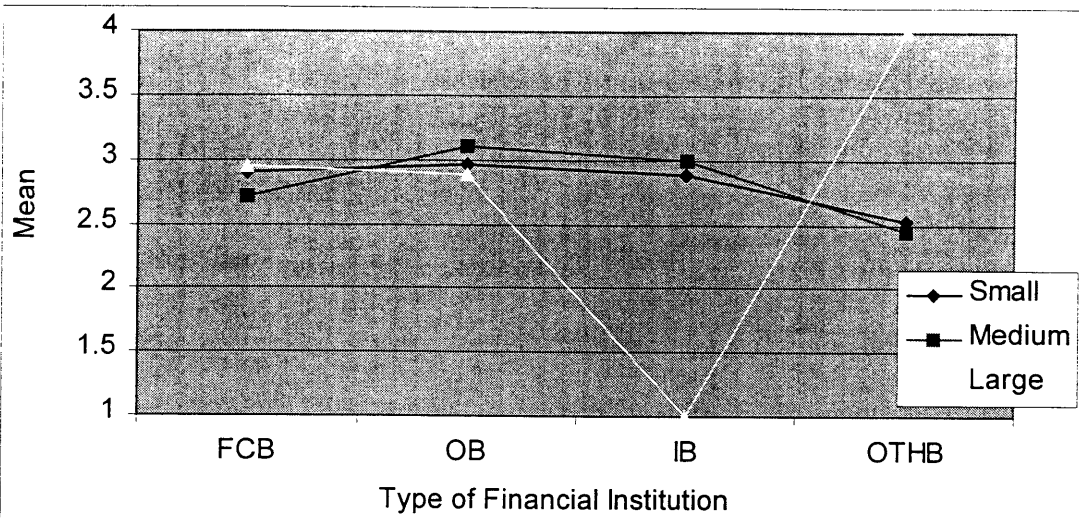


Figure 14: Interaction Between Type and Size of Financial Institution for Create and Edit Text, Pie, Bar and, Line Charts

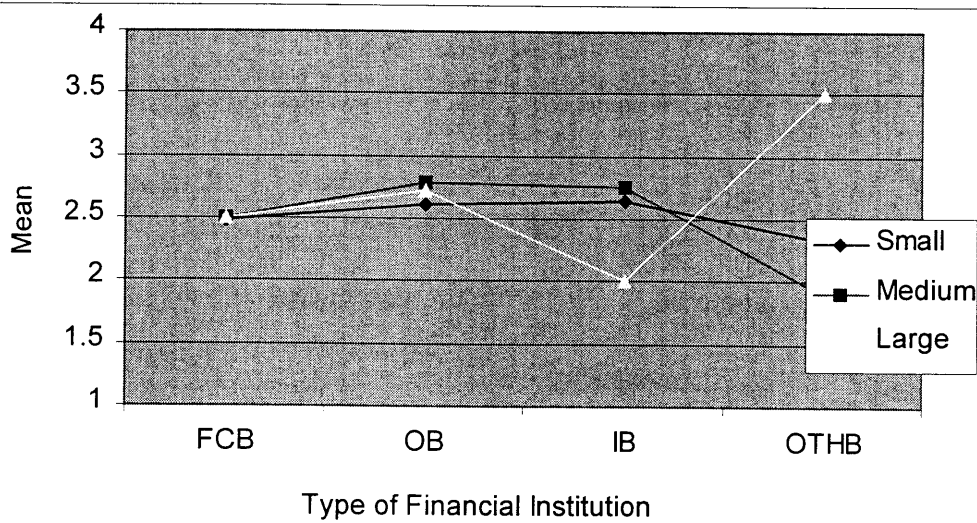


Figure 15: Interaction Between Type and Size of Financial Institution for Add Clip Art

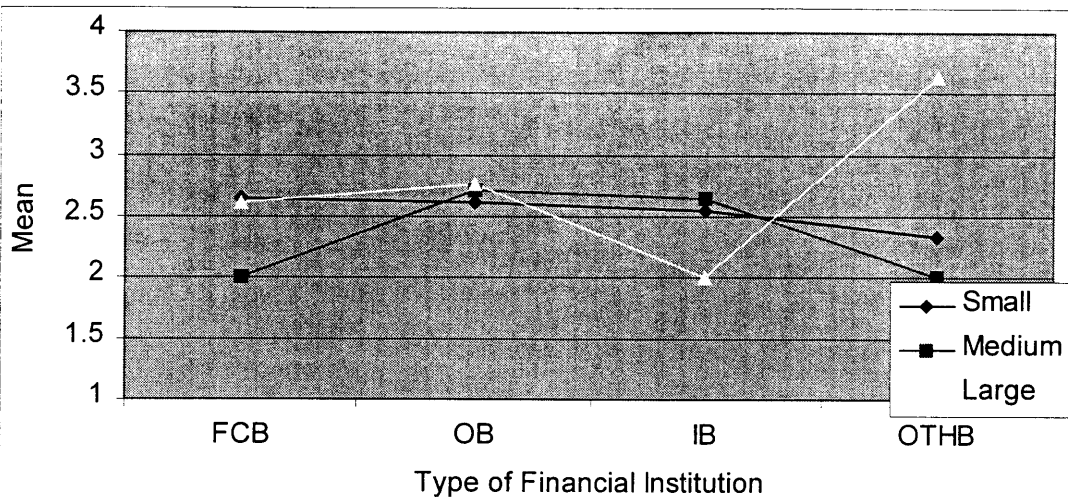


Figure 16: Interaction Between Type and Size of Financial Institution for Use of Drawing Tools

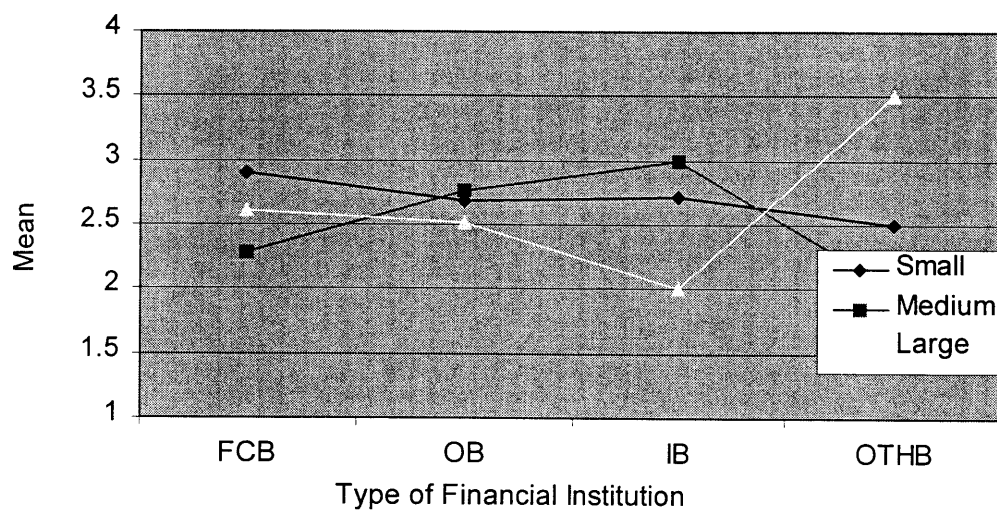


Figure 17: Interaction Between Type and Size of Financial Institution for Use of Masters, Templates and, Wizards

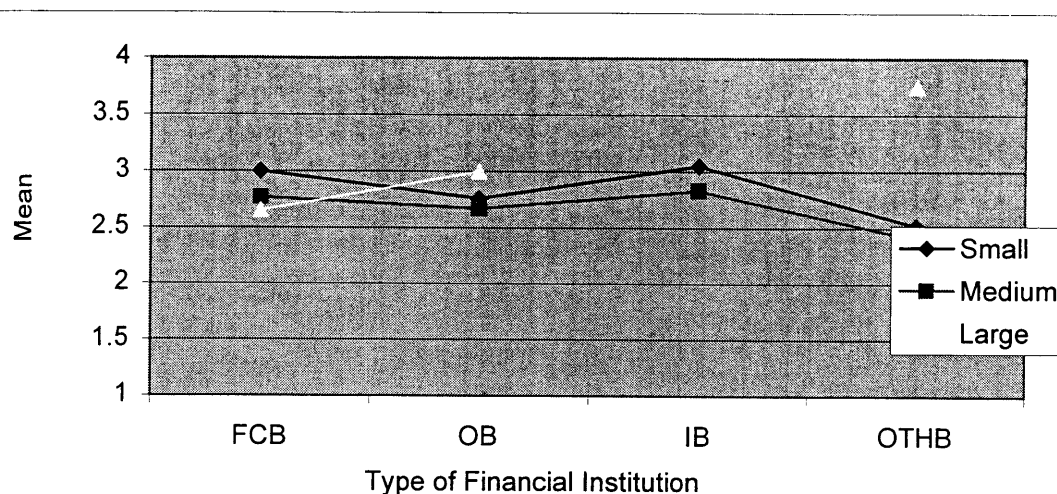


Figure 18: Interaction Between Type and Size of Financial Institution for Importing Graphics, Charts, Text or Tables from other Software Programs.

Spreadsheet Competencies

Spreadsheet Competencies Found to be Important and Needed by Office Support Personnel

Based on the respondents' ratings, the entire group of spreadsheet competencies included in the questionnaire were rated as important: (a) Enter and edit information, (b) Work with formulas and functions, (c) Edit worksheets, (d) Manage large worksheets, and (e) Work with graphs and data.

Analysis of Variance of Spreadsheet Competencies by Type of Respondent, Type of Financial Institution and Size of Financial Institution

For the category "Spreadsheet Competencies," no main effects were found. Two significant interactions at the .05 level ($p < .05$) were found in terms of important requirements for entry-level OSP positions.

Interactions. Results are reported in Table 12 and displayed in Figures 19 and 20 for the two significant interactions.

1. For “work with formulas and functions”, a significant interaction was found when interaction between type of respondent (OSP and manager) and size of financial institution was analyzed. As shown in Figure 19: (a) OSP in large financial institutions and managers in medium-sized financial institutions rated the competency highest; (b) managers in small and large financial institutions rated the competency the lowest; and (c) all means were above 2.50, indicating an entry-level OSP requirement (see Figure 19).

2. With regard to the competency “working with graphs and data,” a significant interaction was noted when type of financial institution and size of financial institution were analyzed. As shown in Figure 20: (a) large OTHB rated the competency the highest; (b) large IB rated the competency the lowest; and (c) all but large IB rated the competency at 2.50 and above (see Figure 20).

Table 12

Summary of Significant ANOVAs and Tukey HSD Tests on Spreadsheet Competencies

Competencies	Source of Variance	<u>SS</u>	<u>DF</u>	<u>MS</u>	<u>F</u>	P-Value	Tukey HSD Test
Work with formulas and functions	Type of respondent by size of financial institution	6.025	2	3.013	4.081	.018*	See Figure 19
Work with graphs and data	Type of financial institution by size of financial institution	10.749	6	1.792	2.253	.039*	See Figure 20

*Significant difference at .05 level

Note:

FCB = full commercial banks, OB = offshore banks, IB = investment banks, and OTHB = other banks
 S = small financial institution, Med = medium-sized financial institution, and Lrg = large financial institution.
 OSP = Office Support Personnel, Mgr = managers

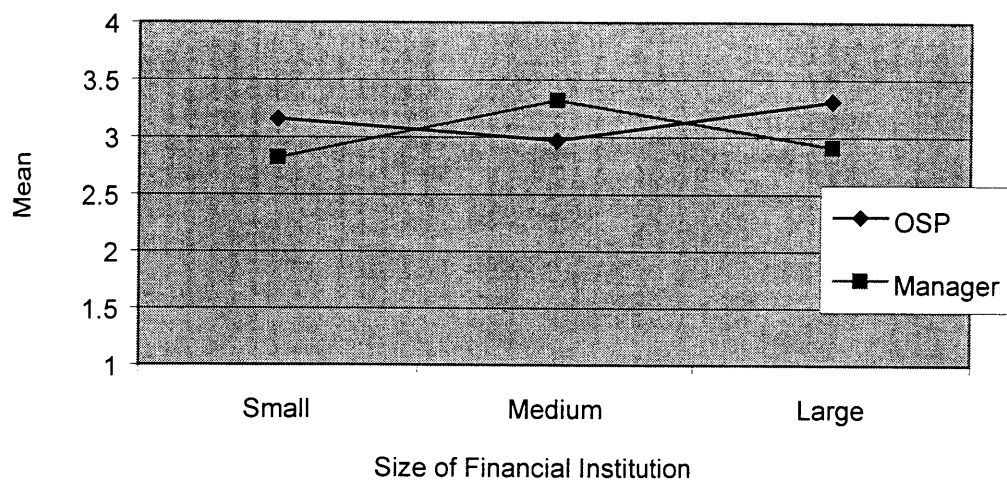


Figure 19: Interaction Between Type of Respondent and Size of Financial Institution for Working with Formulas and Functions.

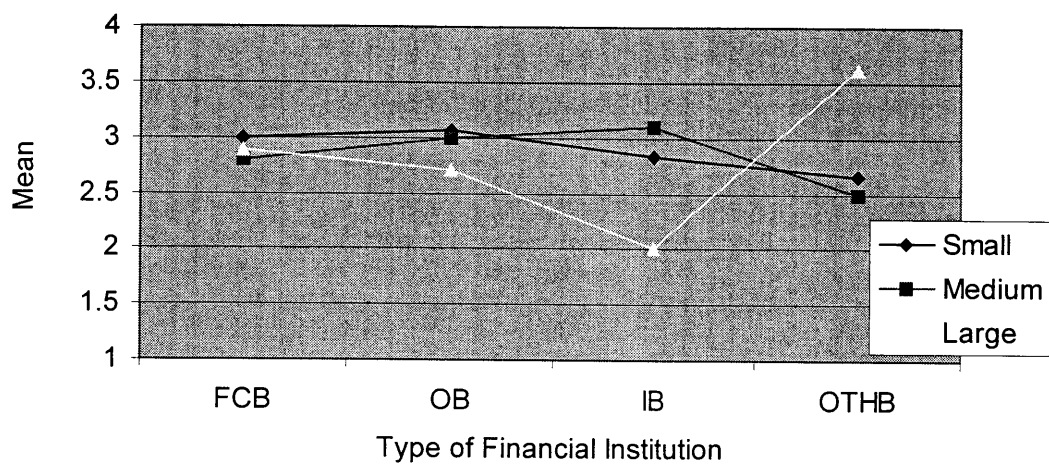


Figure 20: Interaction Between Type and Size of Financial Institution for Working with Graphs and Data

Windows Operating System Competencies

Windows Operating System Competencies Found to be Important and Needed by Office Support Personnel

Based on the respondents' ratings, all of the Windows operating system competencies included in the questionnaire were rated as important: (a) Open and close multiple applications, (b) Use multiple applications, (c) Use file manager, (d) Delete files, (e) Move and copy files, and (f) Save and retrieve files.

Analysis of Variance of Windows Operating System Competencies by Type of Respondent, Type of Financial Institution and Size of Financial Institution

For the category "Windows operating system competencies," only one main effect was found with a statistically significant difference at the .05 level ($p < .05$) and no interaction was found in terms of entry-level OSP requirements.

Main effects. Results of the analysis of variance indicate a statistically significant difference between types of financial institution at the .05 level ($p < .05$) for the competency "other Windows operating system competencies." Further follow-up tests on the competency "other Windows operating system competencies" could not be performed because of the small number of cases, which precludes performing the Tukey test. The results are reported in Table 13.

Table 13

Summary of Significant ANOVAs and Tukey HSD Tests on Windows Operating System Competencies

Competencies	Source of Variance	<u>SS</u>	<u>DF</u>	<u>MS</u>	<u>F</u>	P-Value	Tukey HSD Test
Other Windows operating system competencies	Type of financial institution	2.546	3	.849	6.791	.048*	Difference not identified

*Significant difference at .05 level

Note:

FCB = full commercial banks, OB = offshore banks, IB = investment banks, and OTHB = other banks

S = small financial institution, Med = medium-sized financial institution, and Lrg = large Personnel, Mgr = managers financial institution. OSP = Office Support

Word Processing Competencies

Word Processing Competencies Found to be Important and Needed by Office Support Personnel

Based on the respondents' ratings, all "Word Processing Competencies" competencies included in the questionnaire were rated as important: (a) Enter and edit information; (b) Create form letters and other merge documents; (c) Create headers and footers; (d) Create a main document; (e) Create and modify tables; (f) Use spell check, grammar check, thesaurus, and writing style program(s); and (g) View, find, copy, rename, delete and sort files.

Analysis of Analysis of Word Processing Competencies By Type of Respondent, Type of Financial Institution and Size of Financial Institution

For the category "word processing competencies," two statistically significant differences at the .05 level ($p < .05$) were found in terms of entry-level OSP requirements. One statistically significant difference was a main effect and the second was an interaction.

Main effects. Results reported in Table 14 show the following main effect with regard to the competency "creating and modifying tables." A significant result was noted based on type of financial institution at the .05 level ($p < .05$). Follow-up Tukey HSD tests could not identify significant differences between types of financial institution regarding the importance of "creating and modifying tables" for entry-level OSP positions.

Interactions. Results reported in Table 14 and Figure 21 show the results of the interactions of independent variables. With regard to the competency "creating a main document," a significant interaction was noted when type of financial institution and size

of financial institution were analyzed. As shown in Figure 21: (a) small and medium FCB, small and large OB, and large OTHB rated the competency highest, with nearly the same rating; (b) large IB rated the competency lowest; and (c) all but large IB rated the competency above 2.50 (see Figure 21).

Table 14

Summary of Significant ANOVAs and Tukey HSD Tests on Word Processing Competencies

Competencies	Source of Variance	SS	DF	MS	F	P-Value	Tukey HSD Test
Create a main document	Type of financial institution by size of financial institution	6.192	6	1.032	2.632	.017*	See Figure 21
Create and modify tables	Type of financial institution	4.777	3	1.592	3.429	.018*	Difference not identified

*Significant difference at .05 level

FCB = full commercial banks, OB = offshore banks, IB = investment banks, and OTHB = other banks

S = small financial institution, Med = medium-sized financial institution, and Lrg = large financial institution.

OSP = Office Support Personnel, Mgr = managers

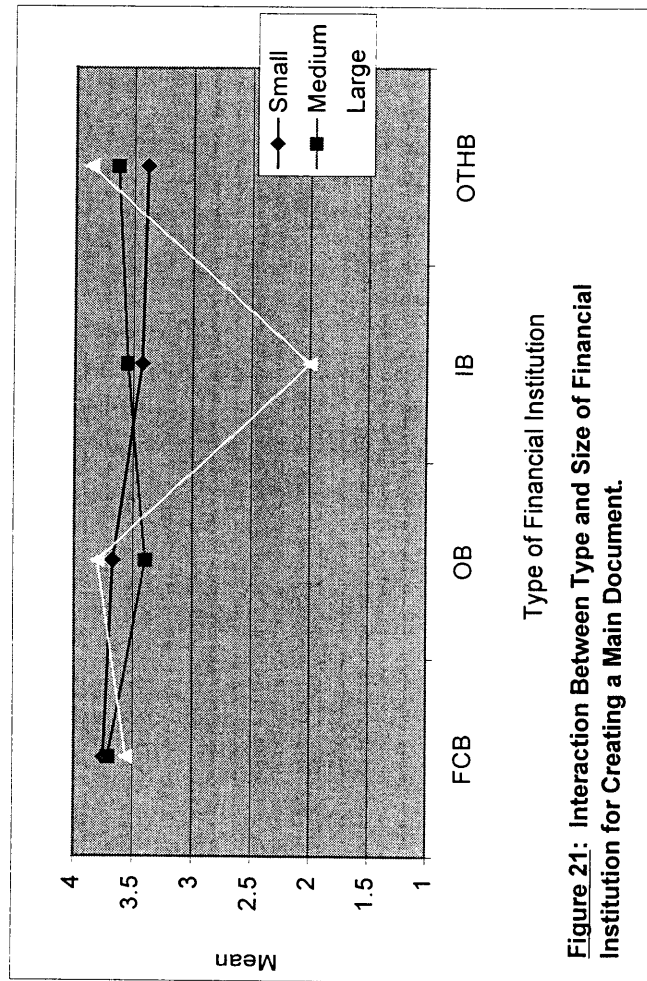


Figure 21: Interaction Between Type and Size of Financial Institution for Creating a Main Document.

The Use of Software Applications, Automated Office Equipment, and Level and Source of Education

The secondary research questions were:

1. What software applications are used by OSP? Do office support personnel and managers report a difference in the use of software applications?
2. What automated office equipment/hardware is used by OSP? Do office support personnel and managers report a difference in the use of automated office equipment/hardware?
3. What are the minimum educational requirements and the sources for entry-level office support candidates?

The Use of Software Applications by Office Support Personnel

Secondary Question One. What software applications are used by OSP? Do office support personnel and managers report a difference in the use of software applications?

In an effort to provide information concerning content areas to be included in the Office Management curriculum at the UOB, this research question sought to determine what software applications Bahraini financial institutions utilize. This information can be used by the Office Management department at the UOB to make necessary adjustments and keep their curriculum current in order to meet the current and future expectations of employers. With this in mind, respondents were asked to indicate whether their financial institution is (1) currently using, (2) plans to use, (3) does not use, or (4) they do not know, regarding a number of software packages and types of software. The researcher was interested in which specific software applications were used in each setting. For the purpose of this study, the frequency distribution of only current software use by OSP respondents will be considered as a requirement for hiring entry-level OSP.

The data gathered from question two are analyzed and reported in the following sequence: (a) Frequency distribution reports on the second part regarding each specific software package. Frequencies were run rather than chi-square on this second part of the questions because the numbers were too small for individual questions to achieve statistically meaningful/conclusive results. (b) Chi-square tests on the first part, use (of software applications) by type of respondent (OSP and managers) for 11 software application types—accounting, calendaring and scheduling, database, desktop publishing, forms processing, graphics/presentation, internet, speech recognition, spreadsheets, word processing, and workflow. The results of chi-square analysis and the descriptive reports completed to address the question are presented in tables 15-36. It should be noted that software applications rated at an average of 50% or above in terms of current use by OSP will be considered as requirements for entry-level OSP positions.

Accounting Software

Accounting software applications used by office support personnel.

Respondents who were using accounting software applications were asked to report the specific packages they use. Responses showed that all of the accounting software packages listed are used by OSP in at least some Bahraini financial institutions. “Other accounting software” received the highest number of responses. About one-fourth (26%) of OSP and (43%) of managers indicated that OSP use software other than that listed to carry out their jobs. The accounting software packages mentioned by respondents in the “Other” category were Oracle, Excel, Citicorp software, Midas, Focas, Pegasus, and in-house customized accounting software (see Table 15).

Table 15

Type of Accounting Software as Reported by Office Support Personnel and Managers

Accounting Software	Type of Respondent	Currently Used Frequency	%
Quick Books	OSP	4	7
	Manager	3	4
Great Plans	OSP	0	0
	Manager	1	1
Microsoft Money	OSP	9	17
	Manager	9	13
Peach Tree	OSP	1	2
	Manager	1	1
Quicken	OSP	7	13
	Manager	2	3
Other	OSP	14	26
	Manager	29	43

Chi-square analysis on accounting software as reported by office support

personnel and managers. The result of the chi-square analysis showed no significant difference between the response patterns of the OSP and managers for OSP use of accounting software. Less than half (43%) of the OSP and over half (56%) of the managers gave positive responses that OSP use the software to perform their job tasks (see Table 16).

Table 16

Chi-square Analysis of use of Accounting Software as Reported by Office Support Personnel and Managers

Use of Accounting Software Packages	OSP		Manager		Total	%
	Frequency	%	Frequency	%		
Yes	53	43	67	56	120	50
No	69	57	53	44	122	50
Total	122	100	120	100	242	100

Chi square = 3.715

$p = .054$

Calendaring and Scheduling Software

Calendaring and scheduling software applications used by office support

personnel. Respondents who were using calendaring and scheduling software applications were asked to report the software packages they use. Responses indicated that all of the calendaring and scheduling software listed, except for Groupwise, is used by OSP in at least some Bahraini financial institutions. Microsoft Outlook and Lotus Organizer received the most responses. Just under half of the OSP (47%) indicated that they use Microsoft Outlook (47%) or Lotus Organizer (42%) and more than one-third (38%) of managers indicated that OSP use Microsoft Outlook, and an identical percentage (38%) indicated that OSP use Lotus Organizer to carry out their jobs. The calendaring and scheduling software packages mentioned by respondents in the “Other” category were manual diary, Lotus Notes, and in-house, customized calendaring and scheduling software (see Table 17).

Table 17

Type of Calendaring and Scheduling Software as Reported by Office Support Personnel and Managers

Calendaring and Scheduling Software	Type of Respondent	Currently Used Frequency	%
McAfee	OSP	7	11
	Manager	2	3
Microsoft Project	OSP	16	25
	Manager	19	19
Oracle interoffice schedule	OSP	6	9
	Manager	2	3
Groupwise	OSP	0	0
	Manager	0	0
Norton System Agent	OSP	2	3
	Manager	0	0

Table 17 continued

Calendaring and Scheduling Software	Type of Respondent	Currently Used Frequency	%
Microsoft Scheduler	OSP	16	25
	Manager	17	27
Meeting Maker	OSP	5	8
	Manager	2	3
Schedule Plus	OSP	9	14
	Manager	8	13
Lotus Organizer	OSP	27	42
	Manager	24	38
Microsoft Outlook	OSP	30	47
	Manager	24	38
Other	OSP	2	3
	Manager	6	9

Chi-square analysis of calendaring and scheduling software as reported by

office support personnel and managers. The chi-square analysis showed no significant difference between the response patterns of OSP and managers in OSP use of calendaring and scheduling software. About half (56% OSP and 53% managers) gave a positive response that OSP use the software to perform their job tasks (see Table 18).

Table 18

Chi-square Analysis of Use of Calendaring and Scheduling Software as Reported by Office Support Personnel and Managers

Use of Calendaring and Scheduling Software Applications	OSP		Manager		Total	%
	Frequency	%	Frequency	%		
Yes	64	56	63	53	127	55
No	50	44	55	47	105	45
Total	114	100	118	100	232	100

Chi square = .177

p = .674

Database Software

Database software applications used by office support personnel.

Respondents who were using database software applications were asked to report the specific packages they use. Responses showed that all of the database software listed is used by OSP in at least some Bahraini financial institutions. Microsoft Access received the most responses. About two-thirds of both groups of respondents (68% of OSP and 72% of managers) indicated that OSP use Microsoft Access to carry out their jobs. The database software packages mentioned by respondents in the “other” category were Excel, Lotus Notes, FoxPro, PeopleSoft, and in-house, customized database software (see Table 19).

Table 19

Type of Database Software as Reported by Office Support Personnel and Managers

Database Software	Type of Respondent	Currently Used Frequency	%
Lotus Approach	OSP	21	28
	Manager	25	27
Microsoft Access	OSP	51	68
	Manager	67	72
Paradox	OSP	2	3
	Manager	3	3
FileMaker Pro	OSP	5	7
	Manager	4	4
Other	OSP	9	12
	Manager	12	13

Chi-square analysis of database software as reported by office support

personnel and managers. The result of the chi-square analysis showed a significant difference between the response patterns of OSP and managers in OSP use of database

software. Results show that managers (77%) are more likely than OSP (64%) to indicate that OSP use database software (see Table 20).

Table 20

Chi-square Analysis of Use of Database Software as Reported by Office Support Personnel and Managers

Use of Database Software Packages	OSP		Manager		Total	%
	Frequency	%	Frequency	%		
Yes	75	64	93	77	168	71
No	43	36	27	23	70	29
Total	118	100	120	100	238	100

Chi square = 5.569*

$p = .018^*$

*Significant difference at .05 level.

Desktop Publishing Software

Desktop publishing software applications used by office support personnel.

Respondents who were using desktop publishing software applications were asked to report the specific software packages they use. Responses indicated that all of the desktop publishing software listed is used by OSP in at least some Bahraini financial institutions. The top package among both respondent groups was Harvard Graphics. Half (50%) of OSP and just under half (45%) of managers indicated that OSP use Harvard Graphics to carry out their responsibilities. The desktop publishing software packages mentioned by respondents in the “other” category were PowerPoint, Freelance Graphics, Adobe PhotoShop and in-house, customized desktop publishing software (see Table 21).

Table 21

Type of Desktop Publishing Software as Reported by Office Support Personnel and Managers

Desktop Publishing Software	Type of Respondent	Currently Used Frequency	%
Frame Maker	OSP	4	9
	Manager	3	6
Pagemaker	OSP	7	17
	Manager	16	31
Harvard Graphics	OSP	21	50
	Manager	23	45
Corel Draw	OSP	3	7
	Manager	3	6
Publisher	OSP	10	24
	Manager	5	10
Other	OSP	5	12
	Manager	5	10

Chi-square analysis of desktop publishing software as reported by office

support personnel and managers. The chi-square analysis showed no significant difference between the response patterns of OSP and managers in the use of desktop publishing software. More than fifty percent of each group (65% OSP and 56% managers) indicated that OSP use the software to perform their job tasks (see Table 22).

Table 22

Chi-square Analysis of Use of Desktop Publishing Software as Reported by Office Support Personnel and Managers

Use of Desktop Publishing Packages	OSP		Manager		Total	%
	Frequency	%	Frequency	%		
Yes	42	39	51	44	93	40
No	77	65	65	56	142	60
Total	119	100	116	100	235	100

Chi square = 1.847

p = .174

Forms Processing Software

Forms processing software applications used by office support personnel.

Respondents who were using forms processing software applications were asked to report the specific software packages they use. Responses indicated that all of the forms processing software packages listed are used by OSP in at least some Bahraini financial institutions. Harvard Graphics received the largest number of responses. More than half (58%) of OSP and nearly two-thirds (64%) of managers indicated that OSP use Harvard Graphics software to carry out their tasks. The forms processing software packages mentioned by respondents in the “other” category were: PowerPoint, Excel, Oracle Forms, Citicorp software, and in-house, customized accounting software (see Table 23).

Table 23

Type of Forms Processing Software as Reported by Office Support Personnel and Managers

Forms Processing Software	Type of Respondent	Currently Used Frequency	%
Harvard Graphics	OSP	24	58
	Manager	27	64
Corel Draw	OSP	8	19
	Manager	3	7
Oracle Document Management	OSP	6	15
	Manager	7	17
Forms Tools	OSP	14	34
	Manager	6	14
Forms Flow	OSP	3	7
	Manager	2	5
Other	OSP	0	0
	Manager	4	9

Chi-square analysis of forms processing software as reported by office

support personnel and managers. The chi-square analysis showed no significant difference between the response patterns of OSP and managers in the use of forms processing software. Almost three-fourths of both groups of respondents (OSP 64% and managers 63%) reported that OSP in their institution do not use forms processing software to perform their tasks (see Table 24.)

Table 24

Chi-square Analysis of Use of Forms Processing Software as Reported by Office Support Personnel and Managers

Use of Form Processing Software Applications	OSP		Manager		Total	%
	Frequency	%	Frequency	%		
Yes	41	36	42	37	83	36
No	74	64	72	63	146	64
Total	115	100	114	100	229	100

Chi square = .035

p = .851

Graphics/Presentation Software

Graphics/presentation software applications used by office support

personnel. Respondents who were using graphics/presentation software applications were asked to report the specific software packages they use. Responses indicated that all of the graphics/presentation software listed is used by OSP in at least some Bahraini financial institutions. Microsoft PowerPoint was the highest in frequency. Ninety-two percent of OSP and 86% of managers reported that OSP use Microsoft PowerPoint to carry out their jobs. Oracle was the only graphics/presentation software mentioned by respondents in the “Other” category (see Table 25).

Table 25

Type of Graphics/Presentation Software as Reported by Office Support Personnel and Managers

Graphics/Presentation Software	Type of Respondent	Currently Used Frequency	%
Authorware	OSP	1	1
	Manager	0	0
Corel Draw	OSP	5	6
	Manager	3	3
Harvard Graphics	OSP	23	26
	Manager	26	27
Microsoft PowerPoint	OSP	82	92
	Manager	83	86
Lotus Freelance	OSP	18	20
	Manager	29	30
Corel Presentations	OSP	5	6
	Manager	5	5
Other	OSP	2	2
	Manager	2	2

Chi-square analysis of graphics/presentation software as reported by office support personnel and managers. The chi-square analysis showed no significant difference between the response patterns of OSP and managers in the use of graphics/presentation software. Three-fourths of OSP (75%) and over three-fourths of managers (81%) indicated that OSP used graphics/presentation software to carry out their responsibilities (see Table 26).

Table 26

Chi-square Analysis of Use of Graphics/Presentation Software as Reported by Office Support Personnel and Managers

Use of Graphics/Presentation Software applications	OSP		Manager		Total	%
	Frequency	%	Frequency	%		
Yes	89	75	96	81	185	78
No	30	25	23	19	53	22
Total	119	100	119	100	238	100

Chi square = 1.189

p = .275

Internet Software

Internet software applications used by office support personnel. Respondents who were using Internet software applications were asked to report the types of software they use. Responses indicated that all software listed are used by OSP in at least some Bahraini financial institutions. Microsoft Internet Explorer received the highest responses. Two-thirds or more of both groups of respondents (67% of OSP and 70% of managers) reported that OSP use Microsoft Internet Explorer to carry out their jobs. America Online was the only Internet software mentioned under the category “other” (see Table 27).

Table 27

Type of Internet Software as Reported by Office Support Personnel and Managers

Internet Software	Type of Respondent	Currently Used Frequency	%
Mosaic	OSP	5	7
	Manager	1	1
Javasoftware	OSP	3	4
	Manager	0	0
Oracle Power Browser	OSP	5	7
	Manager	3	4
Netscape Navigator	OSP	36	50
	Manager	51	61
Microsoft Internet Explorer	OSP	48	67
	Manager	58	70
Other	OSP		
	Manager	1	1

Chi-square analysis of internet software as reported by office support

personnel and managers. The chi-square analysis showed no significant difference between the response patterns of OSP and managers in the use of Internet software. Fifty-nine percent of OSP and 71% of managers gave positive responses that OSP use the software to perform their job tasks (see Table 28).

Table 28

Chi-square Analysis of Use of Internet Software as Reported by Office Support Personnel and Managers

Use of Internet Software packages	OSP		Manager		Total	%
	Frequency	%	Frequency	%		
Yes	72	59	83	71	155	65
No	50	41	34	29	84	35
Total	122	100	117	100	239	100

Chi square = 3.725

p = .054

Speech Recognition Software

Speech recognition software applications used by office support personnel.

Respondents who were using speech recognition software applications were asked to report the specific software they use. Responses indicated that all of the packages listed are used by OSP in at least some Bahraini financial institutions. Microsoft Voice had the highest frequency. Nearly half (46%) of OSP and just over one-quarter (27%) of managers indicated that OSP use the software Microsoft Voice to carry out their jobs. Messenger was the only speech recognition software package listed under the category “other” (see Table 29)

Table 29

Type of Speech Recognition Software as Reported by Office Support Personnel and Managers

Speech Recognition Software	Type of Respondent	Currently Used Frequency	%
Dragon Systems	OSP	2	8
	Manager	1	7
Microsoft Sound Recorder	OSP	8	33
	Manager	2	13
Inet Phone	OSP	2	8
	Manager	0	0
Net 2 Phone	OSP	3	12
	Manager	1	7
Vedio Phone	OSP	2	8
	Manager	3	20
MS Voice	OSP	11	46
	Manager	4	27
IBM Voice Recognition Software	OSP	4	17
	Manager	2	13
Other	OSP	1	4
	Manager	2	13

Chi-square analysis of speech recognition software as reported by office

support personnel and managers. Chi-square analysis showed no significant difference between the response patterns of OSP and managers in the use of speech recognition software. A large majority of OSP (80%) and managers (87%) reported that OSP do not use the software (see Table 30).

Table 30

Chi-square Analysis of Use of Speech Recognition Software as Reported by Office Support Personnel and Managers

Use of Speech Recognition Software applications	OSP		Manager		Total	%
	Frequency	%	Frequency	%		
Yes	24	20	15	13	39	17
No	96	80	97	87	193	83
Total	120	100	112	100	232	100

Chi square = 1.808

p = .179

Spreadsheet Software

Spreadsheet software applications used by office support personnel.

Respondents who were using spreadsheet software applications were asked to report the specific software they use. Responses indicated that all of the listed software packages are used by OSP in at least some Bahraini financial institutions. Microsoft Excel received the highest number of responses. Almost all respondents (OSP 96% and managers 95%) indicated that OSP use Microsoft Excel to carry out their jobs. Microsoft Access was listed under the category “other” (see Table 31).

Table 31

Type of Spreadsheet Software as Reported by Office Support Personnel and Managers

Spreadsheet Software	Type of Respondent	Currently Used Frequency	%
LOTUS 1-2-3	OSP	41	34
	Manager	53	44
Quattro Pro	OSP	4	3
	Manager	2	2
Microsoft Excel	OSP	114	96
	Manager	113	95
Other	OSP	1	1
	Manager	0	0

Use spreadsheet software as reported by office support personnel and

managers. This question yielded two cells with expected frequencies of less than 5, therefore using chi-square analysis is unreliable to test the difference in the use of spreadsheet software between OSP and managers. Almost all of the respondents (96% OSP and 99% managers) reported use of the software (see Table 32).

Table 32

Use of Spreadsheet Software as Reported by Office Support Personnel and Managers

Use of Spreadsheet Software applications	OSP		Manager		Total	%
	Frequency	%	Frequency	%		
Yes	119	96	119	99	238	98
No	5	4	1	1	6	2
Total	124	100	120	100	244	100

Word Processing Software

Word processing software applications used by office support personnel.

Respondents who were using word processing applications were asked to report the specific software packages they used. Responses indicated that all of the listed software

packages are used by OSP to carry out their responsibilities in at least some Bahraini financial institutions. Microsoft Word was the highest in frequency. Almost all (97%) of both OSP and managers indicated that OSP use Microsoft Word to carry out their jobs. Word processing software packages mentioned by respondents in the “Other” category were WordPerfect, Novell w/p and in-house customized software (see Table 33).

Table 33

Type of Word Processing Software as Reported by Office Support Personnel and Managers

Word Processing Software	Type of Respondent	Currently Used Frequency	%
Corel Word Perfect	OSP	11	9
	Manager	12	10
Microsoft Word	OSP	119	97
	Manager	115	97
Microsoft Works	OSP	18	15
	Manager	16	13
Note Pad	OSP	12	10
	Manager	20	17
Lotus Word Pro	OSP	5	4
	Manager	7	6
Lotus Amipro	OSP	2	2
	Manager	5	4
Other	OSP	5	4
	Manager	2	2

Use of word processing software f as reported by office support personnel

and managers. This question yielded two cells with expected frequencies of less than 5, therefore using chi-square analysis is unreliable to test the difference in the use of word processing software between OSP and managers. Almost all of the OSP (98%) and all of the managers reported the use of word processing software (see Table 34).

Table 34

Use of Word Processing Software as Reported by Office Support Personnel and Managers

Use of Word Processing Software Applications	OSP		Manager		Total	%
	Frequency	%	Frequency	%		
Yes	122	98	119	100	241	99
No	2	2	0		2	1
Total	124	100	119	100	243	100

Workflow Software

Workflow software applications used by office support personnel.

Respondents who were using workflow software applications were asked to report the specific packages they use. Respondents indicated that all of the listed software packages are used by OSP to carry out their responsibilities in at least some Bahraini financial institutions. Microsoft Project and Novel Groupwise was the highest in frequency. Fifty percent of OSP indicated the use of Novel Groupwise software and 50% of managers reported that OSP use Microsoft Project to carry out their jobs. No one reported any other packages beyond those listed (see Table 35).

Table 35

Type of Workflow Software Used as Reported by Office Support Personnel and Managers

Workflow Software	Type of Respondent	Currently Used Frequency	%
Oracle Interoffice-Workflow	OSP	2	5
	Manager	4	9
Document Management Workflow	OSP	1	3
	Manager	2	4
Microsoft Project	OSP	15	39
	Manager	22	50
Novell Groupwise	OSP	19	50
	Manager	12	27
Microsoft Exchange	OSP	14	37
	Manager	14	32
Other	OSP	0	0
	Manager	0	0

Chi-square analysis of workflow software as reported by office support

personnel and managers. The chi-square analysis showed no significant difference between the response patterns of OSP and managers in the use of workflow software.

Over two-thirds (68%) of OSP and nearly two-thirds (62%) of managers reported OSP at their institution do not use workflow software (see Table 36)

Table 36

Chi-square Analysis of Use of Workflow Software as Reported by Office Support Personnel and Managers

Use of Workflow Software Packages	OSP		Manager		Total	%
	Frequency	%	Frequency	%		
Yes	38	32	44	38	82	35
No	81	68	73	62	154	65
Total	119	100	117	100	236	100

Chi square = .838

p = .360

The Use of Automated Office Equipment by Office Support Personnel

Secondary Question Two: What automated office equipment/hardware is used by office support personnel? Do office support personnel and managers report a difference in the use of automated office equipment/hardware?

This research question was included to determine automated office equipment usage in Bahraini financial institutions. The Office Management department at the UOB can then make adjustments that will keep their curriculum current to meet current and future expectations of employers. With this in mind, respondents were asked to indicate whether their financial institution is: (1) currently using, (2) plans to use, (3) does not use, or (4) they do not know, regarding five automated office equipment categories.. The researcher was also interested in which specific type of automated office equipment within each category was used in each setting. For the purpose of this study, the frequency distribution of only “currently used” automated office equipment by OSP respondents will be considered as a requirement for hiring entry-level OSP.

The data gathered from question two are analyzed and reported in the sequence of: (a) Frequency distribution reports on the second part regarding each specific piece of automated equipment. Frequencies were run rather than chi-square on the second part of the question because the numbers were too small for individual questions to achieve statistically meaningful/conclusive results; (b) Chi-square tests on the first part (the five questions on currently used automated office equipment) by type of respondent (OSP and managers). The results of chi-square analyses and the frequency reports completed to address the question are presented in tables 37-46. It should be noted that automated office equipment/hardware rated at an average of 50% or above in terms of current use by OSP will be considered as requirements for entry-level OSP positions.

Microcomputers

Microcomputers used by office support personnel. Respondents who were using microcomputers were asked to report the specific types of microcomputers they use. Responses showed that all of the microcomputers listed are used by OSP in at least some Bahraini financial institutions. Compaq microcomputers received the highest frequency. More than half of each group (60% of OSP and 54% managers) reported that OSP use Compaq computers to carry out their jobs. The microcomputers mentioned by respondents in the “Other” category were Mitac, Toshiba, Hyundai/generic, Starflex, Packard Bell and in-house customized/assembled microcomputers (see Table 37).

Table 37

Type of Microcomputers as Reported by Office Support Personnel and Managers

Microcomputer	Type of Respondent	Currently Used Frequency	%
Apple Macintosh	OSP	2	2
	Manager	2	2
Apple Power Mac	OSP	3	2
	Manager	2	2
IBM	OSP	23	19
	Manager	37	31
Dell	OSP	4	3
	Manager	7	6
Gateway	OSP	9	7
	Manager	9	7
Compaq	OSP	72	59
	Manager	65	54
Acer	OSP	23	19
	Manager	38	32
Other	OSP	19	15
	Manager	27	22

The use of microcomputers as reported by office support personnel and

managers. This question yielded two cells with expected frequencies of less than 5, therefore using chi-square analysis is unreliable to test the difference in the use of microcomputers between OSP and managers. Almost all (98% of OSP and 99% of managers) reported the use of microcomputers (see Table 38).

Table 38

Use of Microcomputers as Reported by Office Support Personnel and Managers

Microcomputers	OSP		Manager		Total	%
	Frequency	%	Frequency	%		
Yes	122	98	120	99	242	99
No	2	2	1	1	3	1
Total	124	100	121	100	245	100

Printers

Type of printers used by office support personnel. Respondents who were using printers were asked to report the specific type of printers they use. Respondents indicated that all of the different listed printers are used by OSP in at least some Bahraini financial institutions. Nearly 90% or more of both OSP and managers reported that OSP use laser printers. The only printer type mentioned by respondents in the “other” category was color printer (see Table 39).

Table 39

Type of Printer Used as Reported by Office Support Personnel and Managers

Printers	Type of Respondent	Currently Used Frequency	%
Dot Matrix	OSP	26	21
	Manager	41	34
Laser	OSP	111	89
	Manager	114	94
Ink Jet	OSP	39	31
	Manager	57	47
Other	OSP	3	2
	Manager	4	3

Use of printers as reported by office support personnel and managers. This question yielded two cells with expected frequencies of less than 5, therefore using chi-square analysis is unreliable to test the difference in the use of printers. All of the respondents (100% of OSP and managers) reported OSP use of a printer to carry out their job responsibilities (see Table 40).

Table 40

Use of printers as Reported by Office Support Personnel and Managers

Printers	OSP		Manager		Total	%
	Frequency	%	Frequency	%		
Yes	124	100	121	100	245	100
No	0	0	0	0	0	0
Total	124	100	121	100	245	100

Records Management

Records Management Methods Used by Office Support Personnel.

Respondents who were using records management were asked to report the type of records management method they use. Respondents indicated that all of the listed

methods are being used by OSP to carry out their responsibilities in at least some Bahraini financial institutions. The disk storage method received the highest frequency. Sixty percent of OSP and 70% of managers indicated that OSP use disk storage as a method of filing. Records management methods mentioned by respondents in the “Other” category were hard copies/box files, microfiche, cabinets, magnetic tapes, and in-house customized records management systems (see Table 41).

Table 41

Records Management Methods as Reported by Office Support Personnel and Managers

Records Management	Type of Respondent	Currently Used Frequency	%
Microfilm	OSP	35	46
	Manager	38	54
Aperture Cards	OSP	1	1
	Manager	1	1
Disk Storage Records	OSP	46	60
	Manager	49	70
Other	OSP	6	8
	Manager	6	8

Chi-square Analysis of Records Management Methods as Reported by Office

Support Personnel and Managers. The chi-square analysis showed no significant difference between the response patterns of OSP and managers in the use of records management. Just under two-thirds of OSP (65%) and managers (59%) reported the use of records management (see Table 42).

Table 42

Chi-square Analysis of Use of Records Management as Reported by Office Support Personnel and Managers

Use of Records Management	OSP		Manager		Total	%
	Frequency	%	Frequency	%		
Yes	76	65	70	59	146	62
No	41	35	48	41	89	38
Total	117	100	118	100	235	100

Chi square = .793

p = .373

Reprographic Equipment

Reprographic equipment used by office support personnel. Responses on reprographic equipment indicated that all of the listed reprographic equipment was used by OSP in at least some Bahraini financial institutions. Photocopiers received the highest frequency. All OSP (100%) and almost all managers (97%) indicated that OSP use photocopiers to carry out their tasks. Reprographic types mentioned by respondents in the “other” category were paper port, imaging, and real integrated systems (see Table 43).

Table 43

Type of Reprographic Equipment as Reported by Office Support Personnel and Managers

Reprographics	Type of Respondent	Currently Used Frequency	%
Photocopiers	OSP	109	100
	Manager	109	97
Phototypesetting	OSP	3	3
	Manager	9	8
Other	OSP	3	3
	Manager	4	3

Chi-square analysis of reprographic equipment as reported by office

support personnel and managers. The chi-square analysis showed no significant difference between the response patterns of OSP and managers in the use of reprographic equipment. Almost all of the OSP (91%) and managers (93%) reported the use of reprographics equipment by OSP to carry out their job tasks (see Table 44).

Table 44

Chi-square Analysis of Use of Reprographic Equipment as Reported by Office Support Personnel and Managers

Use of Reprographics	OSP		Manager		Total	%
	Frequency	%	Frequency	%		
Yes	109	91	112	93	221	92
No	11	9	9	7	20	8
Total	120	100	121	100	241	100

Chi square = .237

p = .627

Electronic Communication

Electronic communication used by office support personnel. Respondents who were using electronic communication were asked to report the specific types of electronic communication they use. Respondents indicated that each of the listed electronic communication vehicles was used by OSP in at least some Bahraini financial institutions. Telephone received the highest frequency as a method of electronic communication. Almost all (94%) of OSP and a large percentage (88%) of managers indicated that OSP use the telephone to carry out their job tasks. The only electronic communications vehicle mentioned by respondents in the “other” category was Microsoft NetMeeting (see Table 45).

Table 45

Type of Electronic Communication as Reported by Office Support Personnel and Managers

Electronic Communication	Type of Respondent	Currently Used Frequency	%
Electronic Mail	OSP	81	67
	Manager	101	88
Teleconferencing	OSP	37	30
	Manager	39	34
Internet	OSP	66	54
	Manager	76	66
WAN/LAN	OSP	38	31
	Manager	51	44
Telephone	OSP	114	94
	Manager	101	88
Other	OSP	8	7
	Manager	10	9

Use of electronic communication as reported by office support personnel and

managers. This question yielded two cells with expected frequencies of less than 5, therefore using chi-square analysis is unreliable to test the difference in the use of electronic communication between OSP and managers. Almost all of the respondents in both groups (OSP 100% and managers 96%) reported the use of electronic communication (see Table 46).

Table 46

Use of Electronic Communication as Reported by Office Support Personnel and Managers

Use of Electronic Communication	OSP		Manager		Total	%
	Frequency	%	Frequency	%		
Yes	121	100	115	96	236	98
No	0		5	4	5	2
Total	121	100	120	100	241	100

Level and Source of Education

Secondary Question Three: What are the minimum educational requirements and the sources for entry-level office support candidates?

This question was directed to the managers in order to investigate the level of education required and the educational sources they prefer when hiring OSP. The purpose of this is to help the University of Bahrain better prepare students with their degree, and to investigate which educational sources compete with the UOB. The analysis showed that both by type and size of financial institution, the two-year certificate was rated the highest as a requirement for entry-level OSP positions, followed by high school, then four-year, and three-year diplomas. A master's degree was in least demand (see Table 47).

Among educational sources from which Bahraini financial institutions obtain their OSP, the University of Bahrain ranked first, then private schools, followed by high schools and other (see Table 48).

Opportunities for initial employment and future advancement are likely to be better for applicants with an educational background that includes two or more years of college secretarial studies/office management programs.

Table 47

Minimum Level of Education Required for Entry-Level Office Support Personnel by Type and Size of Financial Institution

Type of Degree	Type of Financial Institution						Size of Financial Institution					
	FCB		OB		IB		Other		S		M	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
High School	7	28	8	22	4	17	14	39	25	34	2	8
Two year certificate	10	40	14	39	6	26	6	17	19	26	11	44
Three year diploma	4	16	6	17	3	13	5	14	10	14	4	16
Four year B.Sc.	2	8	5	14	6	26	6	17	11	15	4	16
Master	1	4	1	3	2	9	4	11	3	4	3	12
Other	1	4	2	5	2	9	1	3	5	7	1	4
Total	25	100	36	100	23	100	36	100	73	100	25	100
											28	100

Note:

FCB = Full Commercial Bank, OB = Offshore Bank, IB = Investment Bank,

S = Small Bank, M = Medium Bank, L = Large Bank

Source of Education Required for Entry-Level Office Support Personnel by Type and Size of Financial Institutions

Note:

FCB = Full Commercial Bank, OB = Offshore Bank, IB = Investment Bank,
S = Small Bank, M = Medium Bank, L = Large Bank
UOB = University of Bahrain

Summary and Discussion of Chapter Findings

The purpose of this section is to summarize and discuss the findings presented in the chapter. The organization of this section is as follows: (a) respondents' demographics data, (b) office automation competencies needed for entry-level OSP, (c) software applications used by OSP, (d) automated office equipment used by OSP, and (e) educational requirements and sources for entry-level OSP.

Respondents' Demographics Data

Respondents in this study consisted of two groups: managers who supervise office support personnel and office support personnel with the job title classifications of secretary, senior/divisional secretary, executive assistant, administrative assistant, executive secretary, and personal assistant. These respondents were identified as employees who worked in any of the four types of Bahraini financial institutions (full commercial banks, offshore banks, investment banks, and others). Males were the overwhelming majority in managerial positions (86%) and females were the overwhelming majority in OSP positions (90%). This is consistent with Marino (1992), Atiba-Davies (1994), and Redmann et al's (1998) findings that a majority (85% - 95%) of OSP respondents in their studies were female. McEwen (1998) stated that office education programs continue to attract more female students than males. In this study, it appears that the gender of the respondents does not vary substantially across the four types of financial institutions. About half (132 or 53%) of both genders work in small banks. One-fourth of both gender of respondents work in medium-sized banks (63 or 26%) and less than one-fourth (52 or 21%) of both genders work in large financial institutions.

More than a third of the office support personnel who responded to this survey indicated they held the job title “secretary” (47 or 38%), and more than another third responded as “executive secretary” (44 or 35%). This indicates that the titles “secretary” and “executive secretary” are the two most common titles used for OSP in Bahraini Financial Institutions.

About half (64 or 51%) of the OSP respondents hold three-year college degrees. Almost two-thirds of these respondents (39 or 61%) specialized in Office Management. Overall, almost half of the total respondents (60 or 48%) are graduates of the Department of Office Management – University of Bahrain . The rest (52%) received their degrees from different sources such as high school, private institution, or from overseas. This indicates that there is a great demand for graduates from the Department of Office Management at the University of Bahrain. Experience levels ranged from less than a year to over 11 years. About half of all respondents (125 or 51%), which consisted of 54 managers (57%) and 71 OSP (44%), reported they had been working with the same financial institution for five years or less.

Office Automation Competencies Needed for Entry-Level Office Support Personnel

The primary research question asked what are the office automation competencies needed by entry-level office support personnel and is there a difference in the competencies when analyzed on the basis of type of respondent (OSP and managers), size of financial institution and type of financial institution. The 47 office automation competencies (dependent variables) were divided into six categories: database competencies, general office automation competencies, presentation/graphics competencies, spreadsheet competencies, windows operating system competencies, and

word processing competencies. Analysis of variance and Tukey HSD procedures were computed to determine the significant differences among the three groups (independent variables): type of respondent, type of financial institution and size of financial institution for only some of the competencies. Analysis of variance was computed for each of the 47 competencies. 23 (48%) yielded statistically significant differences for the three categories.

The rating system used to indicate the level of importance of office automation competencies for entry-level OSP positions as indicated by OSP and Managers is as follows: very important, important, somewhat important and not important. In analyzing the data, the first two responses denoted competencies that were required for entry-level employment. The third rating was considered neutral because this rating did not indicate a requirement or non-requirement for employment. The last rating indicated that the competency was not required for entry-level employment. For the purpose of analyzing the data, very important and important will be considered to be requirements for entry-level employment. When a total of 60% or more of the total respondents rated the competency to be very important or important, it was considered a requirement for entry-level employment of OSP. As for the level of importance as a required competency for entry-level OSP positions, a mean of 2.50 or above is considered important, because a mean of 2.50 is at a point somewhere between important and somewhat important.

In summary, the researcher was interested in what competencies are important as perceived by respondents and whether type of respondent, type of financial institution or size of financial institution yielded different expectations about the competencies required for entry-level OSP positions. However, for the 11 significant main effect

differences that were found, only one main effect was for type of respondent.

Therefore, the researcher interprets that both OSP and managers give an almost equal rating of importance to the competencies for entry-level OSP positions. Two main effects were found for size of financial institution and eight for type of financial institution. Therefore, an entry-level OSP would see little or no variation among requirements between different types and sizes of financial institution.

However, when categorizing the responses by type of financial institution and size of financial institution, and as a result of the 21 interactions found, it seems that interaction between type and size of financial institution influences the decision on the required competencies for entry-level OSP positions. About 50% of the 21 interactions were for the category “general office automation competencies.” When six categories of office automation competencies were analyzed, the independent variables of size and type of financial institution influenced the respondents’ ratings of the competencies needed for entry-level OSP positions. Large “other” financial institutions were responsible for the majority (75%) of significant interactions in the importance of competencies. Larger “other” financial institutions gave more favorable responses regarding the following competencies: print report; use photocopier; use facsimile; use voice mail; use e-mail; use internet; knowledge of teleconferencing and video conferencing; create and edit text and charts; add clip art; use drawing tools; use masters, templates and wizards, import graphs, charts, text or table from other software programs; and work with graphs and data. The researcher assumes that larger other financial institutions need to use more new technology and, therefore, place more importance on new technology competencies. According to Batcha and Kunar (1998), the Internet and

electronic communication resulted in the traditionally paper and forms intensive office adapting technology to streamline many processes which are submitted and received electronically, resulting in faster, cheaper and paperless processes.” Also, large “other” financial institutions may have managers who enjoy experiencing new technology and equipment, plus they possess the in-house intellectual capital necessary to implement appropriate new technology in their day-to-day operations. This may also explain why large banks develop their own software.

The researcher noted similar findings emphasizing the six categories studied in this research: (a) PSI’s Personnel Report for the Professional Secretaries (1997) stated that necessary competencies for entry-level OSP include mastery of computer word processing, spreadsheets, presentation graphics, databases, desktop publishing, and online services. Ramey and Barton (1998) stated, “The office professional is expected to know word processing, spreadsheets, databases, presentations, scheduling, and communications software” (p. 97); Kerka (1995) noticed in addition to word processing, support staff now deal with faxes, voice mail, e-mail, local area networks, desktop publishing, spreadsheets, and databases.

As a result of this study and a search of previous studies, it can be assumed that the competency related to each category is important and required. Since there is very little difference between respondent groups in the importance ratings, maintaining almost all competencies included in the six categories does appear to be necessary. Thus, there should be one set of outcomes for all types and sizes of financial institution, rather than seven sets of outcomes.

Software Applications Used by Office Support Personnel

Secondary research question one asked what software applications are used by OSP and whether OSP and managers report a difference in the use of software applications. In an effort to provide information concerning content areas to be included in the OM curriculum at the UOB, this research question sought to determine what software applications Bahraini financial institutions utilize. The researcher was interested in which specific software applications were used in each setting. For the purpose of this study, the frequency distribution of current software use by OSP respondents was factored into the requirements for hiring entry-level OSP.

The data gathered from this question was analyzed and reported in the following sequence: (a) Frequency distribution reports on the second part regarding each specific software package. Frequencies were run rather than chi-square on this second part of the questions because the numbers were too small for individual questions to achieve statistically meaningful/conclusive results; (b) Chi-square tests on the first part (use of software applications by respondent type for 11 software application types—accounting, calendaring and scheduling, database, desktop publishing, forms processing, graphics/presentation, internet, speech recognition, spreadsheets, word processing, and workflow. It should be noted that software applications rated at an average of 50% or above in terms of current use by OSP will be considered as requirements for entry-level OSP positions.

While no chi-square tests were reported on software application used, it appears from frequency table reports that both OSP and managers generally agree on the specific

software packages currently used by OSP in Bahraini financial institutions. The results of the chi-square analysis, which examined differences between OSP and managers at the .05 level for the use of software by OSP, showed a significant difference only for database software. For database applications, managers reported use at a higher rate than did OSP. More than half of both respondent types indicated that the following software applications were used by OSP: graphics/presentation, Internet, calendaring and scheduling. For spreadsheets and word processing, almost all respondents in both groups indicated the use of software.

Responses on the 11 software applications indicated that all of the software packages listed are used by OSP in at least some Bahraini financial institutions. Also, the two respondent groups showed an agreement on the most popular software packages within each application type. The overall survey results indicate that almost all OSP use computers on the job. This indicates that knowledge of software applications is important to perform OSP functions and is consistent with Wiggs et al (1998), where respondents rated computer software applications as very beneficial for office support job success. From those OSP who are using software and the managers who indicated that their OSP used the software, the following ranking of software application usage can be derived: (a) Word processing software, with 98% of OSP and 100% of managers; (b) Spreadsheet software, with 96% of OSP and 99% of managers; (c) Graphics/presentation software, with 75% of OSP and 81% of managers; (d) Database software, with 64% of OSP and 77% of managers; (e) Internet software, with 59% of OSP and 71% of managers; (f) (g) Calendaring and scheduling software, with 56% of OSP and 53% of managers; (h) Accounting software, with 43% of OSP and 56% of managers; (i)

Desktop publishing software, with 35% of OSP and 44% of managers; (j) Forms processing software, with 36% of OSP and 37% of managers; (k) Workflow software, with 32% of OSP and 38% of managers; (l) Speech recognition software, with 20% of OSP and 13% of managers. Form processing, workflow, speech recognition, and desktop publishing software rated the lowest and this is due to the above software applications being considered newer technology. PSI's online news release (August 1997) reported similar usage ratings as this study for several categories: word processing (98.8%), spreadsheets (89.3%), presentation/graphics (73.1%), database (58.2%), desktop publishing (30.3%) and online services (53.2%). In addition, the respondents appear to be using the industry leaders in each software application category. These are: Microsoft Excel for accounting, database and spreadsheet applications; Microsoft Outlook for calendaring and scheduling applications; Harvard Graphics for desktop publishing and form processing applications; Microsoft PowerPoint for graphics/presentation applications; Microsoft Internet Explorer for internet applications; Microsoft Voice for speech recognition; Microsoft Word for word processing; and Microsoft Project for workflow software. McEwen (1998) found that the greatest software training needs were: Microsoft Access, and Microsoft Excel. A report on PSI's membership profile (1997 or 98), was consistent with this study in rating the highest brands: Microsoft Word for word processing, Microsoft Excel for spreadsheets, Microsoft Access for database management , and Microsoft PowerPoint for graphics. Table 49 summarizes the most popular software applications used by OSP.

Table 49

Use of Software Packages and Specific Software Applications as Reported by at least 25% of Office Support Personnel or Managers

Software Applications Used By 25% and above of Respondents	OSP		Managers	
	Frequency	%	Frequency	%
ACCOUNTING SOFTWARE	53	41	67	54
Microsoft Excel	26	49	43	64
CALENDARING SOFTWARE	64	56	63	53
Microsoft Project	16	25	19	30
Microsoft Scheduler	16	25	17	27
Lotus Organizer	27	42	24	38
Microsoft Outlook	30	47	24	38
DATABASE SOFTWARE	75	64	93	77
Lotus Approach	21	28	25	27
Microsoft Access	51	68	67	72
DESKTOP PUBLISHING SOFTWARE	42	35	51	44
Pagemaker	...	...	16	31
Harvard Graphics	21	50	23	45
FORM PROCESSING SOFTWARE	41	36	42	37
Harvard Graphics	24	58	27	64
Forms Tools	14	34	...	...
GRAPHIC/PRESENTATION SOFTWARE	89	75	96	81
Harvard Graphic	23	26	26	27
Microsoft PowerPoint	82	92	83	86
Lotus Freelance	...	...	29	30
INTERNET SOFTWARE	72	59	83	71
Netscape Navigator	36	50	51	61
Microsoft Internet Explorer	48	67	58	70

TABLE 49 Continued

Software Applications Used By 25% and Above of Respondents	OSP		Managers	
	Frequency	%	Frequency	%
SPEECH RECOGNITION SOFTWARE	24	20	15	13
Microsoft Sound Recorder	8	33	...	...
MS Voice	11	46	4	27
SPREADSHEETS SOFTWARE	119	96	119	99
Lotus 1-2-3	41	34	53	44
Microsoft Excel	114	96	113	95
WORD PROCESSING SOFTWARE	122	98	119	100
Microsoft Word	119	97	115	97
WORKFLOW SOFTWARE	38	32	44	38
Microsoft Project	15	39	22	50
Novel GroupWise	19	50	12	27
Microsoft Exchange	14	37	14	32

Empty cells = Less than 25% reported the use of specific software application

All of the software applications, with the exception of form processing, workflow, speech recognition and desktop publishing software, were rated at 50% or above in terms of current use by OSP in financial institutions in Bahrain. Significant majorities were reported for word processing, spreadsheets and graphics/presentations; this is because word processing is considered the most common software application used by OSP, who appear to be using text-processing technology to do traditional tasks such as document production. Spreadsheets are also considered essential for banking services, since they are designed primarily for numeric activities (Simon, 1996). By using other software applications such as databases, spreadsheets, graphics, and internet in addition to word processing, OSP are demonstrating that there is a demand for those skills in the future and they should be included in the OM curriculum. Employers today are looking for

workers who have broader and deeper education than in the past so that the employees can adjust to changing skill requirements. Given the continual revisions and innovations to hardware and software, employees and employers must be well-trained in order to update their knowledge to effectively use the various software and hardware in the workplace.

Overall, there was no major difference between the OSP and manager respondents in indicating the utilization of software by OSP in financial institutions in Bahrain. For some of the software applications, where managers' ratings were slightly higher than OSP, it may be that these competencies are management-related technologies, but managers think that their OSP need to use them as well. Or managers may be requiring their OSP to have this skill and see it is important. It should be noted that the use of specific software packages is not standardized in financial institutions. For instance, some use commercially available software while others create their own "in-house" applications. Basically, the University of Bahrain could never fulfill all of the requirements for teaching every type of system or software in use, since there is no standardized set of software packages for all financial institutions. Experience with software categories, such as spreadsheets or databases, may be more important than having used a specific package because packages change. Since not all software is taught in school, transfer of skills is more important.

As a result of this study and a search of previous studies, it can be assumed that all of the main eleven software categories are important and should be required, even those that received lower ratings such as workflow, speech recognition, and form processing software. The Department of Office Management at the University of

Bahrain should emphasize these 11 categories of software and prepare students with essential skills in each, rather than emphasizing specific software packages when preparing prospective OSPs, since the skills they learn will apply to all packages within the categories (accounting software, database software, desktop publishing software, form processing software, graphics/presentation software, internet software, speech recognition software, spreadsheets software, word processing software and, workflow software).

Automated Office Equipment Used by Office Support Personnel

Secondary research question two asked what automated office equipment/hardware is used by OSP and whether office support personnel and managers report a difference in the use of automated office equipment/hardware. In response to research question number two, the researcher ran frequency distribution and a Chi-square test on five groups of currently used automated office equipment/hardware—microcomputer, printers, records management, reprographic equipment, and electronic communications. These data were compared based on type of respondent (OSP and managers). For the purposes of this study, “currently using” responses are considered to be requirements for hiring entry-level OSP. The researcher was also interested in which specific automated office equipment was used in each setting. The frequency distribution of current automated office equipment in use by OSP respondents was factored into the requirements for hiring entry-level OSP. It should be noted that automated office equipment/hardware rated at an average of 50% or above in terms of current use by OSP was considered a requirement for entry-level OSP positions.

The researcher was interested in what specific automated office equipment was used by OSP to carry out their responsibilities in Bahraini financial institutions, as reported by both OSP and Managers. While no chi-square tests could be run on automated office equipment used, it appears from frequency table reports that both OSP and managers generally agree on the specific automated equipment currently used by OSP in Bahraini financial institutions. For each of the five automated office equipment categories, almost all of the respondents in both groups indicated yes for the use of the equipment, except for records management which had a less overwhelming response, but still a majority indicated “yes.”

On the whole, the two respondent types agreed on the automated office equipment that is currently used in the five groups and their use can be ranked as follows: (a) Printers, with 100% of OSP and 100% of managers indicating use; (b) Microcomputers, with 98% of OSP and 100% of managers indicating use; (c) Electronic communication, with 100% of OSP and 96% of managers indicating use; (d) Reprographics, with 91% of OSP and 92% of managers indicating use; and (e) Records management, with 65% of OSP and 59% of managers indicating use. It appears that all five categories of automated office equipment were important enough to be integrated into the UOB’s OM curriculum. Overall, the respondents appear to be utilizing the leading types of automated office equipment. These are: (a) Compaq microcomputers; (b) Laser printers; (c) Disk storage records; (d) Photocopiers; and (e) Telephone and electronic mail. This is consistent with the study by IAAP (1997) profiling PSI’s membership, where a majority of respondents rated the leading types of automated equipment used by secretaries as: IBM-compatible computers, followed by laser printer, telephone, and photocopier.

Also, results show that the two respondent groups agree on the most popular specific types of hardware and equipment. Table 50 summarizes the most popular automated office equipment for use by OSP.

Table 50

Use of Automated Office Equipment and Specific Type of Equipment as Reported by At Least 25% of Either Office Support Personnel or Managers.

Automated Office Equipment Used By 25% or More of Respondents	OSP		Managers	
	Frequency	%	Frequency	%
MICROCOMPUTERS	122	98	120	99
IBM	...	...	37	31
Compaq	72	59	65	54
Acer	...	...	38	32
PRINTERS	124	100	121	100
Dot Matrix	...	...	41	34
Laser	111	89	114	94
Ink Jet	39	31	57	47
RECORDS MANAGEMENT	76	65	70	59
Microfilm	35	46	38	54
Disk Storage	46	60	49	70
REPROGRAPHIC EQUIPMENT	109	91	112	93
Photocopier	109	100	109	97
ELECTRONIC COMMUNICATION	121	100	115	96
Electronic Mail	81	67	101	88
Teleconferencing	37	30	39	34
Internet	66	54	76	66
WAN/LAN	38	31	51	44
Telephone	114	94	101	88

Empty cells = Less than 25% reported the use of specific type of automated office equipment.

There was no major difference between the OSP and manager respondents in indicating the utilization of automated office equipment by OSP in financial institutions in Bahrain. It should be noted that, as with software, the use of specific automated office

equipment types is not standardized in financial institutions. Therefore, the University of Bahrain could never fulfill all of the requirements for particular types of systems or equipment, since there is no standardized automated equipment for all financial institutions. Experience with automated office equipment categories such as microcomputers, printers, records management methods, and electronic communication equipment, however, may be more important than having used a specific type of equipment because specific types of equipment change. Because not all types/brands of automated office equipment are taught in school, the transfer of skills is more important. As a result of this study and a search of previous studies, it can be assumed that all of the five categories of automated office equipment listed are important and are required for entry-level OSP positions. D. C. Henry (1994) found that office equipment including the computer, telephone, facsimile and photocopier must be part of the training of secretarial/office administrator students at the college level. Therefore, the Department of Office Management at the University of Bahrain should emphasize these five categories of automated office equipment and prepare students with essential skills in each, rather than emphasizing specific types of equipment when preparing prospective OSP since their essential skills will apply to all types of equipment within the categories of microcomputers, printers, records management, and electronic communication equipment.

Educational Requirements and the Sources for Entry-Level Office Support Personnel

Secondary research question three asked what the minimum educational requirements and sources for entry-level office support candidates are. This question was directed to the managers in order to investigate the level of education required and

the educational sources they prefer when hiring OSP. The purpose of this is to help the University of Bahrain better prepare students with their degree, and to investigate which educational sources compete with the UOB. The analysis showed that both by type and size of financial institution, the two-year certificate was in highest demand, followed by high school, then four-year, and three-year diplomas. A master's degree was in the least demand. This is consistent with Wiggs et al's (1998) study which examined educational needs for various office supports positions. The largest number of respondents agreed a 2-year college degree is the minimum needed to get a job and a 4-year degree in office management has the highest potential for promotion. Opportunities for initial employment and future advancement are likely to be better for applicants with an educational background that includes two or more years of college secretarial studies/office management programs, and secondary school students need more preparation to be able to survive in today's technology-based office.

Regarding educational sources from which Bahraini financial institutions obtain their OSP, the University of Bahrain ranked first, then private schools, followed by high schools and other.

CHAPTER 5

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This chapter is organized into the following major components: (a) summary of purpose, statement of the problem, review of the literature, design and procedures, and findings of the study based on the data collected; (b) conclusions based on the findings for the primary and secondary research questions; and (c) recommendations for additional research in the problem area and program revisions based on the findings of the research.

Summary

The summary section of this study includes: purpose of the study and statement of the problem; review of the literature; design and procedures; and findings of the study based on the data collected.

Statement of the Problem and the Purpose of the Study

The quality of the Office Management program at the University of Bahrain (UOB) is often burdened by outdated instructional programs, which include competencies that later prove to be either irrelevant or outdated in the workplace. To date, there is no evidence of research conducted to identify the office automation competencies for entry-level employment of Bahraini OSP. This problem is exacerbated by the rapid development of computer technology and software applications. Therefore, the purpose of this study was to identify what office automation competencies OSP need to have for entry-level employment, thereby contributing to the development of a quality Office Management program at UOB. This also involved determining whether there are

significant differences in perceptions of necessary competencies between OSP and managers, and between different types and sizes of financial institutions.

In order to obtain the data to achieve the purpose of the study, the following primary and secondary questions were asked:

The primary question was:

What are the office automation competencies needed by entry-level office support personnel and is there a difference in office automation competencies needed by entry-level office support personnel when analyzed on the basis of type of respondent (office support personnel and managers), size of financial institution, and type of financial institution?

Secondary research questions were:

1. What software applications are used by office support personnel? Do office support personnel and managers report a difference in the use of software applications?
2. What automated office equipment/hardware is used by office support personnel? Do office support personnel and managers report a difference in the use of automated equipment/hardware?
2. What are the minimum educational requirements and the sources for entry-level office supports candidates?

Review of the Literature

The review of the literature and research for this study focused on the identification of office automation competencies and was divided into four sections: (a) historical background; (b) education in Bahrain; (c) office automation competencies; (d) the role of the office and office support personnel; and (e) office automation competencies and office support personnel.

The historical background section revealed that the structural shift in the economy and labor force in Bahrain has generated numerous trends and challenges, which in turn

have affected the educational system. Limited oil reserves encouraged the government to diversify and establish non-oil-based industries. This accelerated industrial development and created a need for expanded banking, commercial, hotel, investment and insurance services, which in turn opened the door for job opportunities and the need for training programs. This economic development has been accompanied by job opportunity expansion for women in various fields, among them office-related jobs.

The second part of the literature review discussed Office Automation competencies. Office automation is creating a new order in the office; OSP who possess office automation competencies can efficiently and effectively use and manage information resources in the office. In this information age, OSP must meet the challenge of new technology. Current technologies involved in the administration of most office functions--computer hardware and software, telecommunications and work design--will fuse into one supertechnology, which in turn will have a major effect on the role of the office.

The third part on the role of the office and office support personnel revealed that the office serves as the nerve center for businesses and other organizations, which have become strongly dependent on information systems. This has resulted in a change in the role of the OSP in the modern automated office; executives and staff rely on them to keep administrative operations under control and disseminate information to staff and clients in a timely manner.

Part four of the literature review looked at office automation and office support personnel. The role of OSP has changed dramatically to meet the challenges of the electronic office and the competitive global market. Employers have specific priorities

regarding entry-level requirements for office support personnel. Mainly, findings from the review of literature showed agreement on the following competencies as requirements for the entry-level OSP position: office automation related equipment, knowledge of telecommunications, on-line services, voice mail, e-mail, knowledge of software applications such as word processing, spreadsheets, database, graphics and desktop publishing, and records management. Although there is agreement on the competencies identified, several variables will affect the way in which these competencies are implemented. It is obvious that new competency studies need to be done on a continuous basis. For education/training to be targeted, competencies must match on-the-job requirements.

Design and Procedures

The populations for this research were: (a) Office Support Personnel, which includes any of the following job titles: secretary, administrative assistant, senior/divisional secretary, executive secretary, executive assistant, or personal assistant; and (b) managers who supervise one or more OSP in Bahraini Financial Institutions. A total sample of 260 of both OSP (130) and managers (130) was surveyed. Two questionnaires of identical format, except for the demographic part, were used to collect data. The first questionnaire was sent to OSP and the second questionnaire was sent to managers to investigate their perceptions regarding office automation competencies required for entry-level OSP positions.

A three-part survey questionnaire was developed to address research questions. The sections were: (A) Part I, background information; (B) Part II, 47 office automation competencies, classified into six groups--(a) database competencies; (b) general office

automation competencies; (c) presentation/graphics software competencies; (d) spreadsheet competencies; (e) windows operating systems competencies; and (f) word processing competencies; and (C) Part III consisted of two parts--(a) software used in the office, and (b) automated office equipment used in the office.

A total of 125 (96%) questionnaires from OSP and 122 (94%) questionnaires from managers were usable. Analysis of the data was determined by the specific questions to be answered: For the first part (respondent background), frequency counts and percentages were used to present a general profile of the persons in the study, as well as general information regarding OSP.

For the primary research question, which has two parts, a level of importance frequency was used for the first part to determine competencies required for entry-level OSP positions. When a total of 60% or more of the total respondents rated the competency to be very important or important, it was considered a requirement for the entry-level employment of OSP. For the second part of this primary question, analysis of variance was used to compare the perceptions of office support personnel and managers based on type and size of financial institution, regarding the 47 office automation competencies. A mean importance ranking of 2.50 or above is considered important as a competency for entry-level OSP positions, because a mean of 2.50 is at a point somewhere between important and somewhat important.

For the secondary research questions one and two, frequency distributions were used for the first part of both questions to determine what software applications and automated office equipment required for entry-level OSP positions. For the purpose of this study, the frequency distribution of only currently used software and automated

office equipment will be considered as a requirement for hiring entry-level OSP. For the second part of both questions, Chi-square testing was used to compare the perceptions of OSP and managers regarding part II (software applications) and part III (automated office equipment) of the questionnaire.

Descriptive statistics (frequency counts and percentages) were used to answer question four. This question focused on responses regarding minimum educational requirements and the sources for entry-level office support positions.

Findings of the Study

Respondents' Demographic Data.

Respondents in this study consisted of two groups: managers who supervise office support personnel and office support personnel with the job title classifications of secretary, senior/divisional secretary, executive assistant, administrative assistant, executive secretary, and personal assistant. These respondents were identified as employees who worked in any of the four types of Bahraini financial institutions (full commercial banks, offshore banks, investment banks, and others). Of the two groups of respondents, 125 were OSP and 122 were managers. Males were the overwhelming majority in managerial positions (86%) and females were the overwhelming majority in OSP positions (90%). About half (132 or 53%) of both genders work in small banks. Approximately one-fourth of both genders of respondents work in medium-sized banks (63 or 26%) and less than one-fourth (52 or 21%) of both genders work in large financial institutions. More than a third of the office support personnel who responded to this survey indicated they held the job title “secretary” (47 or 38%), and more than another third responded as “executive secretary” (44 or 35%). About half (64 or 51%) of the

OSP respondents hold three-year college degrees. Almost two-thirds of these respondents (39 or 61%) specialized in OM. Of the total respondents, 60 (48%) were graduates of the Department of OM – University of Bahrain (UOB). The remaining 52% received their degrees from different sources, such as high schools, private institutions, or from overseas. The length of employment of the respondents at their present financial institutions ranged from less than a year to over 11 years. About half of all respondents (125 or 51%), consisting of 54 (22%) managers and 71 OSP (29%), reported that they had been working with the same financial institution for five years or less.

Office Automation Competencies Needed for Entry-Level Office Support Personnel.

This primary research question sought to determine what the office automation competencies needed by entry-level office support personnel are and whether there is a difference in office automation competencies needed by entry-level office support personnel based on type of respondent (office support personnel or manager), size of financial institution, or type of financial institution. The researcher was interested in what competencies are important as perceived by respondents and whether type of respondent, type of financial institution or size of financial institution has an impact on different expectations for the competencies required for entry-level OSP positions.

The competencies that respondents from all types and sizes of financial institution in Bahrain agreed upon are: “Database Competencies:” create a database, enter data, format, edit, delete information and records, find and sort data; and print a report; “General Office Automation Competencies:” exercise safety precautions while operating office equipment, detect and report equipment malfunctions, use computer, use photocopier, use a facsimile, use voice mail, use e-mail, use calculator, use internet,

knowledge of teleconferencing and video conferencing; “Presentation/Graphics Software Competencies”: create and edit text, pie, bar and line charts, organize presentations, prepare and print information, create multi-page and multi-column documents, and import graphics, charts, text or tables from other software programs; “Spreadsheet Competencies”: enter and edit information, work with formulas and functions, edit worksheets, manage large worksheets, work with graphs and data; “Windows Operating System Competencies”: open and close multiple applications, use multiple applications, use file manager, delete files, move and copy files, save and retrieve files; and “Word Processing Competencies”: enter and edit information, create form letters and other merge documents, create headers and footers, create a main document; create and modify tables, use spell check, grammar check, thesaurus, and writing style program(s), and view, find, copy, rename, delete and sort files.

For the first independent variable (type of respondent - OSP and managers), only one significant main effect difference occurred where managers rated a competency (“enter data”) higher than the OSP. Four instances of two-way interaction occurred with size of financial institution, and one with type of financial institution. The competencies where significant findings occurred were: “enter data,” “format, edit, delete information and records,” “find and sort data,” “print a report,” and “working with formulas and functions.” A majority of the discrepancies were related to the category “database software competencies.”

For the second independent variable (type of financial institution - full commercial banks, offshore banks, investment banks, and other banks), eight instances of significant main effect difference occurred. The follow-up tests for three of these eight

were found not to be significant. The significant occurrences were primarily between the three main types of financial institutions (full commercial banks, offshore banks and investment banks), and in most of these, the highest rating was in the investment banks and offshore banks. Seventeen instances of two-way interactions occurred with size of financial institution, plus one interaction with type of respondent. The competencies that were found to be significant were: “create database,” “format, edit, delete information and records,” “find and sort data,” “print a report,” “use of photocopier,” “use of facsimile,” “use of voice mail,” “use of e-mail,” “use of calculator,” “use of internet,” “knowledge of teleconferencing and video conferencing,” “create and edit text and charts,” “add clip art,” “use of drawing tools,” “use of masters, templates, and wizards,” “importing graphics, charts, text or tables from other software programs,” “working with graphs and data,” “other Windows operating system competencies,” “creating a main document,” and “creating and modifying tables.” The majority of the above competencies fall under the categories: database, general office automation and presentation/graphics software competencies. For the above 21 significant competencies, respondents from offshore banks gave the highest ratings for 13 competencies, full commercial banks for five competencies and investment banks gave the highest ratings for only three competencies.

For the third independent variable (size of financial institution--small, medium or large), only two instances of significant main effect difference occurred. For one of them, the larger financial institution gave a higher rating for the competency “create multi-page and multi-column documents,” and for the second one, “import graphics, charts, text or table from other software programs,” no significant difference was found.

Nineteen instances of two-way interaction occurred between type of financial institution and size, with only two interactions between type of respondent and size of financial institution. The competencies that were found to be significant for all sizes of financial institutions are: “format, edit, delete information and records,” “find and sort data,” “print a report,” “use of photocopier,” “use of facsimile,” “use of voice mail,” “use of e-mail,” “use of calculator,” “use of internet,” “knowledge of teleconferencing and video conferencing,” “create and edit text and charts,” “add clip art,” “use of drawing tools,” “use of masters, templates, and wizards,” “creating multiple-page & multi-documents,” “importing graphics, charts, text or tables from other software programs,” “working with formulas and functions,” “working with graphs and data,” and “creating a main document.” As with the second variable (type of financial institution), a majority of the competencies mentioned above fall under the categories: database, general office automation, and presentation/graphics software competencies. For the above 21 significant competencies, respondents from all sizes of financial institution rated only three of them as not required. For the remaining 18, large financial institutions gave the highest rating for 14 of the competencies, small ones gave the highest rating for three competencies and medium-sized institutions gave only one competency the highest rating as an entry-level OSP requirement.

Software Applications Used by Office Support Personnel

Secondary research question one sought to determine what software applications Bahraini financial institutions utilize by asking office support personnel and managers what they use, and also whether OSP and managers report a difference in the use of

software applications. The researcher was interested in which specific software applications were used in each setting.

The result of the frequency counts show that the majority of both respondent types indicated that the following software applications were used by OSP: graphics/presentation, Internet, calendaring and scheduling. For the two software applications, spreadsheets and word-processing, most respondents in both groups indicated their use. Responses on the 11 software applications indicated that all of the software packages listed are used by OSP in at least some Bahraini financial institutions. From those OSP who are using software and the managers who indicated that their OSP used the software, the following ranking of software application usage can be derived: (a) Word processing software, with 98% of OSP and 100% of managers; (b) Spreadsheet software, with 96% of OSP and 99% of managers; (c) Graphics/presentation software, with 75% of OSP and 81% of managers; (d) Database software, with 64% of OSP and 77% of managers; (e) Internet software, with 59% of OSP and 71% of managers; (f) Calendaring and scheduling software, with 56% of OSP and 53% of managers; (g) Accounting software, with 43% of OSP and 56% of managers; (h) Desktop publishing software, with 35% of OSP and 44% of managers; (i) Forms processing software, with 37% of OSP and 39% of managers; (j) Workflow software, with 32% of OSP and 38% of managers; (k) Speech recognition software, with 20% of OSP and 13% of managers. Forms processing, workflow, speech recognition, and desktop publishing software rated the lowest.

Specific software packages that are currently used in Bahraini financial institutions as reported by at least 25% of either Office Support Personnel or Managers

are: for accounting software, Microsoft Excel; for calendaring and scheduling software, Microsoft Project, Microsoft Scheduler, Lotus Organizer and Microsoft Outlook; for database software, Lotus Approach and Microsoft Access; for desktop publishing, PageMaker and Harvard Graphics; for form processing software, Harvard Graphics and Forms Tools; for graphics/presentation software, Harvard Graphics, Microsoft PowerPoint and Lotus Freelance; for internet software, Netscape Navigator and Microsoft Internet Explorer; for speech recognition software, Microsoft Sound Recorder and MS Voice; for spreadsheet software, Lotus 1-2-3 and Microsoft Excel; for word processing software, Microsoft Word; and for workflow software, Microsoft Project, Novel GroupWise and Microsoft Exchange.

Of the 11 software application types (accounting, calendaring and scheduling, database, desktop publishing, forms processing, graphics/presentation, internet, speech recognition, spreadsheets, word processing, and workflow), the results of the chi-square analysis on the first part (requesting answers “yes” or “no”) showed a significant difference only for database software. Managers (77%) reported use at a higher rate than did OSP (64%). While no chi-square tests were reported on the second part of each of 11 questions requesting the selection of software applications used, it appears from frequency table reports that both OSP and managers generally agree on the specific software packages currently used by OSP in Bahraini financial institutions for all of the 11 software applications.

Automated Office Equipment/Hardware Used by Office Support Personnel

Secondary research question two sought to determine what automated office equipment Bahraini financial institutions utilize by asking OSP and managers what they

used and also whether OSP and managers report a difference in the use of automated office equipment.

Almost all (98% of OSP and 99% of managers) indicated the use of microcomputers by OSP to perform their job tasks. All of the respondents in both groups, OSP and managers, indicated OSP use of a printer to carry out their job responsibilities. Almost two-thirds of OSP and managers indicated the use of records management equipment. Almost all of the OSP (91%) and managers (93%) indicated the use of reprographics equipment by OSP to carry out their job tasks. In addition, all OSP respondents and 96% of managers reported the use of telecommunications equipment.

The following are the specific types of automated office equipment in use as reported by at least 25% of either office support personnel or managers: for “microcomputers,” IBM, Compaq, and Acer; for “printers,” dot matrix, laser, and ink jet; for “records management,” microfilm and disk storage; for reprographic equipment, photocopier; for “electronic communication,” electronic mail, teleconferencing, Internet, WAN/LAN, and telephone.

While no significant differences were reported as a result of chi-square tests on automated office equipment used, data from frequency tables show that both OSP and managers generally agree on the specific automated equipment currently used by OSP in Bahraini financial institutions. A high level of agreement between the two groups was rated with regard to use of automated office equipment. Generally, responses on the five categories of automated office equipment (microcomputer, printers, records management, reprographic equipment, and electronic communication), indicated that all of the specific

types listed are used by OSP in at least some Bahraini financial institutions. The two respondent groups agree on the most popular specific types of hardware and equipment.

Educational Requirements and Sources for Entry-Level Office Support Personnel Candidates

Secondary research question three asked what the minimum educational requirements and sources for entry-level office support positions are. This question was directed to the managers in order to investigate the level of education required and the educational sources they prefer when hiring OSP. Both by type and size of financial institution, the two-year certificate was in highest demand, followed by high school, then four-year, and three-year diplomas. A master's degree was in the lowest demand. Regarding educational sources from which Bahraini financial institutions obtain their OSP, the University of Bahrain ranked first, then private schools, followed by high schools and other.

Conclusions

Demographics/Background

The majority of OSP (90%) are female and the majority of managers (86%) are male across the four types and all sizes of financial institutions. Therefore, it appears that the gender of the respondents does not vary substantially across the four types and three sizes of financial institutions.

About half (132 or 53%) of both genders work in small banks. One-fourth of both genders of respondent work in medium-sized banks (63 or 26%) and less than one-fourth (52 or 21%) of both genders work in large financial institutions. The titles "secretary"

and “executive secretary” are the two most common titles used for OSP in Bahraini Financial Institutions.

There is a great demand for graduates from the Department of Office Management at the University of Bahrain; about half of the total respondents (60 or 48%) are graduates of the Department of Office Management – University of Bahrain (UOB). The remaining 52% received their degrees from different sources, such as high school, private institution, or from overseas. The length of employment of the respondents at their present financial institutions ranged from less than a year to over 11 years.

Office Automation Competencies Needed for Entry-Level Office Support Personnel

As a result of this study and a search of previous studies, it can be assumed that the competency related to each category is important and required across Bahraini financial institutions, since there is very little difference in importance ratings of competencies between respondents, regardless of size or type of financial institution. Almost all competencies included in the six categories do appear to be necessary.

It is concluded, based on the outcome of this study and as reported by the respondents (OSP and managers) at different types and sizes of financial institution in Bahrain, that the following required competencies for entry-level OSP be incorporated into the curriculum of the OM at the UOB:

1. “Database Competencies”--create a database, enter data, format, edit, delete information and records, find and sort data, and print a report;
2. “General Office Automation Competencies”--exercise safety precautions while operating office equipment, detect and report equipment malfunctions, use computer,

use photocopier, use a facsimile, use voice mail, use e-mail, use calculator, use internet, knowledge of teleconferencing and video conferencing;

3. "Presentation/Graphic Software Competencies"--create and edit text, pie, bar and, line charts, organize presentations, prepare and print information, create multi-page and multi-column documents, import graphics, charts, text or tables from other software programs;
4. "Spreadsheet Competencies"--enter and edit information, work with formulas and functions, edit worksheets; manage large worksheets, work with graphs and data;
5. "Windows Operating Systems Competencies"--open and close multiple applications, use multiple applications, use file manager, delete files, move and copy files, save and retrieve files;
6. "Word Processing Competencies"--enter and edit information, create form letters and other merge documents, create headers and footers, create a main document, create and modify tables, use spell check, grammar check, thesaurus, and writing style program(s), and view, find, copy, rename, delete and sort files.

For the 11 significant main effects, few differences were found. Only one main effect was found for type of respondent and two for size of financial institution. Eight main effects were found for type of financial institution. There appears to be no relationship between importance of competencies and type of respondent (OSP and managers). Because only one significant difference was found for the 47 competencies, we can interpret that both OSP and managers give an almost equal rating of importance to the competencies required for entry-level OSP positions. As for type and size of financial institution, an entry-level OSP would see little or no variation among the type

and size of financial institution. Larger “other” financial institutions gave a more favorable response regarding the competencies: print report; use photocopier; use facsimile; use voice mail; use e-mail; use internet; knowledge of teleconferencing and video conferencing; create edit text and charts; add clip art; use drawing tools; use masters, templates and wizards, import graphs, charts, text or table from other software programs; working with graphs and data. This may be due to large “other” financial institutions having the need to use more new technology.

Software Applications Used by Office Support Personnel

Overall, all of the software applications with the exception of forms processing, workflow, speech recognition and desktop publishing software were rated average or above in terms of current use by OSP in financial institutions in Bahrain. A significant majority reported use of word processing, spreadsheets and graphics/presentation software. This is because word processing is considered the most common software application used by OSP, since it appears that they are using text-processing technology to do traditional tasks such as document production. Spreadsheets are also considered essential for banking services since they are basically designed primarily for numeric activities (Simon, 1996). By using other software applications such as databases, spreadsheets, graphics, and the Internet, in addition to word processing, OSP have shown that there is demand for those skills and will be in future. Therefore, these skills should be included in the OM curriculum. Employers today are looking for workers who have broader and deeper education than in the past so that the employees can adjust to changing skill requirements. With continual upgrades and innovations to hardware and

software, employees and employers must be trained to keep their knowledge fresh and effectively use the various software and hardware in the workplace.

It should be noted that the use of specific software packages within each application is not standardized in financial institutions. Some used commercially available software, while others developed their own “in-house” applications. The University of Bahrain could never fulfill the requirements of teaching every type of system or software, since there is no standardized software for all financial institutions. Experience with software categories such as spreadsheets or databases, however, may be more important than having used a specific package. In fact, often by the time a student graduates from college, the software applications they have learned may have gone through many revisions. However, employers expect new employees to bring basic computer skills to the job. Because not all software is taught in school, the transfer of skills is increasingly important.

There was no major difference between the OSP and manager respondents in indicating the utilization of software by OSP in financial institutions in Bahrain. For some software, managers’ ratings were slightly higher than OSP. This may be because these competencies are management-related technologies, but they think that their OSP need to have them as well. Or, managers may be requiring their OSP to have these skills and see this as important.

As a result of this study and a search of previous studies, it is concluded that all of the eleven main software categories are important and should be required, even those that received lower ratings such as workflow, speech recognition, and form processing. The

researcher assumes that these software applications are considered newer technology and not yet integrated in many offices and that might have affected the respondent ratings.

Automated Office Equipment Used by Office Support Personnel

As a result of this study and a search of previous studies, it can be concluded that all five categories of automated office equipment listed (microcomputer, printer, records management, reprographic equipment and, electronic communication) are important and should be required for entry-level OSP positions.

There were no major differences between the OSP and manager respondents in indicating the utilization of the five categories of automated office equipment by OSP in financial institutions in Bahrain. It should be noted that the use of specific automated office equipment is not standardized in financial institutions. Therefore, the University of Bahrain cannot fulfill the requirement to teach every type of system or equipment, since there is no standardized automated equipment for all financial institutions. Experience with automated office equipment categories such as microcomputers, printers, records management systems, and electronic communications equipment, therefore, may be more important than having used a specific type of equipment. Also, often by the time a student graduates from college, the automated equipment they have learned may have gone through many upgrades. Of course, employers do expect new employees to bring basic automated office equipment skills to the job. Because not all types/brands of automated office equipment can be taught in school, transfer of skills is even more important.

Educational Requirements and Source for Entry-Level Office Support Personnel

The largest number of respondents agreed that a 2-year college degree is the minimum requirement to get a job. Opportunities for initial employment and future advancement are likely to be better for applicants with an educational background that includes two or more years of college secretarial studies/office management programs.

Recommendations

Based on the findings of this study and literature review, several recommendations are offered as a guideline for future research and UOB OM curriculum revision:

Program Recommendations

Based on the results of this study:

1. The UOB should revise its program to better keep pace with recent software and hardware developments and requirements in the workforce; this will result in program graduates commanding higher-paid entry-level jobs.
 - 1.a Almost all competencies included in the six categories do appear to be necessary. Thus, there should be one set of outcomes for all types and sizes of financial institution rather than seven sets of outcomes.
 - 1.b The Department of Office Management at the University of Bahrain should emphasize the 11 categories of software application types—accounting, calendaring and scheduling, database, desktop publishing, forms processing, graphics/presentation, internet, speech recognition, spreadsheets, word processing, and workflow in order to better prepare students with essential skills in each category,

rather than emphasizing any specific software packages when preparing prospective OSP.

1.c The Department of Office Management at the University of Bahrain should emphasize the five categories of automated office equipment—microcomputer, printers, records management, reprographic equipment, and electronic communication in order to better prepare students with essential skills in each, rather than emphasizing a specific type or brand of equipment when preparing prospective OSP.

2. Recent studies show that the Internet is now widely used for receiving information, sending and receiving files, marketing products and downloading software.

Therefore, it is recommended that the OM curriculum incorporate these Internet features and offer practical Internet training.

3. As a result of continuous changes in technology and the resulting adaptation that happens to OSP once they are on the job, the educator should put emphasis on concepts and transferability of skills rather than on specific skills when teaching office technology related courses.
4. OM instructors need to maintain a direct connection with business professionals to keep OM learning activities consistent with business needs.

Research Recommendations

1. Additional studies are needed for different industries to determine whether different industries use different software applications or automated office equipment, and, in turn, require a different skill set from their OSP.
2. When conducting research used as a basis for delivering office support programs; it is

essential to consider input from office support personnel in order for curricula to be more relevant and meet the needs of office support personnel.

3. Constant changes in computer hardware and software result in a demand from employers for office workers who possess skills and knowledge of new developments. Continuous research into new hardware and software, therefore, should be conducted on a larger scale and in different sectors. This will help the educational institution expand training offerings that are needed to fit office employees into the technologically based office.
4. Curriculum, specifically that related to technology, should be re-evaluated on an annual basis to assure that OM curricula reflect the skills that are currently needed in office support roles. Therefore, continuing studies similar to this one should be conducted on an annual basis.

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APPENDICIES

APPENDIX A

OFFICE SUPPORT PERSONNEL AND MANAGERS QUESTIONNAIRE

Office Automation Competencies Questionnaire

Managers Questionnaire

The purpose of this questionnaire is to gather information about the office automation competencies required of entry-level office support personnel. Because of your position as a manager of office support personnel, you are in the best position to help identify these competencies.

On the following pages, you will find a number of questions concerning your opinion about the job competencies required when hiring entry-level (new) office support personnel to fill positions within your organization. For the purpose of this survey, Office Support Personnel would include any of the following job categories: Secretary, Administrative Assistant, Senior/Divisional Secretary, Executive Secretary, Executive Assistant, or Personal Assistant. Please take some time from your busy schedule to complete the enclosed questionnaire.

Your assistance with this research will be appreciated. A self-addressed envelope is enclosed for your convenience. Please complete the questionnaire and hand it to your Human Resource Manager in a sealed envelope by July 4th 1998.

Position: _____

Financial Institution's Name: _____

Please check the box below if you would like a copy of the survey results.

☐ Copy of results requested.

PART I: Respondent Background Information

1. What is your gender? (Please check one.)
☐ (a) Male ☐ (b) Female
2. How long have you been employed with your current financial institution? (Please check one.)
☐ (a) Less than 1 year ☐ (c) 6-10 years
☐ (b) 1-5 years ☐ (d) Over 10 years
3. What is the minimum educational level for office support personnel at the entry level? (Please check one.)
☐ (a) High school graduate ☐ (d) Four-year degree
☐ (b) Two-year (certificate) ☐ (e) Master's degree
☐ (c) Three year degree ☐ (f) Other (Please specify) _____
4. In what type of financial institution do you work? (Please check one.)
☐ (a) Full commercial bank ☐ (f) Investment bank
☐ (b) Offshore banking ☐ (g) Foreign exchange & money brokerage
☐ (c) Money exchange ☐ (h) Investment advisory
☐ (d) Representative office ☐ (i) Other (Please specify) _____
☐ (e) Specialized bank
5. What is the total number of employees in your entire organization including branches in Bahrain only? (Please check one.)
☐ (a) 1-50 ☐ (d) 51-100
☐ (b) 101-200 ☐ (e) 201-300
☐ (c) 301-400 ☐ (f) Over 401
6. What is the total number of office support personnel employed by your entire organization including branches? (Please check one.)
☐ (a) Less than 5 ☐ (c) 11-20 ☐ (e) Over 50
☐ (b) 6-10 ☐ (d) 21 - 49
7. What are the educational sources for office support personnel at the entry-level? (Please check all that apply.)
☐ (a) Bahraini high schools ☐ (c) University of Bahrain
☐ (b) Bahraini private institutions and educational centers ☐ (d) Other (Please specify) _____

PART II: Entry-level office automation competencies for office support personnel

Please indicate your personal opinion about the degree of importance of each office automation competency when hiring entry-level (new) office support personnel at your financial institution.

Scale:

- 4 Very important - required competency to be hired.
 3 Important - Competency contributes to job performance.
 2 Somewhat important - not necessary to have the competency, but would be an asset.
 1 Not important - competency not required on the job.

Example:

Database Competencies	Very Important	Important	Somewhat Important	Not Important
1. Create a database	4	3	2	1
2. Enter data	4	3	2	1

Database Competencies	Very Important	Important	Somewhat Important	Not Important
1. Create a database	4	3	2	1
2. Enter data	4	3	2	1
3. Format, edit, delete information and records	4	3	2	1
4. Find and sort data	4	3	2	1
5. Print a report	4	3	2	1
6. Other (Please specify) _____	4	3	2	1

General Office Automation Competencies	Very Important	Important	Somewhat Important	Not Important
7. Exercise safety precautions while operating office equipment	4	3	2	1
8. Detect and report equipment malfunctions	4	3	2	1
9. Use computer	4	3	2	1
10. Use photocopier	4	3	2	1
11. Use a facsimile	4	3	2	1
12. Use voice mail	4	3	2	1
13. Use E-mail	4	3	2	1
14. Use calculator	4	3	2	1
15. Use internet	4	3	2	1
16. Knowledge of teleconferencing and video conferencing	4	3	2	1
17. Other (Please specify) _____	4	3	2	1

Presentation/Graphics Software Competencies	Very Important	Important	Somewhat Important	Not Important
18. Create and edit text, pie, bar, and line charts	4	3	2	1
19. Add clip art	4	3	2	1
20. Use drawing tools	4	3	2	1
21. Organize presentation	4	3	2	1
22. Prepare and print information	4	3	2	1
23. Use masters, templates, wizards	4	3	2	1
24. Create multi-page and multi-column documents	4	3	2	1
25. Import graphics, charts, text or tables from other software programs	4	3	2	1
26. Other (Please specify) _____	4	3	2	1

Spreadsheet Competencies	Very Important	Important	Somewhat Important	Not Important
27. Enter and edit information	4	3	2	1
28. Work with formulas and functions	4	3	2	1
29. Edit a worksheet	4	3	2	1
30. Manage large worksheets	4	3	2	1
31. Work with graphs and data	4	3	2	1
32. Other (Please specify) _____	4	3	2	1

Windows Operating System Competencies	Very Important	Important	Somewhat Important	Not Important
33. Open and close multiple applications	4	3	2	1
34. Use multiple applications	4	3	2	1
35. Use File Manager	4	3	2	1
36. Delete files	4	3	2	1
37. Move and copy files	4	3	2	1
38. Save and retrieve files	4	3	2	1
39. Other (Please specify) _____	4	3	2	1

Word Processing Competencies	Very Important	Important	Somewhat Important	Not Important
40. Enter and edit information	4	3	2	1
41. Create form letters and other merge documents	4	3	2	1
42. Create headers and footers	4	3	2	1
43. Create a main document	4	3	2	1
44. Create and modify tables	4	3	2	1
45. Use spell check, grammar check, thesaurus, and writing style program(s)	4	3	2	1
46. View, find, copy, rename, delete and sort files	4	3	2	1
47. Other (please specify) _____	4	3	2	1

PART III: Inventory of currently-used software and microcomputer hardware

Please check responses appropriate to your organization. Look at the list of automated office functions shown below. If your company does not use the software or item shown, check NO, then go to the next question. If your company uses the software, answer YES, then indicate whether your company is (1) currently using, (2) plans to use, (3) does not use, or (4) you do not know.

SOFTWARE USED IN THE OFFICEAccounting

1.a Do office support personnel use accounting software applications in your organization?

☐ YES ☐ NO

1.b If yes, what type of accounting software is predominantly used by office support personnel in your organization?

	Currently Using	Plan To Use	Do Not Use	Do Not Know
a. Quick Books	1	2	3	4
b. Great Plains	1	2	3	4
c. Microsoft Money	1	2	3	4
d. PeachTree	1	2	3	4
e. Quicken	1	2	3	4
f. Other (please specify) _____	1	2	3	4

Calendaring and Scheduling Software

2.a Do office support personnel use calendaring and scheduling software in your organization?

☐ YES ☐ NO

2.b If yes, what type of calendaring and scheduling software is predominantly used by office support personnel in your organization?

	Currently Using	Plan To Use	Do Not Use	Do Not Know
a. McAfee	1	2	3	4
b. Microsoft Project	1	2	3	4
c. Oracle Inter Office - Schedule	1	2	3	4
d. Groupwise	1	2	3	4
e. Norton System Agent	1	2	3	4
f. Microsoft Scheduler	1	2	3	4
g. Meeting Maker	1	2	3	4
h. Schedule Plus	1	2	3	4
i. Lotus Organizer	1	2	3	4
j. Microsoft Outlook	1	2	3	4
k. Other (please specify) _____	1	2	3	4

Database

3.a Do office support personnel use databases in your organization? ☐ YES ☐ NO

3.b If yes, what type of database software is predominantly used by office support personnel in your organization?

	Currently Using	Plan To Use	Do Not Use	Do Not Know
a. Lotus Approach	1	2	3	4
b. Microsoft Access	1	2	3	4
c. Paradox	1	2	3	4
d. FileMaker Pro	1	2	3	4
e. Other (please specify) _____	1	2	3	4

Desktop publishing

4.a Do office support personnel use desktop publishing applications in your organization? ☐ YES ☐ NO

4.b If yes, what type of desktop publishing software is predominantly used by office support personnel in your organization?

	Currently Using	Plan To Use	Do Not Use	Do Not Know
a. Framemaker	1	2	3	4
b. Pagemaker	1	2	3	4
c. Harvard Graphics	1	2	3	4
d. Corel Draw	1	2	3	4
e. Microsoft Publisher	1	2	3	4
f. Other (please specify) _____	1	2	3	4

Forms Processing Software

5.a Do office support personnel use forms processing software in your organization? ☐ YES ☐ NO

5.b If yes, what type of forms processing software is predominately used by office support personnel in your organization?

	Currently Using	Plan To Use	Do Not Use	Do Not Know
a. Harvard Graphics	1	2	3	4
b. Corel Draw	1	2	3	4
c. Oracle document management	1	2	3	4
d. Form tools	1	2	3	4
e. Form flow	1	2	3	4
f. Other (please specify) _____	1	2	3	4

Graphics/Presentation

6.a Do office support personnel use presentation software in your organization?
☐ YES ☐ NO

6.b If yes, what type of presentation software is predominantly used by office support personnel in your organization?

	Currently Using	Plan To Use	Do Not Use	Do Not Know
a. Authorware	1	2	3	4
b. Corel Draw	1	2	3	4
c. Harvard Graphics	1	2	3	4
d. Microsoft PowerPoint	1	2	3	4
e. Lotus Freelance	1	2	3	4
f. Corel Presentations	1	2	3	4
g. Other (please specify) _____	1	2	3	4

Internet

7.a Do office support personnel use Internet software in your organization? ☐ YES ☐ NO

7.b If yes, what type of Internet software is predominantly used by office support personnel in your organization?

	Currently Using	Plan To Use	Do Not Use	Do Not Know
a. Mosaic	1	2	3	4
b. Javasoftware	1	2	3	4
c. Oracle Power Browser	1	2	3	4
d. Netscape Navigator	1	2	3	4
e. Microsoft Internet Explorer	1	2	3	4
f. Other (please specify) _____	1	2	3	4

Speech recognition software

8.a Do office support personnel use speech recognition software in your organization?
☐ YES ☐ NO

8.b If yes, what type of speech recognition software is predominantly used by office support personnel in your organization?

	Currently Using	Plan To Use	Do Not Use	Do Not Know
a. Dragon Systems	1	2	3	4
b. Microsoft sound recorder	1	2	3	4
c. Inet Phone	1	2	3	4
d. Net 2 Phone	1	2	3	4
e. Video Phone	1	2	3	4
f. MS Voice	1	2	3	4
g. IBM voice recognition software	1	2	3	4
h. Other (please specify) _____	1	2	3	4

Spreadsheet

9.a Do office support personnel use spreadsheets in your organization? ☐ YES ☐ NO

9.b If yes, what type of spreadsheet software is predominantly used by office support personnel in your organization?

	Currently Using	Plan To Use	Do Not Use	Do Not Know
a. LOTUS 1-2-3	1	2	3	4
b. Quattro Pro	1	2	3	4
c. Microsoft Excel	1	2	3	4
d. Other (please specify) _____	1	2	3	4

Word Processing

10.a Do office support personnel use word processing software in your organization? ☐ YES ☐ NO

10.b If yes, what type of word processing software is predominantly used by office support personnel in your organization?

	Currently Using	Plan To Use	Do Not Use	Do Not Know
a. Corel Word Perfect	1	2	3	4
b. Microsoft Word	1	2	3	4
c. Microsoft Works	1	2	3	4
d. Note Pad	1	2	3	4
e. Lotus Word Pro	1	2	3	4
f. Lotus Amipro	1	2	3	4
g. Other (please specify) _____	1	2	3	4

Workflow software

11.a Do office support personnel use workflow software in your organization? ☐ YES ☐ NO

11.b If yes, what type of workflow software is predominantly used by office support personnel in your organization?

	Currently Using	Plan To Use	Do Not Use	Do Not Know
a. Oracle Interoffice-Workflow	1	2	3	4
b. Document management-Workflow	1	2	3	4
c. Microsoft Project	1	2	3	4
d. Lotus Notes	1	2	3	4
e. Novel GroupWise	1	2	3	4
f. Microsoft Exchange	1	2	3	4
g. Other (please specify) _____	1	2	3	4

HARDWARE USED IN THE OFFICE

Please look at the list of automated office functions shown below. If your company does not use the automated hardware or item shown, check the NO box and go to the next question. If your answer is YES, then indicate whether your company is (1) currently using, (2) plans to use (3) does not use, or (4) you do not know.

Microcomputer (PC)

- 12.a Do office support personnel use Personal Computers (PC) in your organization?
☐ YES ☐ NO

- 12.b If yes, what type of PCs are currently used by office support personnel in your organization?

	Currently Used	Plan To Use	Do Not Use	Do Not Know
a. Apple Macintosh	1	2	3	4
b. Apple Power PC	1	2	3	4
c. IBM	1	2	3	4
d. Dell	1	2	3	4
e. Gateway	1	2	3	4
f. Compaq	1	2	3	4
g. Acer	1	2	3	4
h. Other (please specify) _____	1	2	3	4

Printer

- 13.a Do office support personnel use printers in your organization? ☐ YES ☐ NO

- 13.b If yes, what type of printers are predominantly used by office support personnel in your organization?

	Currently Used	Plan To Use	Do Not Use	Do Not Know
a. Dot Matrix	1	2	3	4
b. Laser	1	2	3	4
c. Ink jet	1	2	3	4
d.. Other (please specify) _____	1	2	3	4

Records Management

- 14.a Do office support personnel use records management tools in your organization?
☐ YES ☐ NO

- 14.b If yes, what type of records management is predominantly used by office support personnel in your organization?

	Currently Used	Plan To Use	Do Not Use	Do Not Know
a. Microfilm	1	2	3	4
b. Aperture cards	1	2	3	4
c. Disk storage of records	1	2	3	4
d. Other (please specify) _____	1	2	3	4

Reprographic Equipment

15.a Do office support personnel use reprographic equipment in your organization?

☐ YES ☐ NO

15.b If yes, what type of reprographic equipment is predominantly used by office support personnel in your organization?

	Currently Used	Plan To Use	Do Not Use	Do Not Know
a. Photocopier	1	2	3	4
b. Phototypesetting	1	2	3	4
c. Other (please specify) _____	1	2	3	4

Electronic Communication

16.a Do office support personnel use electronic communications in your organization?

☐ YES ☐ NO

16.b If yes, what type of electronic communications equipment is predominantly used by office support personnel in your organization?

	Currently Used	Plan To Use	Do Not Use	Do Not Know
a. Electronic Mail	1	2	3	4
b. Teleconferencing	1	2	3	4
c. Internet	1	2	3	4
d. WAN/LAN	1	2	3	4
e. Telephone	1	2	3	4
f. Other (please specify) _____	1	2	3	4

Respondent's comment(s)

What other comments or suggestions do you have about the competencies, hardware and software needed by entry-level office automation office support personnel?

Thank you for your participation.

Office Automation Competencies Questionnaire

Office Support Personnel Questionnaire

The purpose of this questionnaire is to gather information about the office automation competencies needed when hiring office support personnel. Because of your position as a member of the office support personnel in your organization, you are the best person to talk about your position and to identify the office automation competencies needed when hiring office support personnel.

On the following pages, you will find a number questions concerning your opinion about the job competencies required when hiring entry-level (new) office support personnel to fill positions within your organization. For the purpose of this survey, Office Support Personnel would include any of the following job categories: Secretary, Administrative Assistant, Senior/Divisional Secretary, Executive Secretary, Executive Assistant, or Personal Assistant. Please take some time from your busy schedule to complete the enclosed questionnaire.

Your assistance with this research will be appreciated. A self-addressed envelope is enclosed for your convenience. Please complete the questionnaire and hand it to your Human Resource Manager in a sealed envelope by July 4th 1998.

Position: _____

Financial Institution's Name: _____

Please check the box below if you would like a copy of the survey results.

☐ Copy of results requested.

PART I: Respondent Background Information

1. What is your gender? (Please check one.)

☐ (a) Male

☐ (b) Female

2. What is your present title? (Please check one.)

☐ (a) Secretary

☐ (b) Senior/Divisional Secretary

☐ (c) Executive Assistant

☐ (d) Administrative Assistant

☐ (e) Executive Secretary

☐ (f) Personal Assistant

☐ (g) Other (Please specify) _____

3. What is the highest level of education you have attained? (Please check one and specify your major.)

☐ (a) Secondary education Specialization _____

☐ (b) Certificate Specialization _____

☐ (c) Diploma Specialization _____

☐ (d) Associate diploma Specialization _____

☐ (e) Bachelor's degree Specialization _____

☐ (f) Master's degree Specialization _____

☐ (g) Other (please specify) _____

4. How long have you been employed with your present organization? (Please check one.)

☐ (a) Less than 1 year

☐ (b) 1-5 years

☐ (c) 6-10 years

☐ (d) Over 10 years

5. In what type of financial institution do you work? (Please check one.)

☐ (a) Full commercial bank

☐ (b) Offshore banking

☐ (c) Money exchange

☐ (d) Representative office

☐ (e) Investment advisory

☐ (f) Specialized bank

☐ (g) Investment bank

☐ (h) Foreign exchange & money brokerage

☐ (i) Other (please specify) _____

PART II: Entry-level office automation competencies for office support personnel.

Please indicate your personal opinion about the degree of importance of each office automation competency when hiring entry-level (new) office support personnel at your financial institution.

Scale:

- 4 Very important - required competency to be hired.
 3 Important - competency contributes to job performance.
 2 Somewhat important - not necessary to have the competency, but would be an asset.
 1 Not important - competency not required on the job.

Example:

Database Competencies	Very Important	Important	Somewhat Important	Not Important
Create a database	4	3	2	1
Enter data	4	3	2	1

Database Competencies	Very Important	Important	Somewhat Important	Not Important
1. Create a database	4	3	2	1
2. Enter data	4	3	2	1
3. Format, edit, delete information and records	4	3	2	1
4. Find and sort data	4	3	2	1
5. Print a report	4	3	2	1
6. Other (Please specify) _____	4	3	2	1

General Office Automation Competencies	Very Important	Important	Somewhat Important	Not Important
7. Exercise safety precautions while operating office equipment	4	3	2	1
8. Detect and report equipment malfunctions	4	3	2	1
9. Use computer	4	3	2	1
10. Use photocopier	4	3	2	1
11. Use a facsimile	4	3	2	1
12. Use voice mail	4	3	2	1
13. Use E-mail	4	3	2	1
14. Use calculator	4	3	2	1
15. Use internet	4	3	2	1
16. Knowledge of teleconferencing and video conferencing	4	3	2	1
17. Other (Please specify) _____	4	3	2	1

Presentation/Graphics Software Competencies	Very Important	Important	Somewhat Important	Not Important
---	----------------	-----------	--------------------	---------------

18. Create and edit text, pie, bar, and line chart	4	3	2	1
19. Add clip art	4	3	2	1
20. Use drawing tools	4	3	2	1
21. Organize presentation	4	3	2	1
22. Prepare and print information	4	3	2	1
23. Use masters, templates, wizards	4	3	2	1
24. Create multi-page and multi-column documents	4	3	2	1
25. Import graphics, charts, text or tables from other software programs	4	3	2	1
26. Other (Please specify) _____	4	3	2	1

Spreadsheet Competencies	Very Important	Important	Somewhat Important	Not Important
--------------------------	----------------	-----------	--------------------	---------------

27. Enter and edit information	4	3	2	1
28. Work with formulas and functions	4	3	2	1
29. Edit a worksheet	4	3	2	1
30. Manage large worksheets	4	3	2	1
31. Work with graphs and data	4	3	2	1
32. Other (Please specify) _____	4	3	2	1

Windows Operating System Competencies	Very Important	Important	Somewhat Important	Not Important
---------------------------------------	----------------	-----------	--------------------	---------------

33. Open and close multiple applications	4	3	2	1
34. Use multiple applications	4	3	2	1
35. Use File Manager	4	3	2	1
36. Delete files	4	3	2	1
37. Move and copy files	4	3	2	1
38. Save and retrieve files	4	3	2	1
39. Other (Please specify) _____	4	3	2	1

Word Processing Competencies	Very Important	Important	Somewhat Important	Not Important
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40. Enter and edit information	4	3	2	1
41. Create form letters and other merge documents	4	3	2	1
42. Create headers and footers	4	3	2	1
43. Create a main document	4	3	2	1
44. Create and modify tables	4	3	2	1
45. Use spell check, grammar check, thesaurus, and writing style program(s)	4	3	2	1
46. View, find, copy, rename, delete and sort files	4	3	2	1
47. Other (please specify) _____	4	3	2	1

Part III.

Inventory of currently used software and microcomputer hardware

Please check responses appropriate to your organization. Look at the list of automated office functions shown below. If your company does not use the software or item shown, check NO, then go to the next question. If your company uses the software, answer YES, then indicate whether your company is: (1) currently using, (2) plans to use, (3) does not use, or (4) you do not know.

SOFTWARE USED IN THE OFFICE

Accounting

1.a Do you use accounting software applications in your organization? ☐ YES ☐ NO

1.b If yes, what type of accounting software is predominantly used in your organization?

	Currently Used	Plan To Use	Do Not Use	Do Not Know
a. Quick Books	1	2	3	4
b. Great Plains	1	2	3	4
c. Microsoft Money	1	2	3	4
d. PeachTree	1	2	3	4
e. Quicken	1	2	3	4
f. Other (please specify) _____	1	2	3	4

Calendaring and Scheduling Software

2.a Do you use calendaring and scheduling software in your organization? ☐ YES ☐ NO

2.b If yes, what type of calendaring and scheduling software is predominantly used in your organization?

	Currently Used	Plan To Use	Do Not Use	Do Not Know
a. McAfee	1	2	3	4
b. Microsoft Project	1	2	3	4
c. Oracle Inter Office - Schedule	1	2	3	4
d. Groupwise	1	2	3	4
e. Norton System Agent	1	2	3	4
f. Microsoft Scheduler	1	2	3	4
g. Meeting Maker	1	2	3	4
h. Microsoft Schedule Plus	1	2	3	4
i. Lotus Organizer	1	2	3	4
j. Microsoft Outlook	1	2	3	4
k. Other (please specify) _____	1	2	3	4

Database

3.a Do you use database software in your organization? ☐ YES ☐ NO

3.b If yes, what type of database software do you predominantly use in your organization?

	Currently Used	Plan To Use	Do Not Use	Do Not Know
a. Lotus Approach	1	2	3	4
b. Microsoft Access	1	2	3	4
c. Paradox	1	2	3	4
d. FileMaker Pro	1	2	3	4
e. Other (please specify) _____	1	2	3	4

Desktop publishing

4.a Do you use desktop publishing applications in your organization? ☐ YES ☐ NO

4.b If yes, what type of desktop publishing/presentation software do you predominantly use in your organization?

	Currently Used	Plan To Use	Do Not Use	Do Not Know
a. Framemaker	1	2	3	4
b. Pagemaker	1	2	3	4
c. Harvard Graphics	1	2	3	4
d. Corel Draw	1	2	3	4
e. Publisher	1	2	3	4
f. Other (please specify) _____	1	2	3	4

Forms Processing Software

5.a Do you use forms processing software in your organization? ☐ YES ☐ NO

5.b If yes, what type of forms processing software do you predominately use in your organization?

	Currently Used	Plan To Use	Do Not Use	Do Not Know
a. Harvard Graphics	1	2	3	4
b. Corel Draw	1	2	3	4
c. Oracle document management	1	2	3	4
d. Form tools	1	2	3	4
e. Form flow	1	2	3	4
f. Other: Specify: _____	1	2	3	4

Graphics/Presentation

6.a Do you use presentation software in your organization? ☐ YES ☐ NO

6.b If yes, what type of presentation software do you predominantly use in your organization?

	Currently Used	Plan To Use	Do Not Use	Do Not Know
a. Authorware	1	2	3	4
b. Corel Draw	1	2	3	4
c. Harvard Graphics	1	2	3	4
d. Microsoft PowerPoint	1	2	3	4
e. Lotus Freelance	1	2	3	4
f. Corel Presentations	1	2	3	4
g. Other (please specify) _____	1	2	3	4

Internet

7.a Do you use Internet software in your organization? ☐ YES ☐ NO

7.b If yes, what type of Internet software do you predominantly use in your organization?

	Currently Used	Plan To Use	Do Not Use	Do Not Know
a. Mosaic	1	2	3	4
b. Javasoftware	1	2	3	4
c. Oracle Power Browser	1	2	3	4
d. Netscape Navigator	1	2	3	4
e. Microsoft Internet Explorer	1	2	3	4
f. Other (please specify) _____	1	2	3	4

Speech recognition software

8.a Do you use speech recognition software in your organization? ☐ YES ☐ NO

8.b If yes, what type of speech recognition software do you predominantly use in your organization?

	Currently Used	Plan To Use	Do Not Use	Do Not Know
a. Dragon Systems	1	2	3	4
b. Microsoft sound recorder	1	2	3	4
c. Inet Phone	1	2	3	4
d. Net 2 Phone	1	2	3	4
e. Video Phone	1	2	3	4
f. MS Voice	1	2	3	4
g. IBM voice recognition software	1	2	3	4
h. Other (please specify) _____	1	2	3	4

Spreadsheet

9.a Do you use spreadsheets in your organization? ☐ YES ☐ NO

9.b If yes, what type of spreadsheet software do you predominantly use in your organization?

	Currently Used	Plan To Use	Do Not Use	Do Not Know
a. LOTUS 1-2-3	1	2	3	4
b. Quattro Pro	1	2	3	4
c. Microsoft Excel	1	2	3	4
d. Other (please specify) _____	1	2	3	4

Word Processing

10.a Do you use word processing in your organization? ☐ YES ☐ NO

10.b If yes, what type of word processing software do you predominantly use in your organization?

	Currently Used	Plan To Use	Do Not Use	Do Not Know
a. Corel Word Perfect	1	2	3	4
b. Microsoft Word	1	2	3	4
c. Microsoft Works	1	2	3	4
d. Note Pad	1	2	3	4
e. Lotus Word Pro	1	2	3	4
f. Lotus Amipro	1	2	3	4
g. Other (please specify) _____	1	2	3	4

Workflow software

11.a Do you use workflow software in your organization? ☐ YES ☐ NO

11.b If yes, what type of workflow software predominantly do you use in your organization?

	Currently Used	Plan To Use	Do Not Use	Do Not Know
a. Oracle Interoffice-Workflow	1	2	3	4
b. Document management-Workflow	1	2	3	4
c. Microsoft Project	1	2	3	4
d. Lotus Notes	1	2	3	4
e. Novel GroupWise	1	2	3	4
f. Microsoft Exchange	1	2	3	4
g. Other (please specify) _____	1	2	3	4

HARDWARE USED IN THE OFFICE

Please look at the list of automated office functions shown below. If your company does not use the automated hardware or item shown, check the column, NO, and go to the next question. If your answer is YES, then indicate whether your company is (1) currently using, (2) plans to use (3) does not use, or (4) you do not know.

Microcomputer (PC)

12.a Do you use PCs in your organization? ☐ YES ☐ NO

12.b If yes, what type of microcomputers do you currently use in your organization?

	Currently Used	Plan To Use	Do Not Use	Do Not Know
a. Apple Macintosh	1	2	3	4
b. Apple Power PC	1	2	3	4
c. IBM	1	2	3	4
d. Dell	1	2	3	4
e. Gateway	1	2	3	4
f. Compaq	1	2	3	4
g. Acer	1	2	3	4
h. Other (please specify) _____	1	2	3	4

Printer

13.a Do you use printers in your organization? ☐ YES ☐ NO

13.b If yes, what type of printer do you predominantly use in your organization?

	Currently Used	Plan To Use	Do Not Use	Do Not Know
a. Dot Matrix	1	2	3	4
b. Laser	1	2	3	4
c. Ink jet	1	2	3	4
d. Other (please specify) _____	1	2	3	4

Records Management

14.a Do you use records management in your organization? ☐ YES ☐ NO

14.b If yes, what type of records management do you predominantly use in your organization?

	Currently Used	Plan To Use	Do Not Use	Do Not Know
a. Microfilm	1	2	3	4
b. Aperture cards	1	2	3	4
c. Disk storage of records	1	2	3	4
d. Other (please specify) _____	1	2	3	4

Reprographics

15.a Do you use reprographic equipment in your organization? ☐ YES ☐ NO

15.b If yes, what types of reprographics do you predominantly use in your organization?

	Currently Used	Plan To Use	Do Not Use	Do Not Know
a. Photocopier	1	2	3	4
b. Phototypesetting	1	2	3	4
c. Other (please specify) _____	1	2	3	4

Telecommunications

16.a Do you use telecommunications in your organization? ☐ YES ☐ NO

16.b If yes, what type of telecommunications do you predominantly use in your organization?

	Currently Used	Plan To Use	Do Not Use	Do Not Know
a. Electronic Mail	1	2	3	4
b. Teleconferencing	1	2	3	4
c. Internet	1	2	3	4
d. WAN/LAN	1	2	3	4
e. Telephone	1	2	3	4
f. Other (please specify) _____	1	2	3	4

Respondent's Comment(s)

What other comments or suggestions do you have about the competencies, hardware and software needed by entry-level office support personnel?

Thank you for your participation.

APPENDIX B
LETTER TO PANEL OF EXPERTS

I am a Ph.D. candidate at the University of Minnesota, Department of Work, Community and Family Education, majoring in Business and Marketing Education. I am currently working on completing my dissertation and my topic for the dissertation is "Identification of Entry-Level Office Automation Competencies Needed for Office Support Personnel in Bahrain." As a requirement of the dissertation process, I must have my survey instrument reviewed by a panel of experts in the field to determine if it is a valid instrument for my dissertation. The purpose of this letter is to ask you to be on that panel and review the enclosed survey, based on the checklist.

I would appreciate it if you would consider doing this review and returning your comments to me as soon as possible, but no later than the 10th of February 1998. After completing your evaluation of the questionnaire, please return this questionnaire to me in the enclosed stamped, self-addressed envelope. Your responses will remain strictly confidential and anonymous. When I receive all of the critiques from the panel members, then I will be able to make any changes and proceed with my dissertation.

If you have any questions, please call me on (612) 647-6224 or fax me on (612) 647-6224. Thank you very much for taking time to read this letter and for participating in the review process.

Sincerely

Zahra R Haji

APPENDIX C

CHECKLIST FOR THE CONTENT VALIDITY

Dear Panel Member:

Please read the attached questionnaire on identification of entry-level office automation competencies needed for office support personnel in Bahrain. Please evaluate the questions in the questionnaire using the space provided by each item. Indicate in the space provided the response which best describes the relevance of each item in the questionnaire:

1 = Not Relevant 2=Somewhat Relevant 3=Relevant 4=Very Relevant

In addition, below are the guidelines for checking the content validity of the enclosed survey questionnaire. Please feel free to provide me with your valuable comments and input to identify only those competencies that are essential and relevant for entry-level Office Support Personnel positions.

1. Do you understand the questions?
2. Do the items included relate to the curriculum and the nature of office support personnel job?
3. Are the instruments clear?
4. Are the objectives of the study clearly understood by both surveyors and respondents?
5. Is the order of the questions appropriate?
6. Does the survey include everything that should be included?
7. Is the content relevant to the purpose and the questions of the study?
8. Is there any item that is irrelevant and should be excluded from the survey?
9. Is there any additional item that should be included in the survey?
10. Any suggestions that will help improve the survey?
11. Are any items obsolete or outdated and need to be excluded?

Please feel free to add your comments to help improve this survey questionnaire in the space provided below. Thank you.

APPENDIX D
PILOT TESTING INFORMATION

Dear:

As a doctoral candidate at the University of Minnesota, I am developing a survey questionnaire to be sent to office support personnel and managers in Bahraini Financial Institutions. The final result of this study will provide a basis for updating the office management curriculum at the University of Bahrain.

Your experience, expertise, and professional input as either a member of the Office Support Personnel or management in your organizations needed to develop this survey questionnaire. Please respond to the enclosed survey as a form of evaluation. Also provide me with comments on the survey based on the enclosed checklist.

Your participation in this pilot test is important. Please take some time from your busy schedule to respond and then return it immediately in the enclosed envelope. Thank you for your help in this research and in the improvement of our office management curriculum.

If you have any questions, please call me on (612) 647-6224 or fax me on (612) 647-6224. Thank you very much for taking the time to read this letter and for participating in the review process.

Sincerely,

Zahra Haji

APPENDIX E
PILOT TESTING CHECKLIST

Are instructions for completing the survey clearly written?

Are questions easy to understand?

Do respondents know how to indicate responses (e.g., circle or mark the response, use a special pencil, etc?)

Are the response choices mutually exclusive?

Are the response choices exhaustive?

Do the respondents understand what to do with completed questionnaires (i.e., return them by mail in self-addressed envelope, fax them)?

If an incentive is given for completing the survey, do respondents understand how to obtain it (e.g. it will automatically be sent upon receipt of completed survey, it is included with the questionnaire)?

Is privacy respected and protected?

Do respondents have any suggestions regarding the addition of questions, the clarification of instructions, or improvements in format?

Is the type size big enough to be read?

Is the vocabulary appropriate for the respondents?

Is the survey too long?

Comments or Remarks:

Please feel free to add any additional remarks that help improve the survey.

**APPENDIX F
HUMAN SUBJECTS APPROVAL LETTER**

UNIVERSITY OF MINNESOTA

Twin Cities Campus

Research Subjects' Protection Programs

*Institutional Review Board: Human Subjects Committee (IRB)
Institutional Animal Care and Use Committee (IACUC)*

Box 820

*D528 Mayo Memorial Building
420 Delaware Street S.E.
Minneapolis, MN 55455-0392*

612-626-5654

Fax: 612-626-6061

E-mail: irbiacuc@ortta.umn.edu

March 20, 1998

Zahra R. Haji
1429 Cleveland Av N #5
St. Paul, MN 55108

RE: "Identification of Entry-Level Office Automation Competencies Needed for
Office Support Personnel in Bahrain"

Human Subjects Code Number: **9803E00086**

Dear Ms. Haji:

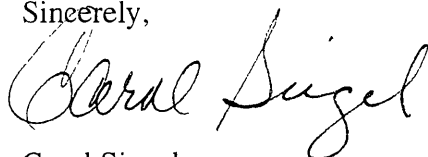
The IRB: Human Subjects Committee determined that the referenced study is exempt from review under federal guidelines 45 CFR Part 46.101(b) category #2
SURVEYS/INTERVIEWS; STANDARDIZED EDUCATIONAL TESTS;
OBSERVATION OF PUBLIC BEHAVIOR.

The code number above is assigned to your research. That number and the title of your study must be used in all communication with the IRB office.

Upon receipt of this letter, you may begin your research. If you have questions, please call the IRB office at (612) 626-5654.

The IRB wishes you success with this research.

Sincerely,



Carol Siegel
Assistant Director

CS/med

CC: Charles Hopkins

APPENDIX G
INITIAL LETTER TO HRD

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ



جامعة البحرين
كلية إدارة الأعمال
قسم الأعمال والإدارة

UNIVERSITY OF BAHRAIN

SCHOOL OF BUSINESS & MANAGEMENT

Business & Management Department

Dear Human Resource Manager:

Technology is rapidly changing lives and the way work is done, and high technology has become the focus of many jobs, including those of Office Support Personnel. As a research assistant at the University of Bahrain and a doctoral candidate at the University of Minnesota, I would like to enlist your help in my doctoral research study to identify the office automation competencies which managers and office support personnel in Bahrain believe are entry-level office support requirements. Because of your role in an active financial institution in Bahrain, I am certain that your input will be valuable. I believe it is important that the business sector and educational institutions establish a strong link for their mutual benefit. The information you provide will be helpful in designing a curriculum that will prepare graduates of the University of Bahrain, Department of Office Management, to best meet the needs of the job market.

I plan to choose my research sample from office support personnel and their managers. I would like to identify office support personnel who can be categorized as any of the following: administrative assistants, secretaries, executive assistants, executive secretaries, or personal assistants, as well as the managers who directly supervise Office Support Personnel. My focus is on Bahrain's financial institutions, since these organizations are the primary employers of our graduates. I believe that my results will help both the University of Bahrain and employers of our Office Management Department graduates, since students will leave the program better prepared for the work force.

I am now conducting the initial phase of my research (sample identification) and your help at this point would be invaluable. Please understand that it is important to achieve adequate representation if the study is to accomplish its purpose. The survey that I will be sending out consists of multiple choice questions and will not take more than half an hour to be completed. If it would be acceptable for you to participate in my study, please complete the attached form, giving me your approval and the names and addresses of the office support personnel and managers I may contact. Also, please provide the total number of managers and administrative assistants in your organization.

Thank you in advance for your cooperation and I assure you that any information provided by your company or its employees will remain strictly confidential.

Sincerely
Zahra R Haji,
Ph.D. Candidate, University of Minnesota
1429 Cleveland Ave. N., Apt. 5
St. Paul, MN 55108
USA
Fax (612) 647-6224
E-mail (haji0004@maroon.tc.umn.edu)

APPENDIX H
LETTER FROM CULTURAL ATTACHE



سفارة دولة البحرين
الملحقية الثقافية
مكتب الملحق الثقافي
- واشنطن -

Embassy of
the State of Bahrain
Cultural Division
Washington, D.C.

Member of the Business Organization in Bahrain

Ms. Zahra Haji is a graduate student sponsored by the Government of the State of Bahrain through the Cultural Division at the Embassy of the State of Bahrain in Washington D.C., she is currently conducting research in pursuit of her Ph.D. in Business Education.

Please provide Ms. Haji with any assistance possible. Please understand that it is very important to receive a sufficient number of responses if the study is to accomplish its purpose, which will ultimately benefit the University of Bahrain and your business organization. Your participation is especially significant due to your expertise and your affiliation with a business organization in Bahrain.

Sincerely,

Abdul Aziz Al-Rafaei
Cultural Attaché

APPENDIX I

LETTER NOTIFYING PARTICIPANTS THAT THEY WILL BE RECEIVING QUESTIONNAIRE

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

UNIVERSITY OF BAHRAIN

DEPARTMENT OF BUSINESS & MANAGEMENT

Business & Management Department



جامعة البحرين
كلية إدارة الأعمال
قسم الأعمال والإدارة

Dear Manager/Office Support Personnel:

As a result of constantly changing technology, the extent and the implications of the automation of office competencies presents a timely topic for review. As a doctoral candidate at the University of Minnesota and Research Assistant at the University of Bahrain, I am sending a survey questionnaire to OSP and Managers who work in Bahraini Financial Institutions. You have been randomly selected from the list of names provided by your financial institution to participate in this study and will be receiving a survey questionnaire by June 24, 1998. The results of this survey questionnaire will be analyzed and the final results of this study will provide data that will be used in my doctoral dissertation and provide information for updating the curriculum of the Department of Office Management at the University of Bahrain. As you know, the field of office automation continues to change rapidly. Your expertise and professional input as managers and as office support personnel is needed to provide data that should be of assistance to educational professionals as they make decisions about curriculum needs.

Your participation in this study is important. Your identity will not be connected in any way to your responses to the survey questionnaire. Your envelope will be coded so that I may know who responds in order to contact non-respondents. After your response is received, your name will be checked as responding and then the coded envelope will be discarded so no other identifying signs will be on the survey and this will ensure strict confidentiality.

Thank you for your participation and help with this research study and your input to update and improve the curriculum at the Department of Office Management at the University of Bahrain. Please contact me at 622433 if you have any questions.

Zahra Haji

APPENDIX J

Mean, SD and Significant P-Values of Level of Importance of Office Automation Competencies by Type of Respondent.

No	Competencies	OSP N=125		Manager N=122		P-value if significant
		Mean	SD	Mean	SD	
1	Create database	2.80	1.07	2.90	.96	
2	Enter Data	3.16	.99	3.41	.74	.013*
3	Format, edit, delete information and records	3.30	.92	3.39	.71	
4	Find and sort data	3.15	.98	3.36	.71	
5	Print a Report	3.28	.96	3.43	.75	
6	Other database competencies	2.25	1.04	3.15	.90	
7	Exercise safety precautions while operating office equipment	3.27	.90	3.23	.83	
8	Detect and report equipment malfunctions	3.05	.89	3.17	.69	
9	Use computer	3.72	.69	3.71	.52	
10	Use photocopier	3.31	.88	3.32	.88	
11	Use a facsimile	3.31	.88	3.31	.87	
12	Use voice mail	2.71	1.01	2.79	.97	
13	Use E-mail	3.09	.99	3.13	.91	
14	Use Calculator	3.16	.92	3.26	.85	
15	Use internet	2.42	1.05	2.49	.96	
16	Knowledge of teleconferencing and video conferencing	232	.95	2.24	.99	
17	Other general office automation	3.00	1.41	3.00	1.00	
18	Create and edit text, pie, bar and, line chart	2.85	1.00	2.85	.89	
19	Add clip art	2.51	.92	2.60	.84	
20	Use drawing tools	2.57	.94	2.52	.96	
21	Organize presentation	2.93	.97	2.92	.89	
22	Prepare and print information	3.31	.85	3.19	.82	
23	Use masters, templates, wizards	2.69	.95	2.61	.92	
24	Create multi-page and multi-column documents	2.86	.93	2.93	.88	

Appendix J Continued

No	Competencies	OSP N=125		Manager N=122		p-value if significant
		Mean	SD	Mean	SD	
25	Import graphics, charts, text or table from other software programs	2.85	.95	2.74	.89	
26	Other presentation/graphics software competencies	2.00	1.10	2.43	1.13	
27	Enter and edit information	3.38	.84	3.38	.74	
28	Work with formulas and functions	3.14	.89	3.94	.83	
29	Edit a worksheet	3.19	.87	3.19	.82	
30	Manage large worksheets	2.96	.95	2.88	.87	
31	Work with graphs and data	2.84	.92	2.91	.87	
32	Other	2.90	1.20	3.00	.89	
33	Open and close multiple applications	3.39	.77	3.40	.71	
34	Use Multiple applications	3.36	.82	3.40	.70	
35	Use File Manager	3.48	.73	3.32	.77	
36	Delete files	3.40	.79	3.32	.82	
37	Move and copy files	3.55	.71	3.42	.72	
38	Save and retrieve files	3.64	.62	3.50	.82	
39	Other windows operation system competencies	3.33	.68	3.45	.82	
40	Enter and edit information	3.73	.58	3.58	.66	
41	Create form letters and other merge documents	3.65	.57	3.47	.73	
42	Create headers and footers	3.47	.72	3.29	.79	
43	Create a main document	3.66	.58	3.46	.70	
44	Create and modify tables	3.56	.64	3.39	.74	
45	Use spell check, grammar check, thesaurus, and writing style program(s)	3.77	.52	3.58	.68	
46	View, find, copy, rename, delete and sort files	3.66	.57	3.45	.71	
47	Other word processing competencies	3.82	.60	3.78	.67	

APPENDIX K

Mean, SD and Significant P-Value of Level of Importance of Office Automation Competencies by Type of Financial Institutions

No.	Competencies	FCB n=53		OB n=76		IB n=45		OTHB n=73		P-Value if significant
		Mean	SD	Mean	SD	Mean	SD	Mean	SD	
1	Create database	3.19	.88	2.85	1.06	2.70	1.02	2.68	1.04	.003*
2	Enter Data	3.45	.75	3.33	.86	3.23	.86	3.13	1.01	
3	Format, edit, delete information and records	3.53	.64	3.45	.71	3.21	.86	3.18	.99	.048*
4	Find and sort data	3.40	.77	3.38	.75	3.14	.85	3.09	1.01	
5	Print a Report	3.57	.64	3.48	.78	3.19	.79	3.16	1.07	
6	Other database competencies	3.20	.45	3.43	.53	2.50	1.29	1.80	1.10	
7	Exercise safety precautions while operating office equipment	3.38	.77	3.24	.92	3.30	.80	3.13	.91	
8	Detect and report equipment malfunctions	3.10	.65	3.13	.88	3.10	.74	3.12	.83	
9	Use computer	3.68	.64	3.75	.54	3.84	.42	3.63	.74	
10	Use photocopier	3.30	.91	3.42	.75	3.24	.96	3.27	.93	
11	Use a facsimile	3.28	.86	3.40	.82	3.29	.87	3.25	.94	
12	Use voice mail	2.42	.95	2.96	.94	3.02	.84	2.61	1.08	.009*
13	Use E-mail	2.82	.93	3.32	.84	3.40	.75	2.92	1.08	.005*
14	Use Calculator	3.02	.94	3.47	.74	3.18	.75	3.11	1.01	.024*
15	Use internet	2.17	.91	2.71	1.00	2.59	1.02	2.31	1.02	.008*
16	Knowledge of teleconferencing and video conferencing	2.06	.85	2.38	.98	2.43	.90	2.24	1.07	
17	Other general office automation	3.33	1.15	3.00	.00	00	00	2.50	2.12	
18	Create and edit text, pie, bar and, line chart	2.87	.81	2.97	.91	2.89	.98	2.68	1.05	
19	Add clip art	2.49	.82	2.68	.84	2.68	.88	2.39	.95	
20	Use drawing tools	2.46	.90	2.68	.91	2.58	1.01	2.43	.97	
21	Organize presentation	2.70	.89	3.11	.94	3.07	.88	2.81	.95	
22	Prepare and print information	3.19	.81	3.38	.75	3.20	.79	3.19	.96	
23	Use masters, templates, wizards	2.63	.89	2.65	.89	2.83	.91	2.54	1.02	
24	Create multi-page and multi-column documents	2.89	.80	3.07	.81	3.02	.85	2.64	1.06	

Appendix K Continued

No.	Competencies	FCB n=53		OB n=76		IB n=45		OTHB n=73		P-Value if significant
		Mean	SD	Mean	SD	Mean	SD	Mean	SD	
25	Import graphics, charts, text or table from other software programs	2.82	.82	2.82	.92	2.95	.88	2.65	1.02	
26	Other presentation/graphics software competencies	2.33	1.15	2.80	1.10	2.00	1.00	1.00	.00	
27	Enter and edit information	3.47	.67	3.38	.88	3.47	.73	3.26	.82	
28	Work with formulas and functions	3.11	.85	3.09	.87	3.07	.75	2.91	.95	
29	Edit a worksheet	3.21	.82	3.20	.84	3.29	.73	3.09	.93	
30	Manage large worksheets	2.91	.95	3.03	.94	2.91	.80	2.82	.92	
31	Work with graphs and data	2.91	.86	2.93	.91	2.93	.79	2.74	.97	
32	Other spreadsheet competencies	3.40	.89	2.75	1.26	3.00	.89	1.00	.00	
33	Open and close multiple applications	3.46	.70	3.54	.74	3.33	.77	3.24	.75	
34	Use Multiple applications	3.40	.75	3.53	.74	3.27	.81	3.27	.76	
35	Use File Manager	3.46	.75	3.49	.76	3.22	.79	3.38	.70	
36	Delete files	3.40	.77	3.41	.79	3.27	.78	3.34	.86	
37	Move and copy files	3.52	.70	3.51	.73	3.33	.74	3.53	.70	
38	Save and retrieve files	3.69	.61	3.58	.66	3.49	.66	3.52	.68	
39	Other windows operation system competencies	3.67	.52	3.50	.84	2.75	.96	4.00	.00	.048*
40	Enter and edit information	3.77	.51	3.67	.60	3.51	.82	3.64	.56	
41	Create form letters and other merge documents	3.63	.63	3.50	.76	3.53	.66	3.60	.57	
42	Create headers and footers	3.49	.67	3.43	.72	3.39	.78	3.25	.83	
43	Create a main document	3.67	.55	3.64	.60	3.44	.76	3.47	.67	
44	Create and modify tables	3.67	.51	3.46	.68	3.38	.78	3.42	.75	.018*
45	Use spell check, grammar check, thesaurus, and writing style program(s)	3.71	.57	3.72	.58	3.61	.72	3.65	.61	
46	View, find, copy, rename, delete and sort files	3.56	.61	3.59	.61	3.53	.76	3.54	.65	
47	Other word processing competencies	4.00	.00	3.75	.71	3.33	1.15	4.00	.00	

APPENDIX L

Mean, SD and Significant P-Value of Level of Importance of Office Automation Competencies by Size of Financial Institutions

No.	Competencies	Small n=131		Medium n=63		Large n=53		P-Value if significant
		Mean	<u>SD</u>	Mean	<u>SD</u>	Mean	<u>SD</u>	
1	Create database	2.81	1.00	2.55	1.06	3.29	.87	
2	Enter Data	3.23	.85	3.18	1.02	3.52	.78	
3	Format, edit, delete information and records	3.31	.82	3.15	.95	3.65	.56	
4	Find and sort data	3.21	.83	3.07	1.03	3.58	.61	
5	Print a Report	3.30	.88	3.23	.98	3.62	.57	
6	Other database competencies	2.83	1.03	2.25	1.50	3.20	.45	
7	Exercise safety precautions while operating office equipment	3.24	.91	3.19	.88	3.37	.73	
8	Detect and report equipment malfunctions	3.12	.77	3.00	.89	3.25	.70	
9	Use computer	3.66	.70	3.75	.57	3.83	.38	
10	Use photocopier	3.28	.86	3.30	.91	3.42	.87	
11	Use a facsimile	3.26	.87	3.29	.82	3.48	.80	
12	Use voice mail	2.59	.99	2.81	.96	3.08	.97	
13	Use E-mail	3.04	.97	3.02	1.02	3.40	.75	
14	Use Calculator	3.25	.85	3.06	1.01	3.31	.81	
15	Use internet	2.46	1.01	2.27	1.05	2.67	.90	
16	Knowledge of teleconferencing and video conferencing	2.21	.95	2.30	.97	2.40	1.02	
17	Other general office automation	3.67	.58	2.50	2.12	2.50	.71	
18	Create and edit text, pie, bar and, line chart	2.76	.93	2.87	1.01	3.04	.92	
19	Add clip art	2.48	.87	2.56	.96	2.75	.79	
20	Use drawing tools	2.49	.92	2.42	1.00	2.83	.90	
21	Organize presentation	2.91	.93	2.82	1.01	3.08	.84	
22	Prepare and print information	3.25	.82	3.13	.93	3.40	.72	
23	Use masters, templates, wizards	2.65	.95	2.61	.99	2.70	.81	
24	Create multi-page and multi-column documents	2.91	.96	2.69	.88	3.10	.76	.018*
25	Import graphics, charts, text or table from other software programs	2.77	.90	2.69	1.04	3.00	.78	.026*

Appendix L Continued

No.	Competencies	Small n=131		Medium n=63		Large n=53		P-Value if significant
		Mean	SD	Mean	SD	Mean	SD	
26	Other presentation/graphics software competencies	2.00	1.00	2.25	1.50	3.00	.00	
27	Enter and edit information	3.31	.86	3.48	.67	3.44	.75	
28	Work with formulas and functions	2.97	.89	3.11	.81	3.1	.86	
29	Edit a worksheet	3.10	.92	3.29	.69	3.29	.78	
30	Manage large worksheets	2.85	.92	2.98	.92	3.02	.88	
31	Work with graphs and data	2.85	.89	2.90	1.00	2.90	.76	
32	Other spreadsheet competencies	2.78	1.09	3.17	1.17	3.00	.00	
33	Open and close multiple applications	3.38	.76	3.27	.79	3.60	.60	
34	Use Multiple applications	3.39	.78	3.24	.82	3.53	.61	
35	Use File Manager	3.40	.78	3.38	.73	3.44	.70	
36	Delete files	3.33	.84	3.33	.82	3.48	.67	
37	Move and copy files	3.46	.70	3.46	.82	3.57	.61	
38	Save and retrieve files	3.56	.66	3.59	.66	3.59	.64	
39	Other windows operation system competencies	3.25	1.04	3.60	.55	3.50	.58	
40	Enter and edit information	3.60	.68	3.63	.60	3.81	.44	
41	Create form letters and other merge documents	3.52	.70	3.60	.64	3.62	.60	
42	Create headers and footers	3.32	.80	3.44	.74	3.47	.67	
43	Create a main document	3.52	.68	3.56	.64	3.69	.54	
44	Create and modify tables	3.43	.73	3.52	.69	3.55	.61	
45	Use spell check, grammar check, thesaurus, and writing style program(s)	3.61	.67	3.73	.57	3.79	.50	
46	View, find, copy, rename, delete and sort files	3.53	.67	3.59	.66	3.60	.57	
47	Other word processing competencies	3.60	.84	4.00	.00	4.00	.00	

APPENDIX M

Mean and SD and Significant P- Value of Level of Importance of Office Automation Competencies by Type of Respondent and Type of Financial Institutions

No.	Competencies	Mean & SD	FCB		OB		IB		OTHB		P-Value if Significant
			OSP n=26	MGR n=27	OSP n=40	MGR n=36	OSP n=23	MGR n=22	OSP n=36	MGR n=37	
1	Create database	Mean SD	3.38 .90	3.00 .83	2.58 1.03	3.14 1.02	2.73 1.08	2.68 .99	2.65 1.12	2.71 .96	.019*
2	Enter Data	Mean SD	3.35 .89	3.56 .58	3.21 .98	3.47 .70	3.09 .97	3.36 .73	3.00 1.10	3.26 .90	
3	Format, edit, delete information and records	Mean SD	3.54 .76	3.52 .51	3.32 .77	3.60 .60	3.18 1.01	3.24 .70	3.18 1.11	3.18 .87	
4	Find and sort data	Mean SD	3.35 .94	3.44 .58	3.26 .83	3.50 .65	3.09 1.00	3.19 .68	2.91 1.12	3.26 .86	
5	Print a Report	Mean SD	3.50 .76	3.63 .49	3.38 .85	3.58 .69	3.05 .90	3.33 .66	3.14 1.19	3.18 .94	
6	Other database competencies	Mean SD	3.00 .00	3.33 .58	3.00 .55	3.50 .55	2.00 1.41	3.00 1.41	1.67 1.15	2.00 1.41	
7	Exercise safety precautions while operating office equipment	Mean SD	3.32 .90	3.44 .64	3.31 .90	3.17 .95	3.43 .73	3.15 .88	3.09 1.00	3.17 .82	
8	Detect and report equipment malfunctions	Mean SD	2.91 .73	3.27 .53	3.03 1.01	3.23 .73	3.35 .67	2.85 .75	3.00 .95	3.23 .69	
9	Use computer	Mean SD	3.62 .75	3.74 .53	3.78 .58	3.72 .51	3.91 .29	3.77 .53	3.61 .90	3.64 .54	
10	Use photocopier	Mean SD	3.31 .93	3.30 .91	3.33 .83	3.53 .65	3.26 .96	3.23 .97	3.34 .87	3.19 .98	
11	Use a facsimile	Mean SD	3.35 .89	3.22 .85	3.31 .86	3.50 .77	3.26 .92	3.23 .84	3.31 .90	3.19 .98	
12	Use voice mail	Mean SD	2.15 .78	2.67 1.04	2.95 1.00	2.97 .88	2.96 .82	3.09 .87	2.69 1.14	2.51 1.01	
13	Use E-mail	Mean SD	2.48 .96	3.15 .78	3.44 .72	3.19 .95	3.35 .83	3.45 .67	2.97 1.16	2.86 1.02	

Appendix M Continued

No.	Competencies	Mean & SD	FCB		OB		IB		OTHB		P-Value if significant
			OSP n=26	MGR n=27	OSP n=40	MGR n=36	OSP n=23	MGR n=22	OSP n=36	MGR n=37	
14	Use Calculator	Mean SD	2.80 .96	3.22 .89	3.42 .79	3.53 .70	3.09 .73	3.27 .77	3.19 1.06	3.03 .97	
15	Use internet	Mean SD	1.92 .86	2.41 .89	2.82 1.02	2.58 .97	2.50 1.01	2.68 1.04	2.31 1.06	2.32 .98	
16	Knowledge of teleconferencing and video conferencing	Mean SD	2.12 .73	2.00 .96	2.38 .94	2.37 1.03	2.43 .84	2.43 .98	2.31 2.12	2.17 .98	
17	Other general office automation	Mean SD	4.00 1.41	3.00 1.41	3.00 1.41	3.00 1.41	00 00	00 00	2.50 2.12	00 00	
18	Create and edit text, pie, bar and, line chart	Mean SD	2.85 .92	2.89 .70	2.90 .93	3.06 .91	2.87 1.14	2.91 .81	2.77 1.09	2.58 1.02	
19	Add clip art	Mean SD	2.42 .95	2.56 .70	2.55 .81	2.83 .85	2.68 .99	2.68 .78	2.43 .98	2.36 .93	
20	Use drawing tools	Mean SD	2.35 1.02	2.58 .76	2.63 .84	2.75 1.00	2.77 .92	2.38 1.07	2.53 .99	2.33 .96	
21	Organize presentation	Mean SD	2.65 1.06	2.74 .71	2.97 .95	3.26 .92	3.18 .85	2.95 .92	2.91 1.00	2.72 .91	
22	Prepare and print information	Mean SD	3.15 .92	3.22 .70	3.40 .74	3.36 .76	3.27 .88	3.14 .71	3.36 .90	3.03 1.00	
23	Use masters, templates, wizards	Mean SD	2.58 .99	2.69 .79	2.57 .87	2.74 .92	2.95 .86	2.71 .96	2.74 1.05	2.36 .96	
24	Create multi-page and multi-column documents	Mean SD	2.73 .83	3.04 .76	3.03 .78	3.11 .85	3.00 .95	3.05 .74	2.67 1.14	2.61 .99	
25	Import graphics, charts, text or table from other software programs	Mean SD	3.00 .89	2.64 .70	2.68 .93	2.97 .89	3.10 .85	2.80 .89	2.77 1.07	2.56 .97	
26	Other presentation/graphics Software competencies	Mean SD	3.00 .00	1.00 .00	2.00 1.41	3.33 .58	1.00 .00	2.50 .71	1.00 .00	1.00 .00	

Appendix M Continued

No.	Competencies	Mean & SD	FCB		OB		IB		OTHB		P-Value if significant
			OSP n=26	MGR n=27	OSP N=40	MGR n=36	OSP n=23	MGR n=22	OSP n=36	MGR n=37	
27	Enter and edit information	Mean SD	3.42 .81	3.52 .51	3.28 .99	3.50 .74	3.57 .59	3.36 .85	3.35 .85	3.17 .79	
28	Work with formulas and functions	Mean SD	3.23 .95	3.00 .73	3.10 .93	3.08 .81	3.22 .67	2.91 .81	3.06 .95	2.77 .94	
29	Edit a worksheet	Mean SD	3.24 .97	3.19 .68	3.13 .92	3.28 .74	3.30 .63	3.27 .83	3.15 .89	3.03 .98	
30	Manage large worksheets	Mean SD	3.04 1.11	2.78 .75	2.90 .94	3.17 .94	3.09 .67	2.71 .90	2.88 1.01	2.76 .83	
31	Work with graphs and data	Mean SD	2.96 1.00	2.85 .72	2.79 .92	3.08 .87	2.86 .77	3.00 .82	2.79 .96	2.70 .98	
32	Other spreadsheet competencies	Mean SD	3.25 .96	4.00 .00	2.67 1.53	3.00 .00	3.50 .71	2.75 .96	1.00 .00	00 00	
33	Open and close multiple Applications	Mean SD	3.36 3.81	3.56 .58	3.47 .78	3.61 .69	3.26 .86	3.41 .67	3.40 .69	3.08 .77	
34	Use Multiple applications	Mean SD	3.28 .89	3.52 .58	3.46 .79	3.61 .69	3.22 .95	3.32 .65	3.40 .74	3.14 .76	
35	Use File Manager	Mean SD	3.52 .77	3.41 .75	3.45 .78	3.53 .74	3.26 .86	3.18 .73	3.63 .49	3.14 .80	
36	Delete files	Mean SD	3.40 .82	3.41 .75	3.35 .80	3.47 .77	3.22 .85	3.32 .72	3.57 .70	3.11 .95	
37	Move and copy files	Mean SD	3.56 .77	3.48 .64	3.50 .73	3.53 .74	3.30 .82	3.36 .66	3.74 .51	3.31 .80	
38	Save and retrieve files	Mean SD	3.68 .69	3.70 .54	3.55 .65	3.61 .69	3.57 .66	3.41 .67	3.76 .50	3.31 .75	
39	Other windows operation system competencies	Mean SD	3.67 .58	3.67 .58	2.50 .71	4.00 .00	4.00 .00	2.33 .58	00 00	4.00 .00	

Appendix M Continued

No.	Competencies	Mean & SD	FCB		OB		IB		OTHB		P-Value if significant
			OSP n=26	MGR n=27	OSP n=40	MGR n=36	OSP n=23	MGR n=22	OSP n=36	MGR n=37	
40	Enter and edit information	Mean SD	3.88 .33	3.67 .62	3.70 .52	3.64 .68	3.57 .90	3.45 .74	3.75 .50	3.53 .61	
41	Create form letters and other merge documents	Mean SD	3.80 .41	3.48 .75	3.48 .72	3.53 .81	3.70 .47	3.36 .79	3.72 .51	3.47 .61	
42	Create headers and footers	Mean SD	3.54 .59	3.40 .75	3.40 .71	3.47 .74	3.52 .85	3.24 .70	3.47 .74	3.03 .88	
43	Create a main document	Mean SD	3.80 .41	3.56 .64	3.68 .53	3.61 .69	3.52 .79	3.36 .73	3.64 .59	3.31 .71	
44	Create and modify tables	Mean SD	3.72 .46	3.63 .56	3.45 .64	3.47 .74	3.48 .79	3.27 .77	3.64 .64	3.20 .80	
45	Use spell check, grammar check, Thesaurus, and writing style program(s)	Mean SD	3.80 .50	3.63 .63	3.75 .49	3.69 .67	3.73 .70	3.50 .74	3.81 .47	3.49 .70	
46	View, find, copy, rename, delete and sort files	Mean SD	3.60 .58	3.52 .64	3.65 .53	3.53 .70	3.65 .71	3.41 .80	3.71 .52	3.36 .72	
47	Other word processing competencies	Mean SD	4.00 .00	4.00 .00	3.00 2.41	4.00 .00	4.00 .00	2.00 .00	4.00 .00	4.00 .00	

APPENDIX N

Mean SD and Significant P Values of Level of Importance of Office Automation Competencies by Type of Respondent and Size of Financial Institutions

No.	Competencies	Mean & SD	Small		Medium		Large		P-Value if significant
			OSP n=59	MGR n=72	OSP n=37	MGR n=26	OSP n=29	MGR n=24	
1	Create database	Mean SD	2.74 1.01	2.87 1.00	2.44 1.13	2.69 .97	3.34 .94	3.22 .80	
2	Enter Data	Mean SD	3.19 .91	3.27 .79	2.94 1.16	3.52 .65	3.34 .90	3.74 .54	
3	Format, edit, delete information and records	Mean SD	3.32 .90	3.30 .75	2.97 1.07	3.40 .71	3.66 .61	3.65 .49	.035*
4	Find and sort data	Mean SD	3.12 .93	3.29 .74	2.81 1.12	3.44 .77	3.62 .68	3.52 .51	.004*
5	Print a Report	Mean SD	3.29 .99	3.31 .79	2.97 1.07	3.60 .71	3.62 .56	3.61 .58	.032*
6	Other database competencies	Mean SD	2.50 1.00	3.00 1.07	1.00 .00	3.50 .71	3.00 .00	3.33 .58	
7	Exercise safety precautions while operating office equipment	Mean SD	3.26 .97	3.22 .86	3.14 .86	3.28 .94	3.50 .76	3.22 .67	
8	Detect and report equipment malfunctions	Mean SD	3.02 .91	3.19 .65	2.92 .91	3.12 .88	3.32 .80	3.17 .58	
9	Use computer	Mean SD	3.64 .83	3.67 .58	3.70 .66	3.81 .40	3.90 .31	3.74 .45	
10	Use photocopier	Mean SD	3.31 .82	3.26 .90	3.27 .93	3.35 .89	3.38 .94	3.48 .79	
11	Use a facsimile	Mean SD	3.26 .84	3.25 .90	3.24 .95	3.35 .89	3.48 .87	3.48 .73	
12	Use voice mail	Mean SD	2.55 1.01	2.63 .97	2.70 .94	2.96 .98	3.03 1.05	3.13 .87	

Appendix N Continued

No.	Competencies	Mean & SD		Small		Medium		Large		P-Value if significant
				OSP n=59	MGR n=72	OSP n=37	MGR n=26	OSP n=29	MGR n=24	
13	Use E-mail	Mean SD		2.95 1.08	3.11 .88	3.05 .97	2.96 1.10	3.41 .78	3.39 .72	
14	Use Calculator	Mean SD		3.25 .88	3.25 .83	2.89 1.05	3.31 .93	3.34 .77	3.26 .86	
15	Use internet	Mean SD		2.33 1.07	2.56 .96	2.24 1.04	2.31 1.09	2.83 .93	2.48 .85	
16	Knowledge of teleconferencing and video conferencing	Mean SD		2.21 .94	2.21 .96	2.31 .95	2.28 1.02	2.55 .95	2.26 1.10	
17	Other general office automation	Mean SD		4.00 .00	3.50 .71	2.50 2.12	.00 .00	3.00 .00	2.00 .00	
18	Create and edit text, pie, bar and, line chart	Mean SD		2.69 .96	2.82 .91	2.92 1.06	2.81 .94	3.07 1.00	3.00 .82	
19	Add clip art	Mean SD		2.40 .88	2.54 .85	2.49 .99	2.65 .94	2.76 .87	2.74 .69	
20	Use drawing tools	Mean SD		2.44 .87	2.53 .96	2.42 .97	2.24 1.06	3.00 .93	2.61 .84	
21	Organize presentation	Mean SD		2.88 .96	2.94 .90	2.83 1.00	2.80 1.04	3.14 .95	3.00 .69	
22	Prepare and print information	Mean SD		3.32 .86	3.19 .80	3.25 .91	2.96 .96	3.38 .78	3.43 .66	
23	Use masters, templates, wizards	Mean SD		2.67 1.02	2.63 .90	2.66 .91	2.54 1.10	2.75 .89	2.64 .73	
24	Create multi-page and multi-column Documents	Mean SD		2.86 1.01	2.96 .92	2.67 .86	2.73 .92	3.11 .83	3.09 .67	
25	Import graphics, charts, text or table from other software programs	Mean SD		2.83 .98	2.72 .85	2.77 1.00	2.58 1.10	3.00 .85	3.00 .71	

Appendix N Continued

No.	Competencies	Mean &SD	Small		Medium		Large		P-Value if significant
			OSP n=59	MGR n=72	OSP n=37	MGR n=26	OSP n=29	MGR n=24	
26	Other presentation/graphics software Competencies	Mean SD	2.00 1.41	2.00 1.00	1.00 .00	3.50 .71	3.00 .00	.00 .00	
27	Enter and edit information	Mean SD	3.39 .90	3.25 .82	3.35 .75	3.65 .49	3.41 .87	3.48 .59	
28	Work with formulas and functions	Mean SD	3.16 .88	2.82 .88	2.97 .93	3.32 .56	3.31 .85	2.91 .85	.018*
29	Edit a worksheet	Mean SD	3.16 .99	3.04 .88	3.11 .70	3.56 .58	3.36 .83	3.22 .74	
30	Manage large worksheets	Mean SD	2.93 .98	2.79 .87	2.89 .97	3.13 .85	3.11 .88	2.91 .90	
31	Work with graphs and data	Mean SD	2.84 .96	2.86 .84	2.81 1.00	3.04 1.02	2.89 .74	2.91 .79	
32	Other spreadsheet competencies	Mean SD	2.80 1.30	2.75 .96	3.00 1.41	3.50 .71	3.00 .00	.00 .00	
33	Open and close multiple applications	Mean SD	3.40 .78	3.36 .76	3.19 .81	3.38 .75	3.62 .68	3.57 .51	
34	Use Multiple applications	Mean SD	3.40 .82	3.38 .76	3.14 .89	3.38 .70	3.57 .69	3.48 .51	
35	Use File Manager	Mean SD	3.53 .73	3.29 .81	3.41 .76	3.35 .69	3.48 .69	3.39 .72	
36	Delete files	Mean SD	3.37 .82	3.29 .86	3.30 .88	3.38 .75	3.59 .57	3.35 .78	
37	Move and copy files	Mean SD	3.55 .66	3.39 .73	3.46 .87	3.46 .76	3.64 .56	3.48 .67	
38	Save and retrieve files	Mean SD	3.61 .66	3.51 .67	3.62 .68	3.54 .65	3.71 .46	3.43 .79	

Appendix N Continued

No.	Competencies	Mean &SD	Small		Medium		Large		P-Value if significant
			OSP n=59	MGR n=72	OSP n=37	MGR n=26	OSP n=29	MGR n=24	
39	Other windows operation system Competencies	Mean SD	2.00 .00	3.43 .98	4.00 .00	3.33 .58	3.33 .58	4.00 .00	
40	Enter and edit information	Mean SD	3.71 .62	3.51 .71	3.65 .63	3.62 .57	3.86 .35	3.74 .54	
41	Create form letters and other merge Documents	Mean SD	3.67 .57	3.40 .76	3.65 .59	3.54 .71	3.62 .56	3.61 .66	
42	Create headers and footers	Mean SD	3.48 .75	3.19 .82	3.49 .73	3.36 .76	3.43 .63	3.52 .73	
43	Create a main document	Mean SD	3.71 .56	3.36 .74	3.57 .65	3.54 .65	3.69 .54	3.70 .56	
44	Create and modify tables	Mean SD	3.57 .62	3.32 .78	3.59 .69	3.42 .70	3.52 .63	3.59 .59	
45	Use spell check, grammar check, thesaurus, and writing style program(s)	Mean SD	3.75 .51	3.49 .75	3.76 .60	3.69 .55	3.83 .47	3.74 .54	
46	View, find, copy, rename, delete and sort files	Mean SD	3.70 .53	3.39 .74	3.65 .63	3.50 .71	3.59 .57	3.61 .58	
47	Other word processing competencies	Mean SD	3.50 1.00	3.67 .82	4.00 .00	4.00 .00	4.00 .00	4.00 .00	

APPENDIX O

Mean, SD and Significant P-value of Importance of Office Automation Competencies by Type of Respondents, Size of Financial Institution and, Type of Financial Institutions

No.	Competencies	Mean & SD	FCB			OB			IB			OTHB			P- Value if signifi- cant
			Small n=21	Med n=14	Large n=18	Small n=33	Med n=18	Large n=25	Small n=24	Med n=19	Large n=2	Small n=53	Med n=11	Large n=9	
1	Create database	Mean SD	2.86 .96	3.14 .95	3.61 .50	2.82 1.07	2.38 1.02	3.20 .96	2.96 .95	2.47 1.02	1.00 .00	2.72 1.01	2.18 1.17	3.13 .83	
2	Enter Data	Mean SD	3.33 .66	3.29 .99	3.72 .57	3.36 .86	3.35 .79	3.28 .94	3.17 .87	3.32 .89	3.00 .00	3.14 .90	2.50 1.43	3.87 .35	
3	Format, edit, delete information and records	Mean SD	3.62 .50	3.21 .89	3.67 .46	3.35 .84	3.41 .62	3.60 .58	3.30 .88	3.16 .83	2.00 .00	3.16 .87	2.60 1.51	4.00 .00	
4	Find and sort data	Mean SD	3.52 .60	2.93 1.07	3.61 .50	3.31 .82	3.35 .79	3.48 .65	3.17 .83	3.15 .88	2.00 .00	3.04 .89	2.60 1.51	4.00 .00	.045*
5	Print a Report	Mean SD	3.71 .46	3.21 .89	3.67 .49	3.39 .93	3.65 .61	3.48 .65	3.13 .87	3.26 .73	3.00 .00	3.16 .95	2.50 1.58	1.00 .00	.039*
6	Other database competencies	Mean SD	3.00 .00	.00	3.50 .71	4.00 .00	3.00 .00	3.00 .00	2.50 .71	2.50 2.12	.00	2.00 1.15	1.00 .00	.00	
7	Exercise safety precautions while operating office equipment	Mean SD	3.40 .82	3.00 .88	3.67 .49	3.30 .99	3.17 .92	3.32 .87	3.17 .83	3.47 .77	3.00 .00	3.16 .93	3.00 1.00	3.13 .64	
8	Detect and report equipment Malfunctions	Mean SD	3.16 .69	2.92 .76	3.18 .53	3.17 .95	2.94 .87	3.32 .87	3.05 .60	3.21 .85	2.00 .00	3.10 .76	2.82 1.17	3.63 .52	
9	Use computer	Mean SD	3.81 .51	3.36 .93	3.78 .43	3.64 .70	3.89 .32	3.80 .41	3.88 .45	3.80 .41	4.00 .00	3.51 .82	3.91 .30	4.00 .00	

Appendix O Continued

No.	Competencies	Mean & SD	FCB			OB			IB			OTHB			P – Value if signifi- cant
			Small n=21 ̄	Med n=14 ̄	Large n=18 ̄	Small n=33 ̄	Med n=18 ̄	Large n=25 ̄	Small n=24 ̄	Med n=19 ̄	Large n=2 ̄	Small n=53 ̄	Med n=11 ̄	Large n=9 ̄	
10	Use photocopier	Mean SD	3.38 .92	3.14 .95	3.33 .91	3.52 .57	3.28 .96	3.40 .82	3.21 .98	3.40 .82	1.00 .00	3.13 .93	3.36 1.03	4.00 .00	.026*
11	Use a facsimile	Mean SD	3.24 .94	3.14 .95	3.44 .70	3.44 .76	3.28 .96	3.44 .82	3.21 .88	3.50 .69	1.00 .00	3.17 .90	3.09 1.22	4.00 .00	.032*
12	Use voice mail	Mean SD	2.29 1.01	2.43 .85	2.56 .98	2.72 1.02	3.06 .80	3.20 .87	2.92 .88	3.20 .77	2.00 .00	2.49 .97	2.10 1.20	4.00 .00	.017*
13	Use E-mail	Mean SD	2.75 .97	2.31 .95	3.28 .67	3.28 .89	3.33 .84	3.36 .81	3.33 .79	3.55 .69	2.00 .00	2.87 1.06	2.36 1.12	4.00 .00	.003*
14	Use Calculator	Mean SD	3.10 .97	2.79 1.05	3.11 .83	3.52 .77	3.56 .62	3.36 .81	3.17 .64	3.25 .85	2.00 .00	3.19 .92	2.27 1.27	3.75 .46	.010*
15	Use internet	Mean SD	2.29 1.01	1.64 .63	2.44 .86	2.59 1.07	2.89 1.02	2.72 .89	2.83 .94	2.40 1.05	1.00 .00	2.27 .98	1.82 .98	3.25 .71	.014*
16	Knowledge of teleconferencing and video conferencing	Mean SD	1.90 .83	2.23 .93	2.11 .83	2.32 1.01	2.50 .86	2.36 1.04	2.50 .88	2.42 .90	1.00 .00	2.14 .96	1.82 1.25	3.50 .53	.005*
17	Other general office automation	Mean SD	4.00 .00	.00	2.00 .00	3.00 .00	.00	3.00 .00	.00	.00	.00	.00	2.50 2.12	.00	
18	Create and edit text, pie, bar and, line chart	Mean SD	2.90 .77	2.71 .83	2.94 .87	2.97 .92	3.11 1.02	2.88 .00	2.88 .90	3.00 1.03	1.00 .00	2.52 .98	2.45 1.13	4.00 .00	.002*
19	Add clip art	Mean SD	2.48 .87	2.50 .94	2.50 .71	2.61 .83	2.78 .94	2.72 .79	2.65 .88	2.75 .91	2.00 .00	2.33 .88	1.91 .94	3.50 .53	.027*
20	Use drawing tools	Mean SD	2.65 .93	2.00 .88	2.61 .78	2.61 .90	2.72 .89	2.76 .97	2.55 .96	2.65 1.09	2.00 .00	2.33 .90	2.00 .94	3.63 .52	.013*

Appendix O Continued

No.	Competencies	Mean & SD	FCB			OB			IB			OTHB			P – Value if signifi- cant
			Small n=21 M=2.67 SD=.86	Med n=14 M=2.43 SD=.94	Large n=18 M=2.94 SD=.87	Small n=33 M=3.18 SD=.98	Med n=18 M=3.06 SD=1.00	Large n=25 M=3.04 SD=.86	Small n=24 M=3.04 SD=.93	Med n=19 M=3.16 SD=.83	Large n=2 M=2.00 SD=.00	Small n=53 M=2.79 SD=.89	Med n=11 M=2.30 SD=1.16	Large n=9 M=3.63 SD=.52	
21	Organize presentation	Mean SD	2.67 .86	2.43 .94	2.94 .87	3.18 .98	3.06 1.00	3.04 .86	3.04 .93	3.16 .83	2.00 .00	2.79 .89	2.30 1.16	3.63 .52	
22	Prepare and print information	Mean SD	3.24 .77	3.07 .83	3.22 .88	3.39 .79	3.39 .85	3.36 .64	3.22 .80	3.20 .83	3.00 .00	3.18 .89	2.60 1.26	4.00 .00	
23	Use masters, templates, wizards	Mean SD	2.90 .91	2.29 .83	2.61 .85	2.69 .97	2.76 .97	2.52 .73	2.71 .85	3.00 .97	2.00 .00	2.50 1.00	2.00 .94	3.50 .53	.011*
24	Create multi-page and Multi-column documents	Mean SD	3.14 .79	2.57 .65	2.83 .86	3.12 .93	2.89 .76	3.12 .68	3.13 .81	2.90 .91	3.00 .00	2.59 1.02	2.10 1.10	3.63 .52	
25	Import graphics, charts, text or table from other software programs	Mean SD	3.00 .84	2.77 .93	2.65 .70	2.79 .99	2.67 .97	3.00 .76	3.05 .72	2.83 1.04	00 .00	2.52 .90	2.40 1.35	3.73 .46	.020*
26	Other presentation/graphics Software competencies	Mean SD	2.00 1.41	00	3.00 .00	2.33 1.15	4.00 .00	3.00 .00	2.00 .00	2.00 1.41	00 .00	1.00 .00	1.00 .00	00	
27	Enter and edit information	Mean SD	3.48 .68	3.43 .85	3.50 .51	3.39 .97	3.61 .61	3.20 .91	3.37 .82	3.55 .60	4.00 .00	3.16 .87	3.18 .60	4.00 .00	
28	Work with formulas and functions	Mean SD	3.19 .75	3.07 1.07	3.06 .80	3.12 .89	3.06 .64	3.08 1.00	2.96 .81	3.20 .70	3.00 .00	2.78 .97	3.10 .99	3.50 .53	
29	Edit a worksheet	Mean SD	3.05 .89	3.36 .93	3.28 .67	3.24 .94	3.28 .57	3.08 .88	3.17 .82	3.40 .60	4.00 .00	2.98 .99	3.00 .67	3.87 .35	
30	Manage large worksheets	Mean SD	2.76 .94	3.07 1.14	2.94 .80	3.21 1.05	2.94 .64	2.83 .96	2.75 .74	3.11 .88	3.00 .00	2.69 .85	2.70 1.16	3.75 .46	

Appendix O Continued

No.	Competencies	Mean & SD	FCB			OB			IB			OTHB			P – Value if signifi- cant
			Small n=21	Med n=14	Large n=18	Small n=33	Med n=18	Large n=25	Small n=24	Med n=19	Large n=2	Small n=53	Med n=11	Large n=9	
31	Work with graphs and data	Mean SD	3.00 .89	2.79 1.05	2.89 .68	3.06 .93	3.00 1.03	2.71 .75	2.83 .78	3.10 .79	2.00 .00	2.65 .89	2.50 1.27	3.63 .52	.039*
32	Other spreadsheet competencies	Mean SD	3.33 1.15	4.00 .00	3.00 .00	2.75 1.26	00 00	00 00	2.00 .00	3.50 .58	00 00	00 00	1.00 .00	00 00	
33	Open and close multiple applications	Mean SD	3.55 .83	3.21 .70	3.56 .51	3.52 .83	3.44 .62	3.064 .70	3.29 .75	3.35 .81	4.00 .00	3.27 .69	2.91 1.04	3.50 .53	
34	Use Multiple applications	Mean SD	3.55 .83	3.07 .83	3.50 .51	3.55 .83	3.44 .62	3.58 .72	3.21 .83	3.35 .81	3.00 .00	3.31 .70	2.91 1.04	3.50 .53	
35	Use File Manager	Mean SD	3.50 .89	3.50 .76	3.39 .61	3.52 .83	3.61 .50	3.36 .81	3.33 .76	3.05 .83	4.00 .00	3.31 .73	3.45 .69	3.75 .46	
36	Delete files	Mean SD	3.60 .75	3.43 .76	3.17 .79	3.30 .92	3.39 .78	3.56 .58	3.25 .74	3.25 .85	4.00 .00	3.27 .87	3.27 1.01	3.87 .35	
37	Move and copy files	Mean SD	3.60 .75	3.64 .63	3.33 .69	3.53 .76	3.39 .85	3.58 .58	3.33 .64	3.30 .86	4.00 .00	3.43 .67	3.64 .92	4.00 .00	
38	Save and retrieve files	Mean SD	3.80 .70	3.71 .61	3.56 .51	3.62 .71	3.50 .71	3.58 .58	3.50 .66	3.45 .69	4.00 .00	3.44 .60	3.82 .60	3.36 1.06	
39	Other windows operation system competencies	Mean SD	2.29 1.01	1.64 .63	2.44 .86	2.59 1.07	2.89 1.02	2.72 .89	2.83 .94	2.40 1.05	1.00 .00	2.27 .98	1.82 .98	3.25 .71	
40	Enter and edit information	Mean SD	1.90 .83	2.23 .93	2.11 .83	2.32 1.01	2.50 .86	2.36 1.04	2.50 .88	2.42 .90	1.00 .00	2.14 .96	1.82 1.25	3.50 .53	
41	Create form letters and other merge documents	Mean SD	4.00 .00	00 00	2.00 .00	3.00 .00	00 00	3.00 .00	00 00	00 00	00 00	00 00	2.50 2.12	00 00	

Appendix O Continued

No.	Competencies	Mean & <u>SD</u>	FCB				OB				IB				OTHB				P – Value if signifi- cant
			Small n=21	Med n=14	Large n=18	Small n=33	Med n=18	Large n=25	Small n=24	Med n=19	Large n=2	Small n=53	Med n=11	Large n=9					
42	Create headers and footers	Mean SD	2.90 .77	2.71 .83	2.94 .87	2.97 .92	3.11 1.02	2.88 .85	2.88 .90	3.00 1.03	1.00 .00	2.52 .98	2.45 1.13	4.00 .00					
43	Create a main document	Mean SD	2.48 .87	2.50 .94	2.50 .71	2.61 .83	2.78 .94	2.72 .79	2.65 .88	2.75 .91	2.00 .00	2.33 .88	1.91 .94	3.50 .53	.017*				
44	Create and modify tables	Mean SD	3.70 .47	3.71 .47	3.61 .61	3.55 .71	3.28 .75	3.48 .59	3.33 .70	3.50 .83	2.00 .00	3.30 .80	3.73 .47	3.86 .38					
45	Use spell check, grammar check, thesaurus, and writing style program(s)	Mean SD	3.80 .52	3.71 .47	3.61 .70	3.67 .69	3.67 .59	3.84 .37	3.48 .73	3.75 .72	4.00 .00	3.56 .67	3.82 .40	4.00 .00					
46	View, find, copy, rename, delete and sort files	Mean SD	3.65 .49	3.57 .65	3.44 .70	3.67 .69	3.50 .62	3.56 .51	3.50 .72	3.55 .83	4.00 .00	3.40 .69	3.82 .40	4.00 .00					
47	Other word processing competencies	Mean SD	4.00 .00	4.00 .00	4.00 .00	3.60 .89	4.00 .00	4.00 .00	3.00 1.41	4.00 .00	4.00 .00	4.00 .00	00 .00	00					

APPENDIX P

Frequency of Level of Importance of Office Automation Competencies as Reported by Office Support Personnel and Managers.

No	Competencies	OSP N=(125)				MGR N=(122)			
		VI	I	SI	NI	VI	I	SI	NI
1	Create database	39	38	23	20	39	41	29	11
2	Enter Data	58	36	15	12	66	37	15	1
3	Format, edit, delete information and records	65	35	11	9	59	47	9	2
4	Find and sort data	58	34	20	10	58	46	13	1
5	Print a Report	66	35	10	11	67	37	12	2
6	Other database competencies	00	5	00	3	5	6	1	1
7	Exercise safety precautions while operating office equipment	59	39	11	8	51	48	12	6
8	Detect and report equipment malfunctions	39	48	17	8	38	61	16	1
9	Use computer	102	16	2	5	90	27	4	00
10	Use photocopier	65	41	10	8	68	28	21	4
11	Use a facsimile	64	41	10		67	28	23	11
12	Use voice mail	32	42	32	18	32	45	29	14
13	Use E-mail	54	38	19	12	50	44	18	8
14	Use Calculator	56	37	22	7	59	40	17	5
15	Use internet	23	35	36	29	20	38	41	20
16	Knowledge of teleconferencing and video conferencing	17	29	52	24	14	33	38	33
17	Other general office automation	2	1	00	1	1	1	1	00
18	Create and edit text, pie, bar and, line chart	38	45	25	16	31	49	31	9
19	Add clip art	19	42	45	17	17	50	43	11
20	Use drawing tools	20	47	37	18	20	41	39	19
21	Organize presentation	40	46	23	13	35	48	28	8
22	Prepare and print information	61	44	9	7	50	48	19	4
23	Use masters, templates, wizards	25	46	32	15	22	41	42	13
24	Create multi-page and multi-column documents	31	56	20	14	35	49	29	7
25	Import graphics, charts, text or table from other software programs	31	48	22	13	22	54	28	12
26	Other presentation/graphics software competencies	00	3	00	3	1	3	1	2

Appendix P Continued

No	Competencies	OSP N=(125)				MGR N=(122)			
		VI	I	SI	NI	VI	I	SI	NI
27	Enter and edit information	69	39	8	7	63	41	15	1
28	Work with formulas and functions	50	48	17	8	32	55	27	6
29	Edit a worksheet	50	53	9	9	48	48	18	4
30	Manage large worksheets	40	49	21	12	31	48	31	7
31	Work with graphs and data	31	50	28	11	33	47	32	6
32	Other spreadsheet competencies	4	3	1	2	2	2	2	00
33	Open and close multiple applications	65	46	7	5	63	46	10	2
34	Use Multiple applications	65	42	9	6	61	49	9	2
35	Use File Manager	72	42	5	4	59	44	16	2
36	Delete files	69	37	14	3	62	40	15	4
37	Move and copy files	78	34	6	3	65	43	10	2
38	Save and retrieve files	84	28	6	1	72	40	7	2
39	Other windows operation system competencies	3	2	1	00	7	2	2	00
40	Enter and edit information	96	24	2	2	80	32	8	1
41	Create form letters and other merge documents	87	31	6	00	73	33	14	1
42	Create headers and footers	73	36	13	1	57	44	16	3
43	Create a main document	88	31	4	1	69	40	11	1
44	Create and modify tables	79	37	7	1	64	40	15	1
45	Use spell check, grammar check, thesaurus, and writing style program(s)	100	19	3	1	82	27	10	1
46	View, find, copy, rename, delete and sort files	86	33	3	1	69	39	12	1
47	Other word processing competencies	10	00	1	00	8	00	1	00

Note: VI = Very Important, I = Important, SI = Somewhat Important, NI = Not Important

APPENDIX Q

Frequency of Level of Importance of Office Automation Competencies as Reported by Office Support Personnel and Managers Based on Type of Financial Institutions

No	Competencies	Level of Importance	FCB		OB		IB		Other	
			OSP n=26	MGR n=27	OSP n=40	MGR n=36	OSP n=23	MGR n=22	OSP n=36	MGR n=37
1	Create database	(1) VI	15	8	9	17	6	5	9	9
		(2) I	8	12	10	11	8	8	12	10
		(3) SI	1	6	13	4	4	6	5	13
		(4) NI	2	1	6	4	4	3	8	3
2	Enter Data	(1) VI	15	16	20	21	9	11	14	18
		(2) I	6	10	10	11	8	8	12	8
		(3) SI	4	1	6	4	3	3	2	7
		(4) NI	1	--	3	--	2	--	6	1
3	Format, edit, delete information and records	(1) VI	17	14	18	23	11	8	19	14
		(2) I	7	13	15	10	6	10	7	14
		(3) SI	1	00	4	2	3	3	3	4
		(4) NI	1	00	1	00	2	00	5	2
4	Find and sort data	(1) VI	16	13	18	21	10	7	14	17
		(2) I	4	13	13	12	7	11	10	10
		(3) SI	5	1	6	3	4	3	5	6
		(4) NI	1	00	1	00	2	00	6	1
5	Print a Report	(1) VI	17	17	22	25	7	9	20	16
		(2) I	5	10	12	7	11	10	7	10
		(3) SI	4	00	3	4	2	2	1	6
		(4) NI	00	00	2	00	2	00	7	2
6	Other database competencies	(1) VI	00	1	00	3	00	1	00	00
		(2) I	2	2	1	3	1	00	1	1
		(3) SI	00	00	00	00	00	1	00	00
		(4) NI	00	00	00	00	00	00	00	00

Appendix Q Continued

No	Competencies	Level of Importance	FCB		OB		IB		Other	
			OSP n=26	MGR n=27	OSP n=40	MGR n=36	OSP n=23	MGR n=22	OSP n=36	MGR n=37
7	Exercise safety precautions while operating office equipment	(1) VI (2) I (3) SI (4) NI	13 9 1 2	14 11 2 00	19 10 4 2	16 12 4 3	12 10 00 1	7 11 00 2	15 10 6 3	14 14 6 1
8	Detect and report equipment malfunctions	(1) VI (2) I (3) SI (4) NI	4 14 4 1	8 17 1 00	14 12 5 4	14 15 6 00	9 9 2 00	3 12 4 1	12 13 6 3	13 17 5 00
9	Use computer	(1) VI (2) I (3) SI (4) NI	19 5 1 1	21 5 1 00	33 6 00 1	27 8 1 00	21 2 00 00	18 3 1 00	29 3 1 3	24 11 1 00
10	Use photocopier	(1) VI (2) I (3) SI (4) NI	14 8 2 2	15 6 5 1	20 15 3 2	22 11 3 00	12 7 2 2	12 4 5 1	19 11 3 2	19 7 8 2
11	Use a facsimile	(1) VI (2) I (3) SI (4) NI	14 9 1 2	13 7 7 00	20 13 4 2	24 6 6 00	12 6 4 1	11 8 2 1	18 13 1 3	19 7 8 2
12	Use voice mail	(1) VI (2) I (3) SI (4) NI	1 7 13 5	7 8 8 4	14 13 8 4	11 15 8 2	6 11 5 1	8 9 4 1	11 11 6 8	6 13 9 7
13	Use E-mail	(1) VI (2) I (3) SI (4) NI	4 8 9 4	9 13 3 1	22 12 5 00	18 9 7 2	12 8 2 1	12 8 2 00	16 10 3 7	11 14 6 5

Appendix Q continued

No	Competencies	Level of Importance	FCB		OB		IB		Other	
			OSP n=26	MGR n=27	OSP n=40	MGR n=36	OSP n=23	MGR n=22	OSP n=36	MGR n=37
14	Use Calculator	(1) VI (2) I (3) SI (4) NI	7 8 8 2	13 8 5 1	22 11 4 1	23 9 4 00	6 14 2 1	10 8 4 00	21 4 8 3	13 15 4 4
15	Use internet	(1) VI (2) I (3) SI (4) NI	1 6 9 10	4 6 14 3	12 13 9 5	6 15 9 6	4 7 7 4	6 6 7 3	6 9 11 10	4 11 11 8
16	Knowledge of teleconferencing and video conferencing	(1) VI (2) I (3) SI (4) NI	1 5 15 4	2 6 9 10	6 9 18 6	5 12 9 9	2 9 9 3	3 7 10 4	8 6 10 11	4 8 13 10
17	Other general office automation	(1) VI (2) I (3) SI (4) NI	1 00 00 00	1 00 1 00	00 1 00 00	00 1 00 00	00 00 00 00	00 00 00 00	1 00 00 00	00 00 00 00
18	Create and edit text, pie, bar and, line chart	(1) VI (2) I (3) SI (4) NI	7 10 7 2	5 14 8 00	11 18 7 4	12 16 4 3	9 6 4 4	6 8 8 00	11 11 7 6	8 11 11 6
19	Add clip art	(1) VI (2) I (3) SI (4) NI	3 10 8 5	2 12 12 1	5 15 17 3	7 19 7 3	6 5 9 2	4 7 11 00	5 12 11 7	4 12 13 7
20	Use drawing tools	(1) VI (2) I (3) SI (4) NI	4 7 9 6	3 10 12 1	6 16 15 3	9 14 8 5	5 9 6 2	4 5 7 5	5 15 7 7	4 12 12 8

Appendix Q Continued

No	Competencies	Level of Importance	FCB		MGR		OB		MGR		IB		MGR		Other	
			OSP	n=26	n=27	n=40	n=36	OSP	n=23	n=22	OSP	n=36	OSP	n=36	OSP	n=37
21	Organize presentation	(1) VI (2) I (3) SI (4) NI	7	4	14	17	9	7	10	7	9	10	7	16	3	4
22	Prepare and print information	(1) VI (2) I (3) SI (4) NI	11	10	21	18	11	7	11	7	11	12	15	10	8	3
23	Use masters, templates, wizards	(1) VI (2) I (3) SI (4) NI	5	4	15	13	6	5	7	5	9	13	10	14	7	3
24	Create multi-page and multi-column documents	(1) VI (2) I (3) SI (4) NI	4	8	10	13	8	9	10	6	9	12	11	14	6	5
25	Import graphics, charts, text or table from other software programs	(1) VI (2) I (3) SI (4) NI	8	2	13	17	7	5	2	4	8	13	10	12	3	6
26	Other presentation/graphics software competencies	(1) VI (2) I (3) SI (4) NI	00	00	00	00	00	00	00	00	00	00	00	00	00	00
27	Enter and edit information	(1) VI (2) I (3) SI (4) NI	15	8	22	22	14	11	13	13	14	18	14	13	2	8

Appendix Q Continued

No	Competencies	Level of Importance	FCB		OB		IB		Other	
			OSP n=26	MGR n=27	OSP n=40	MGR n=36	OSP n=23	MGR n=22	OSP n=36	MGR n=37
28	Work with formulas and functions	(1) VI (2) I (3) SI (4) NI	13 8 3 2	7 13 7 00	16 15 6 3	11 19 4 2	8 12 3 00	6 8 8 00	13 13 5 3	8 15 8 4
29	Edit a worksheet	(1) VI (2) I (3) SI (4) NI	13 7 3 2	9 14 4 00	15 18 2 4	15 17 3 1	9 12 2 00	11 6 5 00	13 6 2 3	13 11 6 3
30	Manage large worksheets	(1) VI (2) I (3) SI (4) NI	13 4 6 3	4 14 8 1	11 17 7 4	16 13 4 3	5 16 1 1	5 6 9 1	11 12 7 4	6 15 10 2
31	Work with graphs and data	(1) VI (2) I (3) SI (4) NI	10 7 7 2	5 13 9 00	9 17 9 4	13 15 6 2	4 12 5 1	7 8 7 00	8 14 7 4	8 11 10 4
32	Other spreadsheet competencies	(1) VI (2) I (3) SI (4) NI	2 1 1 00	1 00 00 00	1 1 00 00	00 1 00 00	1 1 00 00	2 1 00 00	00 00 00 00	00 00 00 00
33	Open and close multiple applications	(1) VI (2) I (3) SI (4) NI	13 9 2 1	16 10 1 00	24 13 1 2	25 9 1 1	11 8 3 1	11 9 2 00	17 16 1 1	11 18 6 1
34	Use Multiple applications	(1) VI (2) I (3) SI (4) NI	13 7 4 1	15 11 1 00	23 13 1 2	25 9 1 1	11 8 2 2	9 11 2 00	18 14 2 1	12 18 5 1

Appendix Q Continued

No	Competencies	Level of Importance	FCB		OB		IB		Other	
			OSP n=26	MGR n=27	OSP n=40	MGR n=36	OSP n=23	MGR n=22	OSP n=36	MGR n=37
35	Use File Manager	(1) VI (2) I (3) SI (4) NI	16 7 1 1	15 8 4 00	23 14 1 2	23 10 2 1	11 8 3 1	8 10 4 00	22 13 00 00	13 16 6 1
36	Delete files	(1) VI (2) I (3) SI (4) NI	14 8 2 1	15 8 5 00	21 13 5 1	22 10 3 1	10 9 3 1	10 9 3 00	24 7 2 00	15 13 5 3
37	Move and copy files	(1) VI (2) I (3) SI (4) NI	17 6 1 1	15 10 2 00	23 12 2 1	23 10 2 1	11 9 2 1	10 10 2 00	27 7 1 00	17 13 4 1
38	Save and retrieve files	(1) VI (2) I (3) SI (4) NI	19 5 00 00	20 6 1 00	24 11 3 00	25 9 1 1	15 6 2 00	11 9 2 00	26 6 1 00	16 16 3 1
39	Other windows operation system competencies	(1) VI (2) I (3) SI (4) NI	2 1 00 00	2 1 00 00	00 1 1 00	4 00 00 00	1 00 00 00	00 1 00 00	1 00 00 00	00 1 00 00
40	Enter and edit information	(1) VI (2) I (3) SI (4) NI	22 3 00 00	20 5 2 00	29 10 1 00	26 8 1 1	17 4 00 2	13 6 3 00	28 7 1 00	21 13 2 00
41	Create form letters and other merge documents	(1) VI (2) I (3) SI (4) NI	20 5 00 00	17 6 4 00	24 11 5 00	25 6 4 1	16 7 00 00	12 6 4 00	27 8 1 00	19 15 2 00

Appendix Q Continued

No	Competencies	Level of Importance	FCB		OB		IB		Other	
			OSP n=26	MGR n=27	OSP n=40	MGR n=36	OSP n=23	MGR n=22	OSP n=36	MGR n=37
42	Create headers and footers	(1) VI (2) I (3) SI (4) NI	14 9 1 00	16 7 4 00	21 14 5 00	21 12 2 1	16 4 2 1	8 10 3 00	22 9 5 00	12 15 7 2
43	Create a main document	(1) VI (2) I (3) SI (4) NI	20 5 00 00	17 8 2 00	28 11 1 00	25 9 1 1	15 6 1 1	11 8 3 00	25 9 2 00	16 15 5 00
44	Create and modify tables	(1) VI (2) I (3) SI (4) NI	18 7 00 00	18 8 1 00	21 16 3 00	21 12 2 1	14 7 1 1	10 8 4 00	26 7 3 00	15 2 8 00
45	Use spell check, grammar check, thesaurus, and writing style program(s)	(1) VI (2) I (3) SI (4) NI	21 3 1 00	19 6 2 00	31 8 1 00	28 6 1 00	18 3 00 1	14 5 2 00	30 5 1 00	21 10 4 00
46	View, find, copy, rename, delete and sort files	(1) VI (2) I (3) SI (4) NI	16 8 1 00	16 9 2 00	27 12 1 00	22 12 1 1	17 5 00 1	13 5 4 00	26 8 1 00	18 13 5 00
47	Other word processing competencies	(1) VI (2) I (3) SI (4) NI	6 00 00 00	1 00 00 00	1 1 00 00	6 00 00 00	2 00 00 00	00 1 00 00	1 00 00 00	2 00 00 00

Note: VI = Very Important, I = Important, SI = Somewhat Important, NI = Not Important

APPENDIX R

Frequency of Level of Importance of Office Automation Competencies as Reported by Office Support Personnel and Managers Based on Size of Financial Institutions

No	Competencies	Level Of Importance	Small		Medium		Large	
			OSP n=59	MGR n=72	OSP n=37	MGR n=26	OSP n=29	MGR n=24
1	Create database	(1) VI (2) I (3) SI (4) NI	15 20 14 8	23 24 16 8	7 11 6 10	6 9 8 3	17 7 3 2	10 8 5 00
2	Enter Data	(1) VI (2) I (3) SI (4) NI	26 20 7 4	33 25 12 1	16 7 6 6	15 8 2 00	16 9 2 2	18 4 1 00
3	Format, edit, delete information and records	(1) VI (2) I (3) SI (4) NI	31 15 7 3	31 30 6 2	13 14 2 6	13 9 3 00	21 6 2 00	15 8 2 00
4	Find and sort data	(1) VI (2) I (3) SI (4) NI	24 20 9 4	31 29 9 1	13 9 8 6	15 6 4 00	21 5 3 00	12 11 00 00
5	Print a Report	(1) VI (2) I (3) SI (4) NI	33 15 4 6	35 23 11 1	14 11 5 5	17 7 00 1	19 9 1 00	15 7 1 00
6	Other database competencies	(1) VI (2) I (3) SI (4) NI	3 1 00 00	3 3 00 00	00 2 00 00	1 1 00 00	00 2 00 00	1 4 00 00
7	Exercise safety precautions while operating office equipment	(1) VI (2) I (3) SI (4) NI	29 15 5 5	30 28 7 4	14 16 5 2	13 8 2 2	16 8 1 1	8 12 3 00

No	Competencies	Level Of Importance	Small		Medium		Large	
			OSP n=59	MGR n=72	OSP n=37	MGR n=26	OSP n=29	MGR n=24
8	Detect and report equipment malfunctions	(1) VI (2) I (3) SI (4) NI	17 22 8 4	22 37 9 0	10 16 7 3	10 9 5 1	12 10 2 1	6 15 2 0
9	Use computer	(1) VI (2) I (3) SI (4) NI	47 7 1 4	52 16 4 0	29 6 1 1	21 5 00 00	26 3 00 00	6 17 00 00
10	Use photocopier	(1) VI (2) I (3) SI (4) NI	28 23 4 3	39 15 16 2	19 12 3 3	15 6 4 1	18 6 3 2	14 7 1 1
11	Use a facsimile	(1) VI (2) I (3) SI (4) NI	26 23 5 3	38 16 16 2	19 11 4 3	15 6 4 1	19 7 1 2	14 6 3 00
12	Use voice mail	(1) VI (2) I (3) SI (4) NI	11 21 15 11	14 28 19 11	8 14 11 4	9 8 6 2	13 7 6 3	9 9 4 1
13	Use E-mail	(1) VI (2) I (3) SI (4) NI	22 19 7 9	28 28 12 4	15 12 7 3	10 8 3 4	17 7 5 00	12 8 3 00
14	Use Calculator	(1) VI (2) I (3) SI (4) NI	28 16 10 2	33 27 9 3	13 12 7 5	14 8 2 2	15 9 5 00	12 5 6 00

Appendix R Continued

No	Competencies	Level Of Importance	Small OSP n=59	MGR n=72	Medium OSP n=37	MGR n=26	Large OSP n=29	MGR n=24
15	Use internet	(1) VI (2) I (3) SI (4) NI	10 15 16 16	12 26 21 11	6 7 14 10	5 5 9 7	7 13 6 3	3 7 11 2
16	Knowledge of teleconferencing and video conferencing	(1) VI (2) I (3) SI (4) NI	7 11 26 13	7 20 24 19	4 11 13 8	3 8 7 7	6 7 13 3	4 5 7 7
17	Other general office automation	(1) VI (2) I (3) SI (4) NI	00 1 00 00	1 1 00 00	1 1 00 00	00 00 00 00	1 00 00 00	00 1 00 00
18	Create and edit text, pie, bar and, line chart	(1) VI (2) I (3) SI (4) NI	12 24 14 8	18 29 19 6	14 11 7 5	6 12 5 3	12 10 4 3	7 8 7 00
19	Add clip art	(1) VI (2) I (3) SI (4) NI	7 17 25 8	10 26 29 7	6 13 11 7	4 13 5 4	6 12 9 2	3 11 9 00
20	Use drawing tools	(1) VI (2) I (3) SI (4) NI	5 24 19 9	12 24 23 11	5 12 12 7	4 10 5 7	10 11 6 2	4 7 11 1
21	Organize presentation	(1) VI (2) I (3) SI (4) NI	17 22 12 6	23 26 19 4	10 15 6 5	7 10 4 4	13 9 5 2	5 12 5 00

No	Competencies	Level Of Importance	Small		Medium		Large	
			OSP n=59	MGR n=72	OSP n=37	MGR n=26	OSP n=29	MGR n=24
22	Prepare and print information	(1) VI (2) I (3) SI (4) NI	29 19 5 3	30 27 14 1	17 14 2 3	8 12 3 3	15 11 2 1	12 9 2 00
23	Use masters, templates, wizards	(1) VI (2) I (3) SI (4) NI	14 17 16 8	13 25 25 7	5 18 7 5	6 8 6 6	6 11 9 2	3 8 11 00
24	Create multi-page and multi-column documents	(1) VI (2) I (3) SI (4) NI	17 23 9 8	24 24 19 4	4 21 6 5	5 12 6 3	10 12 5 1	6 13 4 00
25	Import graphics, charts, text or table from other software programs	(1) VI (2) I (3) SI (4) NI	14 23 9 7	12 33 20 6	10 11 10 4	5 10 3 6	7 14 3 2	5 11 5 00
26	Other presentation/graphics software competencies	(1) VI (2) I (3) SI (4) NI	1 1 00 00	2 1 00 00	00 00 00 00	1 1 00 00	00 2 00 00	00 00 00 00
27	Enter and edit information	(1) VI (2) I (3) SI (4) NI	34 15 4 4	34 22 14 1	18 15 3 1	17 9 00 00	17 9 1 2	12 10 1 00
28	Work with formulas and functions	(1) VI (2) I (3) SI (4) NI	24 21 9 3	17 30 20 5	12 15 7 3	9 15 1 00	14 12 1 2	6 10 6 1

Appendix R Continued

No	Competencies	Level Of Importance	Small		Medium		Large	
			OSP n=59	MGR n=72	OSP n=37	MGR n=26	OSP n=29	MGR n=24
29	Edit a worksheet	(1) VI (2) I (3) SI (4) NI	26 19 5 6	24 29 13 4	10 22 4 1	15 9 1 00	14 12 00 2	9 10 4 00
30	Manage large worksheets	(1) VI (2) I (3) SI (4) NI	19 21 11 6	15 30 20 5	11 15 7 4	9 10 4 1	10 13 3 2	7 8 7 1
31	Work with graphs and data	(1) VI (2) I (3) SI (4) NI	15 22 12 6	16 32 18 4	11 12 10 4	11 6 6 2	5 16 6 1	6 9 8 00
32	Other spreadsheet competencies	(1) VI (2) I (3) SI (4) NI	2 1 1 00	1 2 1 00	2 1 1 00	1 1 00 00	1 00 00 00	00 00 00 00
33	Open and close multiple applications	(1) VI (2) I (3) SI (4) NI	31 20 4 2	36 28 6 2	14 18 3 2	14 8 4 00	20 8 00 1	13 10 00 00
34	Use Multiple applications	(1) VI (2) I (3) SI (4) NI	32 19 3 3	37 27 6 2	15 14 6 2	13 10 3 00	18 9 00 1	11 12 00 00
35	Use File Manager	(1) VI (2) I (3) SI (4) NI	36 17 2 2	35 25 10 2	20 13 3 1	12 11 3 00	16 12 00 1	12 8 3 00

Appendix R Continued

No	Competencies	Level Of Importance	Small		Medium		Large	
			OSP n=59	MGR n=72	OSP n=37	MGR n=26	OSP n=29	MGR n=24
36	Delete files	(1) VI (2) I (3) SI (4) NI	31 18 6 2	36 25 7 4	20 9 7 1	14 8 4 00	18 10 1 00	12 7 4 00
37	Move and copy files	(1) VI (2) I (3) SI (4) NI	35 18 2 1	37 26 7 1	24 8 3 2	15 9 1 1	19 8 1 00	13 8 2 00
38	Save and retrieve files	(1) VI (2) I (3) SI (4) NI	37 14 2 1	43 24 4 1	27 6 4 00	16 8 2 00	20 8 00 00	13 8 1 1
39	Other windows operation system competencies	(1) VI (2) I (3) SI (4) NI	00 1 00 00	5 2 00 00	2 00 00 00	1 2 00 00	1 2 00 00	1 00 00 00
40	Enter and edit information	(1) VI (2) I (3) SI (4) NI	45 10 2 1	45 20 6 1	26 10 00 1	17 8 1 00	25 4 00 00	18 4 1 00
41	Create form letters and other merge documents	(1) VI (2) I (3) SI (4) NI	42 13 3 00	40 22 9 1	26 9 2 00	17 6 3 00	19 9 1 00	16 5 2 00
42	Create headers and footers	(1) VI (2) I (3) SI (4) NI	37 12 9 00	29 31 9 3	22 12 2 1	13 8 4 00	14 12 2 00	15 5 3 00

Appendix R Continued

No	Competencies	Level Of Importance	Small		Medium		Large	
			OSP n=59	MGR n=72	OSP n=37	MGR n=26	OSP n=29	MGR n=24
43	Create a main document	(1) VI (2) I (3) SI (4) NI	44 11 3 00	36 27 8 1	23 13 00 1	16 8 2 00	21 7 1 00	17 5 1 00
44	Create and modify tables	(1) VI (2) I (3) SI (4) NI	37 17 4 00	36 24 11 1	25 10 1 1	14 9 3 00	17 10 2 00	14 7 1 00
45	Use spell check, grammar check, thesaurus, and writing style program(s)	(1) VI (2) I (3) SI (4) NI	45 10 2 00	45 17 8 1	30 6 00 1	19 6 1 00	25 3 1 00	18 4 1 00
46	View, find, copy, rename, delete and sort files	(1) VI (2) I (3) SI (4) NI	42 13 2 00	38 25 8 1	26 10 00 1	16 7 3 00	18 10 1 00	15 7 1 00
47	Other word processing competencies	(1) VI (2) I (3) SI (4) NI	3 1 00 00	5 1 00 00	5 00 00 00	1 00 00 00	2 00 00 00	2 00 00 00

Note: VI = Very Important, I = Important, SI = Somewhat Important, NI = Not Important