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Perceptions of faculty and students toward the obstacles of implementing e -government in educational institutions in Saudi Arabia

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**Perceptions of Faculty and Students toward the Obstacles of Implementing
E-Government in Educational Institutions in Saudi Arabia**

Salah J.M Alharbi

**Dissertation submitted to
The College of Human Resources and Education
at West Virginia University
in partial fulfillment of the requirements
for the degree of**

Doctor of Education

**In
Curriculum and Instruction**

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Morgantown, West Virginia 2006**

**Keywords: Saudi Arabia, e-government obstacles, faculty's and student's perceptions,
educational institutions.**

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ABSTRACT

Perceptions of Faculty and Students toward the Obstacles of Implementing E-Government in Educational Institutions in Saudi Arabia

Salah Alharbi

The purpose of this study was to examine the perceptions of faculty members and students towards the obstacles of e-government implementation in educational institutions in Saudi Arabia. To collect data, the researcher developed two surveys and employed a quantitative research technique. The research population involved 101 faculty members and 305 students from the IPA, KSU and IMBSIU. Descriptive statistics, frequency and percentage were conducted for each variable. Means and standard deviations for all Likert-type scale variables were calculated. Testing for the equality of groups' means was conducted using t- test or Analyses of Variance (ANOVA). The level of significance was 0.05 for all tests. The collected data was analyzed using the Statistical Packages for the Social Sciences (SPSS). Depending on literature, 46 statements were identified as obstacles. The results of the study show that 37 of the identified obstacles prevent or influence e-government implementation in educational institutions. The identified obstacles were then categorized into six groups: educational, organizational, political, financial, social, and technological obstacles, ranked from highest to lowest mean. There was no statistically significant difference between groups of students and faculty members, males and females, and respondents from different institutions regarding all variables. However, a t-test revealed significant difference in participants from different academic majors with respect to their total scores on responses related to financial obstacles.

The study suggests that the e-government implementation should be done gradually throughout comprehensive planning. Therefore, a comprehensive plan should be made that includes all factors and aspects organizational, educational, financial, legislative, technological, and environmental. Also, e-government implementation needs to be integrated into the national curriculums from primary school to higher education. Furthermore, it is recommended that educational institutions should offer workshops, training programs, seminars and conferences regarding e-government implementation, as well as conducting a massive campaign to raise social awareness of e-government

advantages. Also, fundamental changes in organizational behavior are necessary to overcome resistance to change. Educational institutions need to establish teams in each institution to be in charge of e-government applications and also support them by adequate budget and authority. The IPA should play an active role in training governmental employees in e-government applications, offering consultations, and performing research in this regard as well.

DEDICATION

*To my valuable and precious father and mother
for their inspiration and devotion.*

May Allah bless their souls.

*To my wife, my brothers and sisters, thank you for encouraging me to
pursue this degree.*

To my children, Hala, Sultan, Musaad, Meshal, Sarah, and Abdulmalike.

*Finally, to all my family members and friends who supported me
throughout this study.*

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CHAPTER I: INTRODUCTION

Technological advance has begun to play a significant role in the way we live, communicate, educate, get services, and do business (Smith, 2002). People can now use technology tools to purchase goods and services without ever leaving their homes. Such advances also change the way governments do business with people and agencies. Thus, people are beginning to expect government services to equal those services offered by the private sector (Roadmap for E-G, 2002). Furthermore, governments are discovering how technology can enable citizens to interact in a more efficient manner. Thus, many governmental agencies across the world have embraced the digital revolution and placed a wide range of materials on the web, and they have sought to spread electronic applications (Ballmer, 2000).

Today's progressive governments are constantly introducing electronic methods and using electronic government applications for delivering services (Smith, 2002). Electronic government (e-government) has become a pervasive global phenomenon around the world, in both industrialized and developing nations (Roadmap for E-G, 2002). E-government refers to the public sector's organizational use of technology applications to enhance service delivery to citizens, businesses, and other agencies 24 hours a day, seven days a week (Seifert & Bonham, 2004). E-government implementation helps to reduce costs by making internal operations more efficient, serving government's customers better, and reducing complex and over-stretched bureaucratic systems (Basu, 2004). The primary function of e-government is to "improve citizen access to government information, services and expertise to ensure citizen participation, and satisfaction with the governing process" (UN/ASPA, 2000). Thus, Feng (2003) found that 90% of chief

executives believed that the Internet would be highly important to their organizations in the future (p, 56). Therefore, the adoption of e-government has become a large part of political planning for many countries. Many governments today are allotting significant sums of money towards the establishment of e-government applications. After full implementation of e-government there is no need for people to wait in long lines or shuffle from one window to the next, within the sometimes short business hours of certain government departments or agencies, in order to obtain services.

E-government applications have become a major component in the field of education due to technology capability in providing faculty members, students, and administrator's special routes to global events and facilitating educational operations. It helps to meet increasing demands from students with better services, while reducing resources at the same time (Stewart, 1994). Therefore, institutions can save operating costs, and those savings may be achieved in several categories such as labor and supplies. Some studies indicate governments are saving up to 70% by moving services online compared to the cost of providing the same services over the counter (Caldow, 1999). Also, educational institutions can launch initiatives to digitize libraries, acquire equipment, train faculty members and develop e-educational materials (OECD, 1997b). On-line registration is another application that continues to expand, replacing the more complicated administrative student information systems with user-friendly visual feedback and access unrestricted by time or location. When e-government is implemented in educational institutions, students do not need to drive a long distance and stand in long registration lines (Allen, 2000). In addition, students can easily switch from one institution or university to another or from one department to another. Students can also

apply online for admission without leaving their areas (Stewart, 1994). However, in the traditional way, people in Saudi Arabia need to travel sometimes about 500 miles to apply for admission because it is a very large country and the universities are limited and far from one another. E-government gives students a much shorter wait before receiving an acceptance or rejection without the traditional costs. According to Allen (2000) in a survey of 334 institutions in the US, 62% offered online class schedules, 71% offered online catalogs, 40% offered online instructor information, 29% offered online registration, and 53% had an online registration office homepage (p. 1).

Implementing e-government is essential not only for students but also for faculty members to meet their needs such as annual leave, promotion, conferences requests, and other faculty needs. Literature indicates that faculty members are more likely to deal with and participate in the implementation of e-government rather than other governmental workers because educated people are more willing to use new technology (Shafi, 2002). Also, faculty members and students have become more technologically literate (Smith, 2001). Giles stated that "adult students are looking to the online environments for providing educational opportunities...."(1999, p. 77). In view of the fact that e-government implementation helps educational institutions to achieve educational goals and gives students and faculty members more options and benefits, why then do governments not implement this technology immediately?

In fact, transformation from traditional systems to e-government is one of the most important public policy issues currently facing most governments, especially developing countries (Smith, 2002, & Sharma & Gupta, 2003). However, a fundamental awareness of existing needs and capacities as well as identifying obstacles and

opportunities is beneficial and very important in order to undertake the development of e-government strategies and action plans with the aim of overcoming those challenges and barriers, and then spreading e-government applications.

Although governmental organizations in Saudi Arabia overall have expanded and dramatically improved online presence (UNPAN, 2004), most of them especially, educational institutions are still in the primary stages and have not fulfilled the potential e-government preparation due to obstacles and challenges such as technology, legislation, regulations, financial, educational, organizational, and social obstacles. Therefore, this study focuses on obstacles and challenges that prevent or influence the implementation of e-government in educational institutions in Saudi Arabia.

The Need for the Study

The benefits brought by many of the latest technologies have been emphasized in the literature, but little attention has been given to the challenges or obstacles facing governmental organizations. Consequently, this study investigated the obstacles of e-government implementation facing educational institutions in order to bring them to the limelight. The findings of this study will help in understanding what the obstacles of e-government implementation are with the aim of overcoming the barriers and speeding up the implementation of e-government as well.

Statement of the Problem

This study attempts to investigate perceptions and attitudes of faculty members and students toward the obstacles and challenges of implementing e-government in educational institutions in Riyadh, Saudi Arabia. The educational institutions that were

included in this study are the Institute of Public Administration (IPA), King Saud University (KSU), and Imam Mohammed Bin Saud Islamic University (IMBSIU).

Research Questions

The research questions are:

- To what extent are current governmental policies (legislation and regulations) perceived as obstacles to implementing e-government in educational institutions by faculty members and students?
- To what extent are current financial systems perceived as obstacles to the implementation of e-government in educational institutions by faculty members and students?
- To what extent are current technological systems perceived as obstacles to the implementation of e-government in educational institutions by faculty members and students?
- To what extent are current educational and training systems perceived as obstacles to the implementation of e-government in educational institutions by faculty members and students?
- To what extent are current organizational systems perceived as obstacles to the implementation of e-government in educational institutions by faculty members and students?
- To what extent are current social systems perceived as obstacles to the implementation of e-government in educational institutions by faculty members and students?

- What differences are there between groups (faculty members and students, males and females, different groups from different institutions, and different groups from different academic majors) in their responses?
- Are there any additional obstacles or challenges preventing the implementation of e-government as perceived by faculty members and students in educational institutions?

PPH - Descriptive statistics were provided for each of the survey's categories (A= political, B= educational, C= financial, D= technological, E= organizational, F= Social) to help address to what extent they were perceived as the obstacles to the implementation of e-government in educational institutions by faculty members and students.

Purpose of the Study

The purpose of this study is to document and analyze faculty members' and students' perceptions toward the obstacles of implementing e-government in educational institutions in Saudi Arabia. Thus, the problem of this study is to identify and assess the obstacles and challenges associated with the implementation of e-government in educational institutions. This study provides decision-makers in Saudi Arabia with practical information regarding obstacles and challenges preventing or influencing e-government applications based on the findings. It identifies and examines the obstacles of e-government implementation, based on faculty and student perceptions, with the aim of reducing them and spreading e-government applications.

Significance of the Study

Literature shows that governmental organizations are affected by the actions taken by other institutions in their adoption and innovation of e-government. When e-

government is implemented successfully in some institutions, it spreads easily to other institutions (Norris, 1999). Educational institutions are considered good places to implement new technological tools in an effort to lead other organizations and positively to effect governmental organizations in e-government initiatives. Rezmierski (1996) pointed out that colleges and universities are moving rapidly towards e-data interchange since faculty members and students usually are more likely to practice and appreciate these applications. Educational institutions play an extremely important role in the Kingdom of Saudi Arabia regarding the application of new technology tools and the preparation of a qualified workforce to build the country's economy. Therefore, this research attempts to investigate obstacles and challenges that influence or prevent e-government implementation in educational institutions for the purpose of overcoming those barriers in order to expand e-government applications in those institutions in the short term, and to be a guide in the long run for governmental organizations in Saudi Arabia.

However, implementation of e-government is not an easy or an inexpensive task, especially in the developing world. Mikdashi & Salaam (2003) point out that the universal experimentations indicate that the success of e-government projects falls between (20-40%). They also stated that the statistics indicate that (35%) of e-government projects fail in the developing world, but 15% of e-government projects are successes. Atallah (2001) stated that about 85% of public-sector Information Technology (IT) projects are destined to be failures.

Furthermore, literature indicates that academic research on e-government has been limited in general. In particular, there is no academic research focusing on obstacles

of e-government implementation in educational institutions in Saudi Arabia. In addition, Abu Mgaied (2004) recommended studying the obstacles facing e-government implementation in Saudi Arabia (p.156). As a result, studying the obstacles and challenges are considered significant for the successful implementation of e-government.

The purpose of this study is to explore and investigate the obstacles and challenges to e-government implementation. It attempts to explore the biggest challenges and obstacles associated with such implementation. This would assist the educational leaders and decision makers in Saudi Arabia to get accurate information about the challenges and barriers that prevent or influence e-government implementation. Furthermore, this study is significant because it provides new information to the educational institutions according to faculty and student perceptions about the obstacles and challenges associated with implementing e-government. As mentioned earlier, there is little research conducted regarding e-government. Moreover, there is no research focusing on the obstacles of e-government, especially in educational institutions in Saudi Arabia. This study is significant for the following reasons:

1. Results from this study should provide effective assessment measures of e-government obstacles.
2. The results of the research should help decision makers in Saudi Arabia who are in charge of initiating e-government implementation.
3. The findings contribute to a better understanding of the obstacles of e-government in educational institutions.
4. The findings may assist academic department chairs, college deans, administrators, and presidents of educational institutions to take action

in order to minimize barriers with the aim of spreading e-government initiatives in educational institutions.

5. This study's findings contribute to the empirical body of literature on e-government obstacles and provide a foundation upon which future studies could be based.
6. The study can help to launch further research into the obstacles of e-government applications.
7. This study provides the first comprehensive examination of faculty and student perceptions of obstacles facing e-government implementation in educational institutions in Saudi Arabia.

Delimitations of the Research

This study is limited in the following ways:

- This study is limited to the year 2005.
- This study is limited to faculty members and students.
- Respectively, the study focuses on only selected headquarters of the institutions, located in Riyadh.

General Limitations

Limitations are an inherent part of any research. However, participants of this study have different levels of expertise in and familiarity with the research topic. The different experiences and the knowledge about the research topic may influence the perceptions of participants and the results of the study. Also, the validity and reliability of the instrument imposes a limitation on the results of the study. A limited number of female participants may also influence the results and comparison of gender. However,

these limitations should not be regarded as major threats to the study, considering that their possible impact has been borne in mind and efforts have been made to decrease them.

Justification

This study focused only on three educational institutions, which are the IPA, KSU and IMBSIU, as important educational institutions in Saudi Arabia. The IPA was established in 1961 as a unique administrative institution in Saudi Arabia for development programs as well as preparation and development of competent human resources needed to upgrade the performance level and efficiency of government agencies working in various development fields. The purpose of the IPA is to promote the efficiency of government civil servants and prepare them academically and practically to ensure a high level of administration. It takes care of developing and performing instructional training programs for various echelons of employees, while conducting scientific administrative research and consultation as well. The IPA participates in administrative reorganization of government agencies and offers advice on administrative problems presented to the ministries and public organizations. In addition, it holds conferences on administrative development for top management levels of government personnel (the IPA < www.ipa.edu.sa).

KSU was established in 1957 as the first university in Saudi Arabia. It has the largest number of faculty members and students in addition to having the highest annual budget among educational institutions. It was established to cope with the rapid development and expansion of higher education in Saudi Arabia. In addition, it promotes the acquisition of knowledge by encouraging scientific research while offering a

comfortable environment conducive to professional growth. It has played a positive role in research that concentrates on the development of arts and science and finds solutions for technological obstacles facing society. KSU provides opportunities for education in all fields and contributes, with the other institutions of higher education, to the achievement of the socio-economic goals inherent in the development plans of the country (KSU<www.ksu.edu.sa).

IMBSIU was established in 1974 to provide instruction in Islamic studies and a proper understanding of Islam. It offers the best in Islamic education for preparing and qualifying citizens to do their duties in serving their country as well as preparing specialized scientists and teachers. Also, it helps various Islamic societies in the specialized education of their citizens in Islamic studies (IMBSIU<www.imamu.edu.sa).

In general, all these institutions have very significant roles in the education field in Saudi Arabia. They are representative of other educational institutions in Saudi Arabia.

Definition of Terms

The following terms are defined to clarify their use in the context of the study:

E-government: E-government, though not yet clearly defined nor thoroughly understood among many scholars of public administration, is still regarded as one of the most noteworthy concepts introduced to the field in the late 1990s (Moon, 2002). It is clear there is no unique definition for e-government, but it can be defined as using the most innovative information and communication technologies, particularly the Internet, as a means to deliver better government services to citizens, businesses, and other governmental organizations with greater convenience (McClure, 2000).

Internet: "the internet is a large collection of networks that are tied together so that many users can share their vast resources" (Williams, 1995, p. 9).

Information Technology (IT): IT refers to the technological side of an information system, including hardware, databases, software networks and other devices, and can be viewed as a subsystem of an information system (Turban, McLean, & Wetherbe, 1996).

Perceptions: perception is feeling, a reaction, opinions, observations, emotion or personal evaluation toward something with some degree of evaluative consistency.

Faculty member: An instructional faculty member who is in a full-time position as a professor, associate professor, assistant professor, or instructor.

Study Organization

This study is organized into five chapters. Chapter one presents an introduction, the need for the study, statement of the problem, research questions, purpose of the study, significance of the study, delimitations of the research, general limitations, justification and definitions of terms. Chapter two includes a summary of available literature to provide a background in e-government through an examination of prior research. Also, it covers the benefits, stages, readiness, and implementation of e-government and focuses on the obstacles and challenges of e-government. Chapter three describes the development of the research methodology. The methodological elements include research design, population and sample, research instrumentation, validity, reliability, pilot study, data collection and data analysis. In chapter four, the results of the study and data analyzed are presented. Chapter five presents summaries, discussion, conclusion, recommendations for practice and future research recommendations.

CHAPTER II:

LITERATURE REVIEW

The objective of this chapter is to review the available literature that is relevant to the topic of the dissertation in order to evaluate related prior research. It reviews the literature of several relevant topics and issues regarding e-government such as the benefits of e-government, government and society readiness, strategies, successful factors of e-government development. However, it focuses on the obstacles and challenges of e-government implementation and presents a review of the literature associated with the variables of the study.

2.1 E-government Benefits

E-government has the potential greatly to improve the delivery of public services, making them easier to access, more convenient to use, and more responsive. Chavez (2003) stated that the employment of technology via the Internet, having significantly reduced the use of paper, pencils and gas, has helped improve environmental quality. The Web also gives government the ability to provide the public with low cost and convenient access to information (Cohen & Emicke, 2002). Furthermore, the Internet provides citizens with around-the-clock access to specific information. It supports the possibility of liberating citizens from traveling to government offices and waiting in lines while processing their requests (Cohen & Emicke, 2002). For example, a person can apply to get university admission in the middle of the night, instead of having to wait for the office to open the next day or to travel to it (Making a Case for E-G, 2002). Since e-government is always available, the public can access information and request services anytime, even when offices are closed; allowing government workers to respond to e-mail requests

during those times of the day when live and telephone requests are less frequent (Cohen & Emicke, 2002, p.10).

E-government applications are becoming essential because of their many benefits, including improvement of service deliveries, efficiency and transparency. Also, it facilitates distance job opportunities for all, especially women in countries such as Saudi Arabia. Thus, a woman can do her job and receive governmental services without leaving home. Chavez (2003) points out that being able to stay at home and conduct government transactions over the Internet will be greatly appreciated by anybody who has ever had to wait in a long line or look for a parking space in a crowded downtown (p. 32). Also, Chavez stated that e-government has clear benefits regarding economizing and improving a government's service operations, including efficiency, reduced transactional costs, and increased services for citizens (2003, p. 8). Furthermore, Hasan (2003) points out that "the implementation of e-government hopefully will emerge as a magical antidote to combat corruption, red tape, bureaucratic inefficiency and ineffectiveness, nepotism, cronyism, lack of accountability, and transparency" (p. 111).

Hart-Teeter (2003) pointed out that 74% of all e-government users, and nearly 78% best practice area e-government users, report that it has made it easier and more convenient for them to stay informed about government services. Similarly, 67% of all e-government users, and 68% of best practice area e-government users, feel that e-government has made government transactions easier and more convenient for them. Also, 14% of government employees think that e-government will make government transactions easier for them to conduct, and 24% believe that it will save citizens' time. Fifty-five percent, however, cite better information for citizens as the biggest benefit of e-

government (Hart-Teeter, 2003). Moreover, West (2001) found that 86% of respondents believed that e-government had already improved service delivery, and 83% believed it had led to more efficiency in government (p. 18).

E-government implementations in the education field can increase literacy rates significantly. Web-based education and e-learning have vastly facilitated distance learning (Hasan, 2003). Thus, students in remote rural regions can have access to instructors anywhere in the world. E-government is an excellent tool when it comes to service requests, including the obtaining and filing of permits, or registration, signing up for appointments and paying fees through the use of credit cards (Cohen & Eimicke, 2002, p. 8). In addition, West (2001) stated that the interactive nature of Internet technology and its ability to speed communications has the potential to make government function better (p. 16). A government may have many reasons to embrace e-government as an approach to government reform (Heeks & Richard, 1999).

E-government, in its most efficient and effective form, provides ready access to information, increased self-service options for citizens and businesses, and increased accountability. This allows those in the community to serve themselves at their own convenience (Poostchi, 2002) because e-government applications can customize services based on personal preferences and needs (Alfred, 2002). Efficiency, including a focus on customer service and improved resource management, is one of the chief reforms cited to advance e-government initiatives. Through e-government, the automation of standardized tasks can reduce errors and improve consistency in outcomes, while the re-engineering and streamlining of operating procedures can lead to lower costs and a reduction in bureaucratic tiers (Seifert & Bonham, 2004). Though duplicative positions may be

eliminated through such actions, less time spent on repetitive tasks, such as processing license renewals or employee benefit changes, may provide the remaining employees with opportunities for the development of new skills and for career advancement (Breen, 2000). Currently, governments utilize the Internet to provide public services to their citizens, far more efficiently and effectively, thereby shaping stronger relationships with businesses and citizens. The benefits of e-government include continuous availability of service, a reduction in response time and a reduction in error rates, which contribute to an increase in government efficiency (Al-Kibisi, Mourshed, & Rea, 2001). Norris & Fletcher (1999), report that innovative IT helps increase efficiency in administration of services, and speed up public access to needed information and services.

Generally, the lack of political transparency has been associated with governmental corruption and it can lead to increased costs for completing routine transactions and making democratic accountability nearly impossible. Thus, e-government may be used in an effort to increase a government's transparency. Eliminating bureaucracy and increasing both political and economic transparency are some of the objectives behind e-government initiatives, which may be designed to improve accountability, decentralize control, remove bottlenecks in routine transactions, increase the reliability and predictability of government actions, and better ensure equal access to information and services (Seifert & Bonham, 2004).

Ghafan (2002) states that the primary motivations for governments to move toward e-government are that it will lead to significant savings by offering services online (p. 4). E-government should not be looked at solely as a strategy for reducing the cost of government, though this can be one valuable result. Though it may reduce costs for

citizens and business, e-government applications, with few exceptions, do not lower costs in the short term for government itself (Roadmap for E-G, 2002). However, Cohen & Emicke (2002) point out that the benefit of using the Internet may significantly reduce the cost of information collection and sharing (p. 7). Norris & Fletcher (1999) stated that technological innovations may give more quality of service delivery to businesses and customers and reduce the cost of public access to information or services as well as increasing government capacity. Also, as some studies show, e-government enables agencies to lower their operating costs, provide faster service to clients, and eliminate redundant IT development across agencies. Caldow (1999) stated that the US is saving up to 70% by moving services online, compared to the cost of providing the same services over the counter. Furthermore, online license renewal in the state of Arizona costs \$2 per transaction, versus \$7 over the counter. In Alaska, online vehicle registration costs have dropped from \$7.75 to only \$0.91 using an online system (The Governor's Commission on E-G, 2000).

Seifert & Bonham (2004) point out that implementation of e-government not only saves resources, but it can also significantly increase service levels by reducing time spent in bureaucracy. The desire to provide new and improved services has a tendency to concentrate more on improving the citizen's experience interacting with the government when seeking out information or trying to obtain various services. The evolution of e-government and technology creates the potential for new services to emerge, which contributes to improved service quality. Furthermore, Hart-Teeter (2003) mentioned that senior government employees have said repeatedly, that e-government would improve government operations and lead to better government services.

Chavez (2003) stated that the implementation of e-government provides a unique opportunity to bridge the gap between the general population and agencies (p. 22). Thus, through many means of e-government applications, governments may try to build citizen participation, such as by connecting people who live in remote areas of the country. Therefore, they can send and receive information more easily. Also, fostering a greater civic culture through the creation of forums could enhance citizen interaction by providing opportunities for people with similar interests, opinions, and concerns (Seifert & Bonham, 2004).

People feel they have increasingly limited time, and they may look for ways to reduce time spent standing in lines and taking care of administrative tasks, thus leading to another potential source of citizen demand for e-government (Seifert & Bonham, 2004). Thus, e-government applications assist in saving citizens time and money by eliminating the need to travel in person to government offices for information and services. Citizens get greater personal choice and flexibility regarding access to information and services (Guthrie & Dutton, 1992). E-government initiatives could contribute to a qualitative change in how government conducts business and how citizens interact with government and with each other (Seifert & Bonham, 2004).

2.2 E-Government Stages

In quantifying e-government development progress, government strategic planning has devised certain levels or stages, which take into account the content and deliverable services available through official websites to represent the government's level of development. Having characterized e-government development as a linear progression, some service providers move through some stages before achieving the

stated program objectives (Ronaghan, 2001). Most researchers and authors specified four stages of e-government development and a few of them list five or six stages with various names.

Moon (2002) found that many municipal governments are still in the early stages of development, either stage one or two of e-government, which involve simply posting and disseminating government information over the Web or providing online channels for two-way communication, particularly for public service requests (P. 431). The study of (UN/ASPA, 2001) which included 190 nations showed that none of the surveyed nations had achieved integration. It also showed only 17 had achieved the transaction stage, and most developing nations were either at the emergency or the broadcast stage (Ronaghan, 2001). However, there is no specific number of stages of e-government since it is different from one researcher to another. Due to a variety of technological, social, organizational, economic, and political reasons, e-government initiatives take time to evolve into their full potential. Therefore, e-government projects can divide into the four stages of evolution: presence, interaction, transaction, and transformation (See Figure 2.1). Each successive stage represents an augmented capability to provide information and services as interactive transactions online (Jeffrey, 2003).

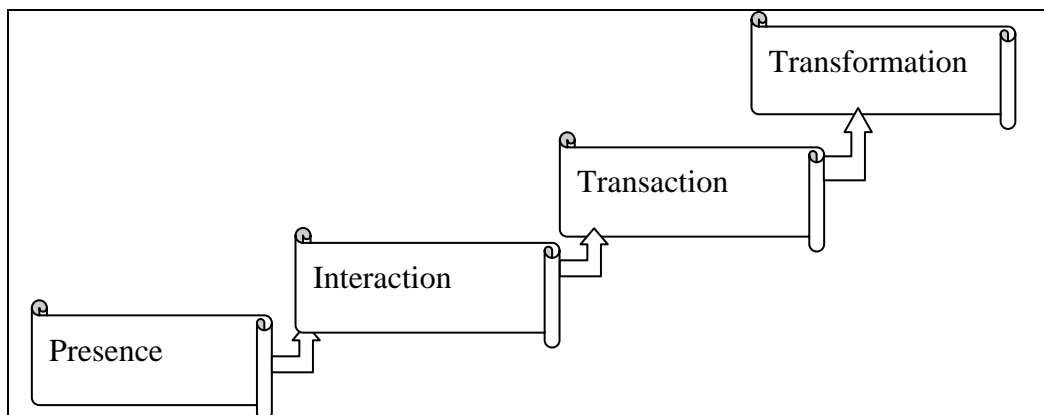


Figure 2.1 E-Government Stages

2.2.1 Presence

The critical task of building the infrastructure at this stage, such as telecommunications, would be undertaken. In this stage the website has basic government information such as downloadable information and forms (Carvin, Hill, & Smothers, 2004). It involves the creation of a government web-portal in order to publicize government services and general information as consisting of a web site that lists essential information on the agency. These sites would convey the government's initiative, providing information such as business hours, address, lists of contact persons and phone numbers. As the most basic level of entry for e-government, this is easy and cheap to implement (ESCWA, 2003).

2.2.2 Interaction

At this stage, the needed information and e-forms can be filed either electronically or by hand (after printing) and then sent by mail. This helps citizens avoid a trip to government offices. Database search and e-mail communication capabilities can be used at this stage, by the organization, to provide broad and dynamic information to citizens (ESCWA, 2003). This includes the ability to introduce various interactive services that enable citizens to access government websites and fill out various online forms. Also, download documents, data, and other resources are accessed in a relatively simple and straightforward manner because an e-government resource identifies the closest match to a user's basic request (Carvin et al., 2004).

2.2.3 Transaction

At this stage, government conducts online transactions, while financial and legal services are offered, so that citizens can complete entire transactions with government

entities. Thus, services should be available for the public such as bill and fine payments and license renewal. This stage also requires that the security standards of the e-government infrastructure be improved, an objective achieved through the use of e-signatures and certificates. This stage is more complex and more expensive to implement (ESCWA, 2003).

2.2.4 Transformation

This final stage would strive to achieve the true vision of e-government. Thus, a dynamic transition takes place in which new technologies allow the use of information on an interdepartmental level in order to provide new types of services. It should also see a significant change in management culture and responsibility within government. At this stage, technical, fiscal and administrative constraints are the most difficult to implement (ESCWA, 2003). This has a major impact on the organization of current governmental agencies by transforming the existing structure, laws, and procedures. Information communication technologies (ICTs) are fully integrated regarding government business between itself and its constituents, businesses, or other governments, allowing eligible users to access information, satisfy obligations, and apply for services online tailored to their exact needs (Gartner Group, 2001). Equal access to both online and offline government information and services is available to all citizens, regardless of educational level, language, income or disability; universal basic literacy and widespread Internet access is established through successful implementation of sustainable universal service policies (EDC, 2004).

2.3 E-government's Types and Sectors

Although e-government encompasses a wide range of activities and actors, three distinct sectors can be identified: Government to Government (G2G), Government to Business (G2B), and Government to Citizen (G2C). Some authors add a fourth category: Government to Nonprofit (G2N). In fact, there are some differences of opinion, but most researchers refer to four category blocks (See Figure 2.2). In these categories, (G2G) simply includes the sub-category of government to employees (G2E). On the other hand, some academics consider that the relationships, interactions, and transactions between government and employees constitute another large e-government block, since employees are referred to as internal customers (Ndou, 2004), so (G2G) includes employees as well.

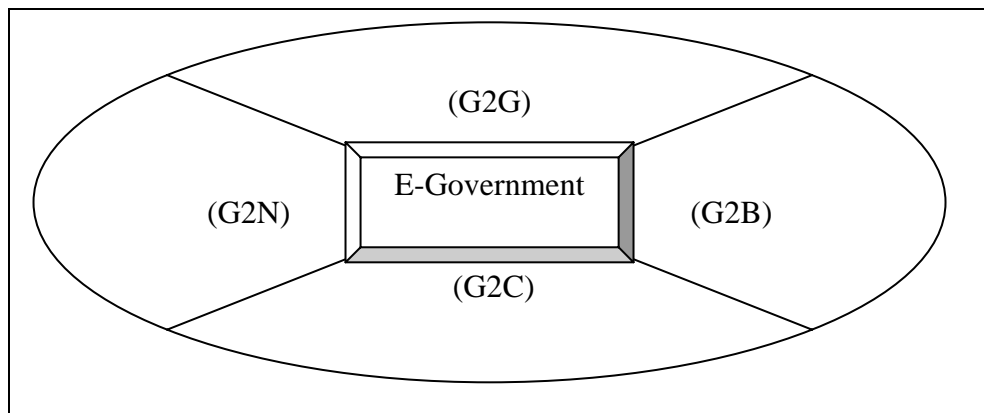


Figure 2.2 E-government's Types

2.3.1 Government to Government (G2G): This refers to the relationship between governmental organizations, either national or foreign. Furthermore, it refers to the relationship between government and its employees; the purpose of this relationship is to serve government employees. Some observers have suggested that governments should upgrade their internal systems and procedures before e-transactions with citizens and businesses can be successful (Jeffrey, 2003) in order to make (G2G) the backbone of e-government. The efficiency and efficacy of processes are enhanced by the use of online

communication and cooperation which allows for the sharing of databases and resources and the fusion of skills and capabilities (Ndou, 2004). It renders information regarding compensation and benefit policies, training and learning opportunities, and civil rights laws in a readily accessible manner (Ndou, 2004, & Riley, 2001). Based on the use of the Internet/Intranet, through the establishment of a human resource management system with self-service functionalities, the employee may apply online for an annual leave, check the total number of the balance of his remaining vacation, and review the salary slip, among other things (ESCWA, 2003).

2.3.2 Government to Business (G2B): The reduction of red tape and the streamlining of regulatory processes in this stage help businesses by reducing the cost of obtaining information and easing compliance with laws and regulations (Seifert & Bonham, 2003). It also increases their competitiveness and allows them, through government partnerships, to more quickly and cost-efficiently initiate a web presence. G2B is supported for its direct impact on the private sector and its ability to reduce the cost of transacting with the government (Ndou, 2004). In addition, e-transaction initiatives, such as e-procurement and the development of e-marketplace for government, become possible (Fang, 2002).

2.3.3 Government to Citizens (G2C): Government and citizens will continuously communicate when implementing e-government, thus bolstering accountability, democracy and improvements to public services. The primary goal of e-government, is to serve the citizen and facilitate citizen interaction with government by making public information more accessible through the use of websites, as well as reducing the time and cost to conduct a transaction (Ndou, 2004). In applying the idea of (G2C), customers have instant and convenient access to government information and services from

everywhere anytime, via the use of multiple channels. In addition to making certain transactions, such as certifications, paying governmental fees, and applying for benefits, the ability of (G2C) initiatives to overcome possible time and geographic barriers may connect citizens who may not otherwise come into contact with one another and may in turn facilitate and increase citizen participation in government (Seifert & Bonham, 2003).

2.3.4 Government to Nonprofit (G2N): This refers to government allocation of information and communication to nonprofit organizations, political parties and social organizations (Fang, 2002).

2.4 Government and Society Readiness

Readiness for e-government application is the degree to which a government is prepared to provide its information and services through multiple channels, including the Internet, toward customer centricity. Furthermore, society readiness is the degree to which a community is prepared to participate in the e-world. Thus, people should be ready to use the new path and technique to communicate and get services (NECCC, 2000). Once vision and priority sectors for e-government are established, it is important to assess how prepared a society is for e-government. This is something that requires examination of government itself, including institutional frameworks, human resources, existing budgetary resources, inter-department communication flows, national infrastructure, economic health, education, information policies, and private sector development (Roadmap for E-G, 2002). Each society has its own needs and priorities, so a society's and government's readiness for e-government would depend upon certain factors, including available resources and those objectives and specific sectors it chooses to prioritize. Thus, there is no set model for e-government and no universal standard for

e-government readiness due to the differing needs and priorities of every society. It is society's most important needs that determine the necessary pre-conditions for e-government (Basu, 2004, & Roadmap for E-G, 2002).

According to the UNPAN (2004) study, countries in North America, Europe, Asia and the Middle East rank higher in the use of e-government than those in Russia and Central Asia, South America, Pacific Ocean islands, Central America and Africa. The above study showed that twenty-one countries or (11%) had no e-government at all; thirty-two or (16%) had experienced emerging e-government; sixty five or (34%) enhanced e-government; fifty-five or (29%) interactive e-government; and seventeen or (9%) transactional e-government. Telecommunications equipment and computers, while not the focus of e- government, must be addressed in any e-government plan. The level of telecommunications infrastructure needed depends on the e-government projects pursued, with certain applications requiring significant investment in national ICT infrastructure (Roadmap for E-G, 2002).

According to the (UNPAN, 2004) study, Saudi Arabia illustrates an approach followed by many countries in the initial stages of e-government. There is not a true national government site or portal, but its overall sectoral presence online expanded and improved dramatically in 2004 compared to various years. Although, e-government development overall was limited to initial stages, notable improvements have taken place in information provision in Labor, Education, and Health (UNPAN, 2004). Table 2.1 shows a ranking (0.386) for Saudi Arabia among other countries in 2004. In addition, Tables 2.2 and 2.3 show telecommunication, infrastructure and Internet in Saudi Arabia.

Table 2.1 E-government readiness rankings, Saudi Arabia

index 2004		Global ranking	
	2004	2003	Change
0.3858	90	105	+15

Source: UNPAN, 2004

Table 2.2 E-Readiness Indexes in 2004, Saudi Arabia

	Web measure	Telecom Infrastructure	Human Cap	E Readiness Index 2004
	Index	Index	Index	
Weight	1/3	1/3	1/3	
	0.309	0.139	0.710	0.386

Source: UNPAN, 2004

Table 2.3 Internet Population 2004

	Population (CIA's World Factbook)	Internet Users (CIA's World Factbook)	ISPs (CIA's World Factbook)
Saudi Arabia	24.29 million	2.54 million	42

Source: Click Z Network

The (UNPAN, 2004) study shows that telecommunication infrastructure is the platform on which ICT development is built. It also shows the strong relationship between greater telecommunication access and higher states of e-government readiness. Figure 2.3 shows this relationship and how it is easier to take advantage of the new technologies for high income countries. However, countries where telecommunications reforms, including privatization of the telecommunication industry, are still in infancy remain far behind (UNPAN, 2004).

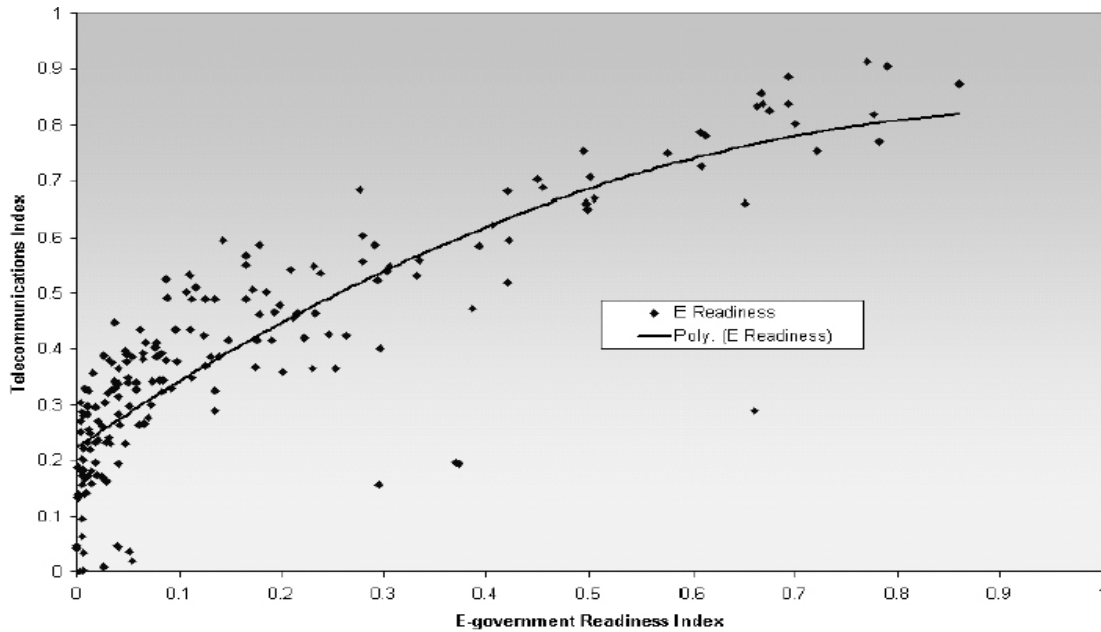


Figure 2.3

Interlink ages between Telecommunications and E-government (UNPAN, 2004)

The implementation of e-government is still in its infancy phase, especially in the developing world. It takes time for people to know it, trust it, accept it and then adopt it. Rogers (1995) stated that the diffusion of technology takes an S-shape before it completes its life cycle. The S-shaped curve of diffusion graphically represents the diffusion of an innovation, with the percentage of adopters plotted on the vertical axis and time represented on the horizontal axis as cited in Figure 2.4. In the case of e-government application, it takes time to be diffused and adopted by government agencies. At first, only a few individuals adopt the innovation in each time period, but soon the diffusion curve begins to climb, as more and more individuals adopt it in each succeeding time period. Eventually, the curve of adoption begins to level off, as fewer individuals remain who have not yet adopted the innovation. Finally, the S-shaped curve reaches its asymptote and the diffusion processes are finished (Rogers, 1995).

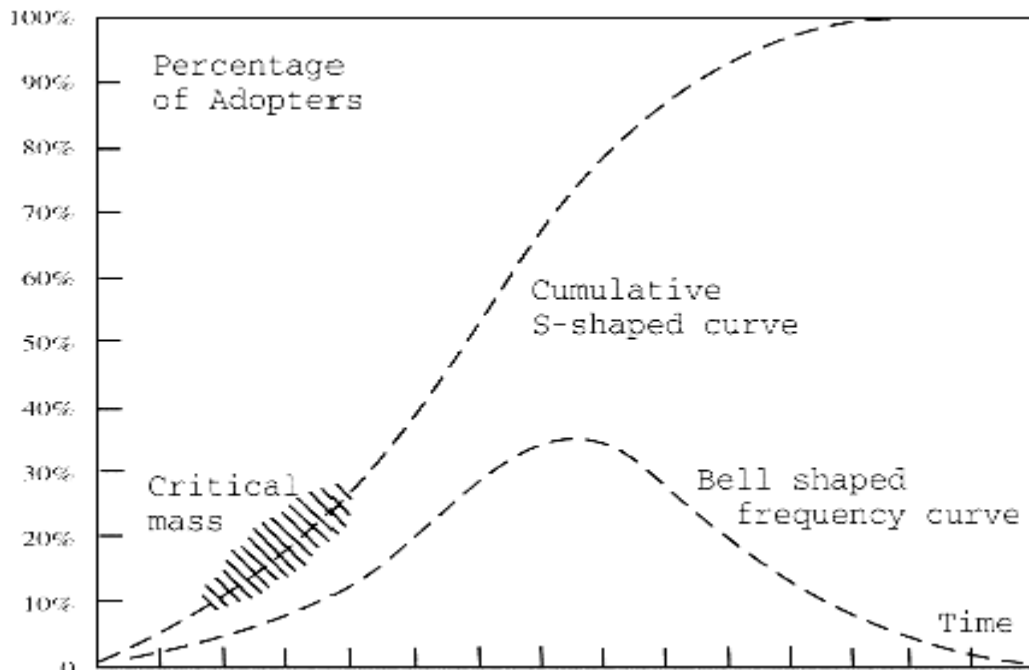


Figure 2.4 Cumulative numbers of adopters of an innovation by time and critical mass (Rogers, 1995, p. 246)

2.5 The Successful Factors and Strategies of E-government

The government must start with small and uncomplicated projects to achieve what they set out to do before moving on to bigger things such as all-embracing portals that cover every aspect of government activity. The best way to start may be to establish a fairly simple portal and then add functions in stages, as this becomes possible. In fact, it increases the urgency of tackling the same micro and macro barriers – such as poor educational systems, high costs of telecommunications, unreliable transportation networks, and low investments for small and medium enterprises (Atallah, 2001).

E-government success depends greatly on the role of government in establishing an appropriate legal framework regarding the operation of e-government initiatives and processes (Basu, 2004). Support with high authority is considered an important factor for successful e-government implementation. Furthermore, government should develop a comprehensive plan for the whole project and its implementation. A successful e-

government strategy requires effective security controls in government processes and systems in order to address the frequently cited barriers of privacy and security (OMB, 2002).

The application of the appropriate technical strategy is vital to realizing the operational benefits of e-government. In addition, leadership is a very important factor for successful e-government projects. Thus, behind every successful e-government project is a visionary or leader who pushes for change. A successful leader is one who pulls the initiative together, establishes it as a priority, and guides it toward a successful completion (Roadmap for E-G, 2002). Other factors include legislative, administrative, technical and humanitarian aspects, which should be considered in order to ensure the success of e-government application. In fact, the viability of having a successful e-government directly depends on governments' overall ability and readiness to spend on the necessary IT and relevant costs (Basu, 2004). Thus, trust and confidence are essential to the system's success (Layne & Lee, 2001). Moreover, an effective e-government process requires constant input and feedback from its "customers", the public, businesses and officials who utilize the services of e-government. Employees training at all government levels should be an integral part of the work plan. This training should also be included in the management design. Another factor in the success of e-government is the collection of information on the e-actions of other local governments, the technologies they are utilizing, and the problems they encountered while integrating it with their business along the way. Rogers, (1995) stated five points which help to speed up diffusion of a technological innovation. (1) Relative advantage over the methods it supersedes in terms of economics, convenience, social prestige, or satisfaction; (2) a high

degree of compatibility with existing values, past experiences, and needs of potential adopters; (3) a low degree of complexity; (4) a high degree of “trainability” before commitment is required; (5) a high degree of visibility to other potential adopters.

E-government is at its best when agencies cooperate in customer-focused agency groupings. In order to ensure interoperability and maximum implementation efficiency while avoiding duplication, agency managers must be able to operate within common frameworks (OECD, 2003). The development strategy of e-government should include an easy-to-grasp vision that succinctly outlines the organization’s concept of, and plans for, e-government, and specifies goals and objectives that can be monitored and measured. Identification of policies necessary for e-government support and a methodology for determining organizational readiness is essential. Strategic planning that encourages the development of networks facilitating practical integration and interdepartmental cooperation among governmental agencies is essential to success in e-government (Akbulut, 2002).

2.6 Obstacles and Challenges of E-government Implementations

Muilenburg & Haneghan point out that "the diffusion of technology into society and its subsystems is not without obstacles. Social, economic, physical and learning barriers exist in the workplaces and schools" (2002, p. 1). Despite the potential opportunities for the implementation of e-government initiatives, there are numbers of obstacles and challenges that could prevent the realization of these anticipated benefits because the implementation of e-government is an expensive and difficult task, especially in the developing world. Developing e-government has become a significant challenge to public sectors around the world. It is broadly recognized that the introduction of e-

government is not easy or inexpensive and that the pay-off often takes time (Teicher & Nina, 2002). It needs the collaboration of efforts among departments and agencies in order to overcome barriers, with the aim of successful implementation of e-government projects. The public sector faces some challenges of higher expectations from citizens who demand to receive higher levels of service than from the private sector (Chavez, 2003). Jeffrey & Bonham (2004) point out that many barriers stand in the way of e-government implementation and prevent realizing its benefits. Moon (2002) stated that the lack of technical, personnel, and financial capacities are seen as significant obstacles to the development of e-government in many municipalities (p. 431).

The stage of the information society is one of the most important factors in e-government implementations around the world. There is a need to re-think and re-engineer the development strategies towards building knowledge societies. Government should plan comprehensively to utilize technology to better serve and inform citizens, and to move towards a more knowledgeable society. Table 2.5 illustrates WSIS's opinion survey conducted in 2002 to examine the ways in which various stakeholders view the elements of the global information society.

Table 2.4 Barriers to achieving the information society

Barriers	Percentages
Poverty	77.3
Low levels of literacy	76.0
Lack of adequate infrastructure	72.8
High-prices ICT services	70.8
Lack of investment	69.8
Poor institutional structures	69.8
Absence of international cooperation	63.0
Lack of security	52.5
Other	1.30

Source: ITU. <http://www.itu.int/osg/spu/wsis-themes/survey/index.html>

The GOV/PUMA (2003) report identifies four main obstacles to implementing e-government, including legislation and regulation, budget, technical and digital barriers. There are clearly identified obstacles to the spread of e-government such as lack of access to online technologies by some sections of the community. A lack of financial resources, living in remote areas, disabilities, and lack of education and language skills are among the main reasons for people being unable to access the Internet (UNPAN, 2004). There are four elements of context that affects the adoption of technological innovations by organizations: (1) characteristics of the technological innovation, (2) characteristics of the organizational decision makers, (3) characteristics of the environment in which the organization operates, and (4) characteristics of the organization (Thong, 1999 as cited by Akbulut, 2003). Teeter & Hart (2003) stated that Americans do not accept that more Internet technology means better government. They pointed out that Americans rejected the concept of online voting for public offices, with only (30%) of Americans favoring the idea, (13%) saying that they somewhat oppose online voting, and (54%) strongly

opposing the idea. The implementation of e-government, like any large-scale plan, faces numerous issues, challenges and obstacles. (Hackney, & Jones, 2002, & Dow & Teicher 2002, & ESCWA, 2003, & NLB, 2002) list numerous obstacles to executing the e-government agenda:

- Skills shortages
- Poor management and co-ordination between organizations
- Lack of technical and content standard
- Lack of funding
- Security problems
- Digital divide within the country
- Insufficient human resources
- Incomplete planning
- Insufficient partnerships
- Inadequate policy maintenance
- Incompatibility in the variety of recently implemented systems used by different governmental bodies.
- Lack of management or citizen support
- Difficulty in implementation due to political, cultural, organizational, and personal factors
- Changing technology
- Transforming the culture
- Delivering integrated services
- Illiteracy or inadequate education

- High cost of ICTs fees and infrastructure to reach remote areas.
- Legal structure and current laws.
- Lack of awareness, as many citizens living in disadvantaged sectors of the society are unaware of the many benefits and opportunities of the information society; their priorities lie in basic needs, such as transportation and housing (ESCWE, 2003).

Goings, Young, & Hendry (2003) identified funding and staffing as the greatest obstacles (70% and 60% agreement respectively) to e-government implementation, while constituent use, and implementation and maintenance were considered obstacles by 40% of the respondents (See Table 2.5).

Table 2.5 Obstacles to e-Government

Obstacles	%
Funding	70
Staffing	60
Implementation/maintenance	40
Willingness/ability to use	40
Lack of infrastructure	30
Security/fear	20
Training	20
Privacy	10

Source: Goings, Young & Hendry (2003)

The ICMA's e-government survey (2002) covered populations over 2,500, asked respondents to name which of any of the following barriers to e-government initiatives the local government has encountered. (See Table 2.6)

Table 2.6 Obstacles of E-Government Implementation

Obstacles	%
Lack of technology/web staff	65.7
Lack of technology/web expertise	46.7
Lack of information about e-government applications	20.5
Lack of support from elected officials	11.1
Issues relating to convenience fees for online transactions	28.8
Lack of collaboration among departments	15.0
Difficulty justifying return on investment	36.8
Issues regarding privacy	32.7
Issues regarding security	41.7
Lack of financial resources	57.1
Need to upgrade technology (PCs, networks, etc.)	29.8
Staff resistance to change	15.8
Other	7.4

Source: (ICMA, 2002)

The lack of resources and technology in the developing world is often compounded by a lack of access to expertise and information. In addition, other specific needs and challenges to e-government implementation include lack of infrastructure, corruption, weak educational systems and unequal access to technology (Roadmap for E-G, 2002). Goodman, Ruth, & Rutkowski (1994) determined some barriers to include (1) government policies, laws, and practices including government controls and regulations; (2) disparities in pricing policies across national borders; (3) weak physical telecommunications networks; (4) lack of technical proficiency and training programs; (5) unfriendly user interfaces; and (6) local cultural factors. E-government obstacles and challenges are discussed in details in the following sections. See Figure 2.7.

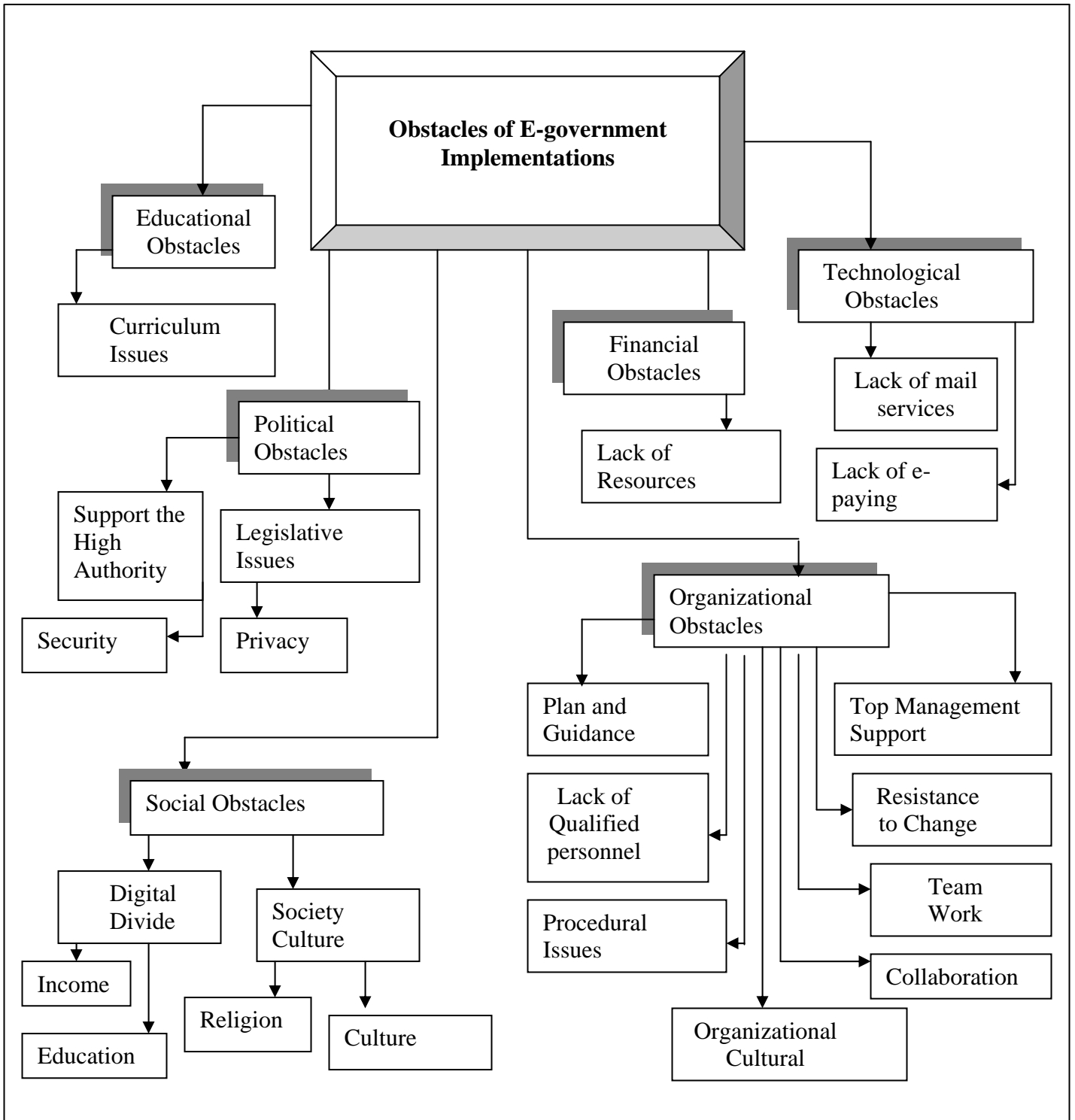


Figure 2.7 Obstacles of E-government Implementation

2.6.1 Technological (Infrastructure) Obstacles

Weakness or lack of infrastructure is one of the major obstacles that plague the implementation of IT into daily lives. Sharma & Gupta (2003) point out that implementation of the whole e-government framework requires a strong technology infrastructure. In order to deliver e-government services, government must therefore develop an effective telecommunication infrastructure. In addition, they stated that successful e-government implementation would depend upon how the capacities of various infrastructures are structured and how they are capitalized with an integrated focus (p. 42-43). The success of e-government depends on the availability of appropriate technical skills in the public sector (UNPA&ASPA, 2001). Over the long-run, the benefits of e-government can be seen when organizational changes complement technological changes (Layne & Lee, 2001). The development of shared infrastructure is necessary to provide a framework for individual agency initiatives.

The implementation of e-government initiatives face some technological difficulties such as lack of shared standards and compatible infrastructure among departments and agencies which can impede inter-agency collaboration and the uptake of e-government. Also, the expense of modern infrastructure can be a major obstacle to the implementation of e-government initiatives (OECD, 2003, p. 61-62). The study conducted by the UN Division for Public Economics and Public Administration stated that only 17 countries that actually have fully developed integrated e-government infrastructures among 169 member states were providing some degree of information and services online. The UNPAN report in 2004 stated that developing nations lacking physical ICT infrastructure available to rural and semi-rural areas should develop and

implement plans for wireless and other less resource intensive technologies. Alharbi (1999); Alshareef (2003) & Shoaeeb (1997), point out that there are some technical and technological obstacles preventing new technology applications in organizational agencies. Therefore, governments should work closely with the private sector to establish a “virtual” infrastructure that will provide access opportunities to disconnected groups and individuals. This lack of infrastructure is cited as one of the primary barriers to e-government implementation. Certain e-government applications require considerable investment in national IT infrastructure.

2.6.1.1 Lack of mail services

People need to send their documents by mail after they apply electronically and receive their demands after approval, but they cannot do this if there are no home-delivery mail services as in current Saudi Arabia. Alyabis (2000) pointed out that “..... home delivery and postal insurance are not available”.

2.6.1.2 Lack of e-paying

A lack of e-payment options may prevent people without bank accounts or credit cards from using the technology (Barry, 2002). Governmental websites must include e-options for paying. E-government innovations should include technological and legislative aspects to give a customer the advantage of paying electronically.

2.6.2 Financial Obstacles

It is necessary to ensure the availability of the existing and expected budgetary resources in order to achieve the goals. The most serious and significant barrier to the implementation of e-government is a lack of money; e-government implementation is expensive. Since every government budget is already overburdened with every possible

expense budget makers can fit into it, the suggestion to expend the considerable sums that an excellent e-government will cost is a non-starter, in budgetary terms, and in budgetary politics. Carvin et al., (2004) stated that the dilemma of funding often remains the most significant barrier to e-government implementation, even when a government entity has a plan for effective and accessible e-government. This is particularly true when achieving e-government for all necessary education solutions as well as technical ones (p. 9, and 42).

On the other hand, some literature reviews indicate that insufficient funding for e-government did not appear to be a major barrier for developing and implementing e-government. However, a lack of financial resources is seen as an obstacle to e-government by 57.1% of city and county governments (ICMA, 2002). A similar study of county governments revealed 70% of respondents citing funding as the greatest obstacle to moving county government services to the Internet (NACO, 2000), especially when those projects require large sums of money. According to Symonds (2000) European Union member states spent around \$770 billion on procurement, while in the U.S., federal, state and local procurement spending on materials and services was judged to be around \$550 billion. The expenditures on information of the US federal government, not including states and counties, stand at approximately \$43 billion per year (E-G-K, 2002). In 2002, federal IT spending in the U.S will exceed \$48 billion, increasing to \$52 billion in 2003 (OMB, 2002). Because of these high numbers in budgeting, Feng (2003) stated that a major obstacle to e-government is the lack of finance for capital investment in new technology (p, 59). Furthermore, Goings, Young, & Hendry (2003) point out that funding, at 70% agreement, was identified as the greatest obstacle to e-government.

Costs, including the cost of system requirements and maintenance, investment risks, training and education, are always seen as major barriers inhibiting agencies from using the Internet. In addition to ensuring enough money for start-up costs, it is also essential to set aside adequate money for the remainder of the project and for future maintenance. In August 2000, a lack of funds was considered a lower concern, but in 2003, 44% cite it as the main barrier. Similarly, in November 2001, prior to the decline in e-government projects suggested by the survey, 44% of senior government employees pointed to finances as an obstacle to e-government. Also, nearly 45% of respondents cite a lack of financial resources as the top challenge facing successful e-government (Teeter & Hart, p. 24, 2003). West (2001) noted that the abilities of government offices to place services online and to use technology for democratic outreach are hampered by budget considerations (p, 16).

2.6.3 Organizational Obstacles

Feng (2003) points out that the stakeholders clearly recognized that e-government was not a technical issue, but rather an organizational issue (p. 59). Also, he found that another key issue raised by the stakeholders regarding e-government implementation, was the need to view e-government as a change management issue rather than an IT implementation issue.

2.6.3.1 Management Issues

Looking at the obstacles and challenges that hinder e-government, it has to be understood that management of technology in the public sector is a difficult task to say the least. Many studies indicate that most government IT projects fail due to poor

management and self-evaluation, and detailed factors in addition to the need for a concrete set of goals and objectives.

2.6.3.2 Top Management Support

The literature shows that without support from the top management, an innovation is less likely to be adopted. Thus, e-government implementation needs the support from the highest level of government for successful implementation. Top management support refers to the commitment from top management to provide a positive environment that encourages participation in e-government applications. Therefore, it plays a significant role in the adoption and implementation of e-government (Akbulut, 2003). As mentioned earlier, leadership is one of the main driving factors in every new and innovative project or initiative, so it is necessary for the implementation of e-government. Leadership involvement and clear lines of accountability for making management improvements are required in order to overcome the natural resistance to organizational change, to gather the resources necessary for improving management, and to build and maintain the organization-wide commitment to new methods of conducting government (McClure, 2001). Furthermore, the leadership and enthusiasm of individuals and organizations has driven many e-government advances. Rogers (1995) pointed out that individual leader characteristics, internal characteristics of the organizational structure and external characteristics of the organization are the independent variables related to organizational innovativeness.

The involvement of high-level leadership, as well as an integrated vision of IT, is vital to vertical e-government planning, the acquisition of necessary resources, the motivation of officials, the support of dealings with external partners and stakeholders, to

interagency and ministry co-ordination. As can be observed in transitional democracies and developing countries, political leadership and an integrated vision of IT are what drive the development of e-government. Leaders who perceive a potential gain from the promotion of e-government are more likely to support such initiatives, even in the face of obstacles, while those who believe that they stand to lose from the implementation of e-government cannot be counted on for sustained support (Seifert & Bonham, 2004). Therefore, government needs to educate the upcoming ranks of government leaders, managers and administrators in planning and managing ICTs across all public sectors, focusing on access opportunity, economic development, and effective delivery of public information and services (UNPAN, 2004).

2.6.3.3 Plan and Guidance

The government's evolution into e-government should be part of a larger comprehensive IT framework creating a common drive towards integration of technology. The creation of "e-government planning framework" can help move an e-government plan smoothly forward, and can also aid in the coordination of planning and successful implementation. However, lack of government-wide targets and central guidance, and until recently, the lack of e-government plans, have been perceived as reasons for the failure to measure and evaluate results (GOV/PUMA, 2003). Agencies are increasingly asking for guidance on implementing e-government goals since lack of vision is a considerable issue, local planning should be done first, and the global user community kept in mind. Al-Aizam, (2001) & Al-awalemh, (2002) state that governmental organizations face troubles in administrative aspects such as strategic planning. E-government projects must associate with comprehensive planning including

all factors and aspects such as technological, organizational, financial, legislative, environmental, and luminal factors, in order for e-government projects to succeed (McClure, 2001).

2.6.3.4 Collaboration

Organizational collaboration and cooperation is an essential factor in the e-government development process because collaboration is one consideration in successful e-government implementation (Chavez, 2003). Also, cooperation between public and private agencies is necessary in order to provide those resources, skills and capabilities that the government may not otherwise have (Ndou, 2004). Government should play the role of facilitator and encourage the private sector to participate in e-government development and implementation.

2.6.3.5 Procedural Issues

As is the case with any new technological application, e-government will not succeed if people find the technology confusing, threatening, cumbersome, and unfriendly. Complexity of regulations and requirements are considered difficult barriers. Automating and adding computers or modems with the same old procedures and practices simply will not improve government. Making unhelpful procedures more efficient is not productive; focusing only on the computers will not make officials more services-oriented toward government's customers and partners (E-G-K, 2002). If e-government projects focus only on technological factors and ignore other issues, they will fail because it is not enough to electronically replicate the administrative processes and procedures currently in place. Therefore, it is essential to thoroughly re-evaluate the overall mission of the jurisdiction and then design a digital structure that creates a

government-citizen interface that simplifies and streamlines each transaction individually, and the entire process of government administration (Fang, 2002).

2.6.3.6 Lack of Qualified Personnel

The lack of ICT skills in the public sector is a major challenge to an e-government initiative, especially in developing countries, where the chronic lack of qualified staff and inadequate human resources training has been a problem for years (UNPA & ASPA, 2001, & Ndou, 2004). The e-government framework can be implemented successfully if personnel are available who could take on the role of developers. Therefore, it would be necessary to create a critical mass of manpower, knowledge and skills sufficient to support an e-government strategy (Sharma & Gupta, 2003).

2.6.3.7 Teamwork

Management of e-government initiatives is difficult without defined teams to oversee the entire e-government process, as they usually call for large commitments of resources, planning and personnel. Entrust the team responsible for the implementation of e-government initiative with the political clout and the necessary funding to undertake the required steps (Roadmap for E-G, 2002).

2.6.3.8 Resistance to Change

Most organizational change efforts eventually run into some form of resistance to change by the governmental agencies, businesses and employees. Thus, change resistance should be expected during the development processes, especially in bureaucracies (Donnelly, Gibson, & Ivancevich, 1990). Resistance and fear, then, are possible barriers to technological innovation in Saudi Arabia (Al-Zumaia, 2001). Realin (2004) states that many employees especially older ones see the e-government revolution as a threat to their

future and fear losing their jobs. The new organization can potentially collapse in the face of such resistance, since employees can refuse to adopt the new working methodologies or may continue to work the same way they worked before, without the knowledge of administration (Realini, 2004). Many people, regardless of their positions, don't want to change how they do things, especially those who are unfamiliar with IT since they can find it intimidating (Cook, LaVigne, Pagano, Dawes, & Pardo, 2002, & Roadmap for E-G, 2002). Feng (2003) stated that those whose positions may be negatively affected are likely to harbor strong resistance to e-government and may question the practical feasibility of achieving government integration in the short to medium term. In addition, one main driving force in implementing e-government is the achievement of efficiency gains which may lead to reduced need for employment in certain sections of the public sector (p. 63). Because government officials do not understand the technology's features and the type of work it can do, in addition to feeling somewhat threatened, they remain wedded to existing policies and methods and therefore do not allow their subordinates to explore the potential of e-government. As a result, they need to be taught about new technology and trained in how to use it (Cohen & Emicke, 2002).

Moreover, agency cultures and fear of reorganization foster a resistance to inter-agency work integration and system sharing (OMB, 2002). The speed and quality of e-government implementation depend on the level of resistance to change and the level of official involvement in setting policies and practices (Roadmap for E-G, 2002). According to Beatty, Shim, & Jones (2001), the more likely organizations were to perceive an innovation as consistent with their values, beliefs, culture, and preferred work

practice, the more likely they were to adopt it, assuming little or no resistance to change among the staff. Kelley & James (2003) found that the degree of resistance to change by government employees will impact how quickly a government moves through the technology implementation stages (p. 3).

Hawick (2002) stated that whether through words, actions, or behavior, communication plays a critical change management role in any organization, an importance that increases with greater organizational complexity. However, there must be a clear sense of where the organization will ultimately be. Since staffs need to know clearly what to expect in order to handle the changes, communications must be timely and honest, even to the extent of telling employees when management does not have answers to their questions. The first step in addressing the issue of resistance to change among officials is to understand the reasons behind it. Thus, e-government leaders must first understand the causes behind resistance, and identify the most likely sources of it, and then devise a plan in order to overcome situations of resistance (ESCWA, 2003).

There may be variety reasons of change resistances (Roadmap for E-G, 2002 p. 18):

- Fear that technology will make them lose their jobs and make them obsolete.
- Fear that they will lose power and influence that they have created in the current system.
- Unfamiliarity with technology and fear of looking stupid in front of others if they do not use it correctly.
- Fear that technology will lead to additional work for them.

- Belief that they have nothing to gain professionally from adapting to new technology and nothing to lose if they refuse.

There are some strategies that can be applied to reduce worker fear and change resistance. It is important to involve employees and workers in planning for change. This can decrease resistance in proportion to the degree they are involved, and also further increases commitment to change (Rue, Leslie & Byars., & Lioyd 1983, & PSU, 2000). Employees have to be convinced of the importance and potential of e-government and the fact that it won't endanger their jobs, but that, through retraining and skill developments, the employees can be reassigned new roles. To reduce resistance to reforms by actively marketing their plans, explaining why serious change is required and what benefits it will bring as well as integrate their inputs into the initiative. It is important that e-government leaders identify the most likely sources of resistance and create a plan for overcoming them, and follow these strategies in order to dry up the resources of resistance (Roadmap for E-G, 2002).

2.6.3.9 Organizational Cultural

Feng (2003) claimed that one of the main obstacles toward maximizing the potential offered by e-government was the need for change in individual attitudes and organizational culture, while also saying that the stakeholders clearly recognized that e-government was not a technical issue, but rather an organizational issue (p. 59). In addition, he found that another key issue raised by the stakeholders regarding e-government implementation, was the need to view e-government as a change management issue rather than an IT implementation issue. Thus, the development of e-government requires fundamental changes in organizational behavior and culture (p. 62).

Feng (2003) stated that all stakeholders who were surveyed suggested that the main challenges to be faced related to human resources, organizational culture and managing their expectations (p. 60). Bagchi & Cervený (2000) claimed that culture is an important factor in the adoption of a new technology. By being aware of an organization's culture, a big step should be taken towards a higher capacity to change because culture is the primary driver of strategic organizational change (DeLisi, 1990).

2.6.4 Political (legislation and regulations) Obstacles

2.6.4.1 Lack of Support from High Authority and Leadership

Lack of political leadership is probably the main cause for most undertakings being abandoned incomplete, or turning out to be far less than expected. Government leadership is required to foster an environment of privacy protection and security (Basu, 2004). Like any government reform effort, political support will be necessary for the implementation of an e-government project because without continuous active political leadership, the financial resources, inter-agency coordination, policy changes and human effort needed for the planning and implementation of e-government will not be sustained (Roadmap for E-G, 2002 & Civilka, 2002). Leadership in technology policy and strategy is increasingly found at the level of the chief executive officer (governor, mayor, president, premier, etc) and from elected legislators (Caldow, 1999). Generally, a good first step to demonstrate government leadership is public proclamations to support e-government and ICT for development. Evidence that government and policy leaders are being educated and trained in order to utilize technology for the betterment of society is another indicator, potentially more important over the longer term, of government leadership in support of technology (UNPAN, 2004).

Leadership of e-government initiatives is essential in order to ensure support and resources and to motivate staff. Thus, strong political leadership at all levels can create the conditions for the successful implementation of e-government. This leadership can serve as a catalyst for action and for promoting a shared vision (OECD, 2003). However, the highest-ranking levels of civil service, though they are provided with the most critical aspects of leadership, can become a large obstacle in the implementation process (Fountain, 2001).

2.6.4.2 Legislative Issues

E-government requires a regulatory and public policy environment that is conducive to the protection of rights, and an enabling legal framework for the digital transformation of government operations. Policy agendas include issues such as a cyber law, privacy, security, universal access, credit card transactions, digital signatures, consumer protection, international trade, and telecommunications (Caldow, 1999). A government must follow adoption of high level e-government and ICT policies with the development of comprehensive regulatory and legal frameworks that directly support ICT for development in order to succeed with e-government initiatives because the processes are highly dependent on government's role in ensuring a proper regulatory and legal framework for their operations (UNPAN, 2004). The success of e-government applications requires the trust of citizens in order to flourish (Seifert & Bonham, 2003). Despite awareness of the benefits and conveniences to be gained from e-government, citizens still may have concerns regarding privacy and security, so governments must work hard to earn citizens' trust. In fact, government regulatory activity can either encourage or discourage technology adoption (Sharma, 2003). An effective legal

framework, with the capacity to identify and address legal obstacles to e-government, gives government the opportunity to keep pace with the new era of global communications and efficiently provide people with valuable services (West, 2001). Then, government should enact legislation dealing with e-identification and authentication in order to set the outline for ensuring uniformity in paper and e-processes, keeping in mind that the increasing demand for new legislation may actually be a sign of a necessity to clarify and better diffuse existing regulations to avoid duplication and unnecessary regulation. Although increased administrative efficiency and advancement in e-government initiatives have been made possible by technological progress, chief among the challenges facing government institutions are technical aspects of privacy and security, the need to adjust to rapid technological change, the lack of standards and internal integration (GOV/PUMA, 2003).

Since e-government will not grow without a sense of safety and security among citizens regarding their online services and information activities, administrators need to take care of these issues more seriously (West, 2001). Thus, security and privacy must be addressed throughout e-government implementation in order to ensure the protection of information systems and the respect of individual rights. People hesitate to use e-government services without a guarantee of privacy and security, so they need to be ensured of this before e-government initiatives can advance. Also, government has a responsibility to provide leadership in developing a culture of privacy protection and security. Moreover, governmental organizations should address how existing regulations should be clarified and explained to e-government implementers and, in turn, impact the implementation of services. Teeter & Hart (2000) pointed out that a great majority of US

citizens have a fear of security and privacy issues, so they are unwilling to use e-government. Nearly 45% of Americans believe that submitting personal information to government websites may risk the security and privacy of their personal information.

The application process is increasingly affected by the changes in the political environment. Theft and misuse is becoming an ever more common concern as people and businesses submit more information to governments over the Internet. Identity theft, with the potential to cause financial loss, is a serious concern. Then, it is important that governments understand the risks of inappropriate disclosure of proprietary business information, including user IDs, passwords, credit card numbers, bank account numbers, and other such data transmitted over the Internet and stored electronically in e-government applications, and take steps to ensure that it does not fall into unauthorized hands (Smith, 2002).

The legitimacy to act electronically can only be granted by legislative measures supported by an effective legal framework that should be capable of identifying and addressing legal obstacles to e-government, which may include differences between the ease of e-collecting and sharing data and requirements for traditional data collection (Basu, 2004). However, public administration will need to continue to develop policies and technical solutions around the key areas of security, authentication and data storage, in order to preserve the privacy of individual citizens' data. Formalized laws protecting and securing digital agreements, a frequent step in dealing with e-government, are an important part of the e-government process (Ndou, 2004). Processing of e-government principles and functions necessitates a range of new rules, policies, laws and legislative changes to address e-activities including e-signatures, e-archiving freedom of

information, data protection, computer crime, intellectual property rights and copyright issues. Government initiation of protections and legal reforms to guarantee, among other things, the privacy, security and legal recognition of e-interactions and e-signatures is therefore necessary (Ndou, 2004). The government's regulatory and legal frameworks should include e-commerce, anti-cyber-crime enforcement, digital contracts, online intellectual property and copyright protection, approaches to internet taxation and fees, adoption of international online standards, and other key areas (UNPAN, 2004).

Hart-Teeter pointed out that the public is concerned about the trade-off between improved service and online security questions, particularly as it relates to information submitted to government websites. The two of the top three reasons cited by non-e-government users for not yet having moved their interaction with government online involve concerns about privacy and security, with 20% reporting that they are not confident that the Internet is secure, and 22% saying that they are not confident about protection of their privacy online (2003, p.13). Also, Hart-Teeter (2003) stated that senior government employees share the same concern as the public about online security and privacy, with 86% and 11% respectively reporting that it is very important and fairly important, to communicate clearly the privacy and security issues that apply to their website. The greater belief among government employees in better services and their lesser concern, compared with the public, with privacy or security issues arguably accounts for the disparity between the public and government employees on submitting personal information to government websites.

The privacy and security of government websites, as shown in public opinion surveys conducted by West (2001), ranked near the top of the list of citizen concerns

regarding e-government. Though visible statements outlining steps being taken by the site regarding privacy and security can be important tools in reassuring a fearful population to take advantage of e-government services and information, West (2001) found only 6% of examined sites have some form of privacy policy on their site, and 3% have a visible security policy.

Despite this very low percentage of privacy and security policy development, West's (2001) study shows some high percentage use such as in the U.S with 56% of it's sites including a statement, followed by Australia (54%), Bahamas (33%), Taiwan (22%), Canada (14%), Jamaica (8%), Costa Rica (7%), Ukraine (6%), and Japan (6%). Most other nations had no sites with a security statement. However, a government needs to develop and formulate a privacy policy to increase citizen comfort with using e-government services. In fact, a detailed privacy policy will assist the government unit by enabling it to devote sufficient consideration to security issues and will also provide guidelines for understanding when true security violations have occurred (BPRLE-GS, 2001). On the other hand, efforts to ensure security can sometimes be in conflict with privacy, so the decision-makers must be aware and strike a balance between these two factors.

2.6.4.2 Security

Perhaps one of the most significant challenges for implementing e-government initiatives is security. In fact, security refers to the “protection of data against accidental or intentional disclosure to unauthorized persons, or unauthorized modifications or destruction” (Udo, 2001, p. 165). Thus, it refers to protection of the information systems, assets and the control of access to the information itself (Basu, 2004). It is a vital

component in the trust relationship between citizens and government. Security issues may present the largest obstacle to the development of e-government services. Thus, security policies and standards that meet citizen expectations are an important step toward addressing these concerns (Sharma & Gupta, 2003) because many studies have found that security is one of the most important obstacles (Udo, 2001). In fact, information security is a costly but necessary part of e-government, and involves not only the protection of data, but also the integrity of the software and hardware, training and oversight of personnel and service continuity, the latter being essential to the availability and delivery of services, as well as establishing citizen confidence and trust. Security can be classified into two elements: network security and documents security. It should include maintenance and e-infrastructure protection in the form of firewalls and limits those who have access to the data. Furthermore, the use of security technology, including digital signatures, encryption, user IDs, passwords, credit card numbers, bank account numbers, and other such data being transmitted over the Internet and stored electronically can help in fulfilling security goals in e-government applications (NECCC, 2000). Furthermore, Seifert & Bonham, (2003) point out that information security, referred to as cyber security or computer security, is an important e-government challenge. In addition, security involves continuous vigilance and protection against the increasing danger of worms and viruses. Also, people need to be educated on the importance of security measures, such as private passwords, to ensure their own protection (Smith, 2002).

About 37% of surveyed government officials cited security as the most significant obstacle to the development of e-government capabilities (Teeter & Hart, 2000). Teicher & Dow (2002) draw on the published record and a benchmark survey of Australian and

US public managers to point out that security is considered to be a major barrier to the implementation of e-government by 36.8% of Australian respondents and by 37% of US respondents, with Australian respondents, ranking it the second most important obstacle to e-government implementation. Feng (2003) has noticed a current perceived problem with security and authentication that prevented the development of e-transaction services, a particular concern for public sector organizations. The public's trust in such public organizations is seen as a major asset not to be jeopardized by seeking to develop e-services before issues of security and authentication have been properly addressed (p. 59).

Cohen & Emicke (2002) point out that while security will remain an obstacle to e-government, it will not significantly affect its progress as the public learns to work with and accept its occasional lapses. Also, they mentioned three keys that affect the success of security. The first involves continuous improvement and upgrades in an attempt to stay ahead of criminals. The second is that security be visible and foreboding to deter would-be criminals. Finally, it must be accepted that no security system is perfect and that all can eventually be overcome. However, governmental organizations, being responsible for the collection, maintenance, and distribution of sensitive or confidential information, should consider methods of providing security for collected information as well as for their web sites. A national level security mechanism has to be instituted to combat cyber crime and fraud to win the trust of the public and businesses in their transactions with the government. Thus, a body of security professionals should be setup to respond to threats and breaches. Also the need for authority and an infrastructure encryption system has to be given top-priority (BPRLE-GS, 2001).

2.6.4.3 Privacy

Privacy is a major issue in the implementation of e-government in both mature and developing democracies. Concerns about website tracking, information sharing, and the disclosure or mishandling of private information are universally frequent. There is also the concern that e-government will monitor citizens and invade their privacy. Privacy refers to the guarantee of an appropriate level of protection regarding information attributed to an individual (Basu, 2004).

Hart-Teeter (2003) point out that 63% of e-government users report using government websites generally to find information such as an office address or a list of services provided by an agency, whereas only 23% log on to conduct a transaction. Thus, e-government should be approached with an eye toward the protection of individual privacy. Both technical and policy responses may be required when addressing the privacy issue in an e-government context (Seifert & Bonham, 2003). Governments have a responsibility to protect people's privacy or the public may lose confidence in e-government (Barry, 2002). The difficulty of protecting individual privacy can be an important barrier to e-government implementation. In addition, there is a need to deal effectively with privacy issues in e-networks in order to increase citizen confidence in the use of e-government services. Citizen confidence in the privacy and careful handling of any personal information shared with governmental organizations is essential to e-government applications. Basu (2004) mentioned that in developing countries, many people are so concerned with privacy and confidentiality issues they decide to forego e-government opportunities. However, the increased focus on security may lead to less interest in the protection of citizens' privacy.

Government has an obligation to ensure citizens' rights regarding privacy, processing and collecting personal data for legitimate purposes only (Sharma & Gupta, 2003). Layne & Lee (2001) consider privacy and confidentiality as critical obstacles toward the realization of e-government. Citizens are deeply concerned with the privacy of their life and confidentiality of the personal data they are providing as part of obtaining government services. Thus, they pointed out that privacy and confidentiality must remain priorities when establishing and maintaining web sites in order to ensure the secure collection of data (p. 134). Teicher & Dow (2002) draw on the published record and a benchmark survey of Australian and US public managers to point out that hackers breaking into computer systems was the number one concern in both Australia and the US, a matter of extreme concern to 45.9% of respondents from Australia and 72% for US managers. Of great concern to only 27.1% of respondents from Australia, but 66% of those from the US, was the idea of e-government use leading to less personal privacy.

Since privacy protections are difficult to interject once an e-system has been built, the planning and design of e-government systems must include privacy considerations. A comprehensive privacy policy should specify citizens' rights to privacy and mandate that personal data be collected and processed only for legitimate purposes (Smith 2002). At the center of most e-government projects is the collection and management of large quantities of citizen data such as names, addresses, phone numbers, employment histories, medical records and property records. It is important to note that different countries have different legal and cultural understandings of what constitutes privacy (Seifert & Bonham 2003).

2.6.5 Educational and Training Obstacles

Alharbi (1999) states that there are obstacles regarding personnel because the lack of training and motivation. Alshareef (2003) & Abu-Mgiyed (2004) point out that a lack of society's awareness about e-government is a critical difficulty. Also, Al-Zumaia (2001) pointed out that lack of knowledge and experience with a technology is a potential barrier that is especially relevant to Saudi Arabia.

2.6.5.1 Curriculum Issues

Muilenburg & Haneghan point out that "...social, economic, physical and learning barriers exist in the workplaces and schools" (2002, p. 1). Sheres (1994) stated that "a wide gap exists between Saudi public educational curriculum and its supposed mission of providing needed tools for work required as part of real life...." (p. 226). Public and higher education curricula should be improved and developed in order to help people to interact and become involved with advancement, otherwise many people will keep away from these innovations. The existing curricula should modify and change in order to fit new technological demands. Therefore, it is advisable to educate and spread e-government messages and services throughout universities, institutions, colleges, and schools for students to get involved and to persuade their parents to do the same. An assumption here is that a good public education system must be in place, with emphasis on specialized education and training. Education directly related to technology includes the spectrum from technical computer and technology training to the integration of computers and technology awareness into traditional subject area curricula. The latter approach is a far more sophisticated, difficult, yet effective way of educating large groups of the population on how to think about and utilize technology as a part of daily life, thus

making technology a part of the cultural fabric of a nation and its people. Of particular concern are the South and Central Asian and African regions, which are far behind the world in almost all aspects of access to ICT for development. Despite progress, the lack of infrastructure and education is the most serious barrier to further expansion of e-government and ICTs for development initiatives (UNPAN, 2004).

2.6.6 Social Obstacles

2.6.6.1 Digital Divide

The ability to use computers and the Internet has become a crucial success factor in e-government implementation, and the lack of such skills may lead to marginalization or even social exclusion (UNPA & ASPA, 2001). The digital divide refers to the gap in opportunity between those who have access to the Internet and those who do not. Those who do not have access to the Internet will be unable to benefit from online services (OECD, 2003). Thus, digital divide is "the gap between those with access to computers and the internet and those without" (Blau, 2002, p. 50). In the case of the digital divide, not all citizens currently have equal access to computers and Internet, whether due to a lack of financial resources, necessary skills, or other reasons. In fact, computer literacy is required for people to be able to take advantage of e-government applications. Government should train its employees and citizens in basic skills of dealing with the computer and Internet in order to let them participate in e-government development applications. Carvin et al., (2004) point out that some policymakers have argued, however, that the digital divide is not a major concern since citizens without household Internet access can travel to their local library or community technology center to go online (p. 8, 42). In addition, Smith (2002) points out that making computer available in

public locations, such as grocery stores, post offices, libraries, and shopping malls, may help in addressing the gap between those households that have access to the Internet and data services and those who do not.

According to UNPAN (2004) the large majority of the population around the world is not connected physically to a network; in many cases, connectivity in the traditional sense is not even being planned for the foreseeable future, and the key access elements are all at critically low levels. Thus, usage is limited to the top income groups due to the high cost of access; lack of educational skills, lack of local language or local interest are additional problems, as are barriers imposed by the government. According to NPAN (2004) study, (50-75 %) of the population has potential access to a computer and associated network, but only a minority (5-10%) of the population has real access. Even though the educational access-divide, in general, is far less acute than the infrastructure access-divide, primarily due to decades of past investment in education in most of the world regions, considerable differences remain.

However, this solution may only be good for a short-term, since location is also an issue, due to people's possible discomfort in entering personal information in publicly located computers. This might work in the developed world, but it doesn't in developing ones because there is no Internet access in most libraries or post offices for public access. According to ITU findings, the developed world is home to 80% of the 500 million Internet users worldwide; two out of every five people in developed countries are online. In developing countries, however, only one person in 50 has access to the Internet, even though some applications and benefits of the information society are already becoming evident (Rao, 2003). However, since online information sources necessitate a certain

level of cognitive ability or Internet literacy, the digital divide cannot be completely bridged through general physical access to computer technology alone (Kelley & James, 2003). In fact, lack of knowledge and experience with technology is a potential barrier that is especially relevant to Saudi Arabia (Al-Zumaia, 2001). Furthermore, people in rural areas and inner city neighborhoods may have less Internet access than others, while those who have never used computers may simply be reluctant to use the new technology (NECCC, 2000). Also, disabled people have very limited access, because the universal statistics indicate that some form of disability access (i.e. access for persons with disabilities) is available on only 2% of government websites (West, 2001). Therefore, governments should pursue policies to improve access to online services for people with disability. Since many advantages of online government information and services are unavailable offline, inaction will lead to the exclusion of those who lack access.

The literature indicates that Internet access has increased, but large sectors of the population remain without it. According to BPRLE-GS (2001) approximately 24% of households in 1997 increased to more than 50% in 2001, with a projected increase to more than (70%) by 2005. West (2001) stated that people of higher education and income read or view media outlets more frequently, make greater use of information, and participate more in e-government (p. 22). Also, Feng (2003) points out that the lack of Internet access among certain sections of the population was considered the most important barrier to e-government development. Indeed, this lack of access among these vulnerable or low-income citizens prevents them from being able to make use of those services provided specifically to them (p. 58). Sometimes, language is considered one of the barriers that prevent participation in e-government applications even for citizens or

non-citizens. While most Saudi residents speak Arabic, there are some non-citizens who don't speak Arabic. Most Saudi government websites currently are Arabic-only; therefore it is important to include English versions in order to allow non-Arabic speakers to take advantage of e-government. Thus, all Saudi governmental websites should have Arabic and English versions. The extent to which English has become the language of global e-government is the most notable aspect, with some 72% of national government websites having an English version of the site, and 28% not having one. Many government websites offer more than one language, a reflection of the multi-linguistic character of global interactions. Forty-five percent of national government websites have some kind of language accommodation feature, such as text translation into a different language that allows access to non-native speaking individuals. Pinkett (2001) & Robert (2003) stated that the gap for computers and Internet access has grown larger in the categories of education and income, so these factors will be discussed in detail below.

2.6.6.1.1 Income

Alfred (2002), points out those higher income households are more likely to use computers and the Internet, while poorer, often minority, households are less likely to connect to the digital world (439). The statistics indicate that Internet use or participation in new technology positively increases when income is high. Thus, Anthony (2000), stated that 18 % of households with income under \$25,000 had a computer, compared to 43% of households earning between \$25,000 and \$50,000 and 73% of those households with income over \$50,000. However, this study shows that dealing with home Internet use shows that only 8% of low income households were using the Internet, compared to 21% of middle income individuals (Anthony, 2000). There is little evidence about how

low-income communities access online resources, due to a lack of sources relevant to their needs (Carvin et al., 2004).

2.6.6.1.2 Education

There is considerable support in the research literature for the importance of education of the social system's members as a predictor of the diffusion of an innovation (Rogers, 1995). Local governments with higher educated populations are assumed to be more innovative (Robert, 2003). Shafi (2002) stated that many studies have uncovered a significant relationship between adoption of innovation and the educational level of the organization's general manager (p. 17). Furthermore, Hart- Teeter (2003) point out that college graduates hold the edge at 87% compared with 48% with only high school degrees, and as do professionals at 86% compared with 58% of blue-collar workers (p. 4). Anthony (2000) found that, among households accessing the Internet, 81% attended some college, but 9% of those with less than a tenth-grade education had a home computer. He also found that 31% of households with high school diplomas had home computers, as opposed to 67% for those with a bachelor's degree. Also, Anthony in this study found that 34% of college graduates were using e-mail, compared to 9% of those with a high school diploma and 1% of households with below a tenth grade education. In addition, he found that online participation in newsgroups is also quite low, at less than 1% for a tenth grade education, and 6% of college graduates (Anthony, 2000).

Nickell & Seado (1986) found that general managers with higher educational levels had more positive attitudes towards IT. At the same time, other studies have indicated that general managers with higher educational levels were more likely to use new technology in their organizations. Seyal, Rahim, & Rahman (2000) pointed out that

appropriate end-users' training was critical to IT implementation, in general, and to the promotion of the productive use of information systems, in particular. Also, they found that education and training could have an influence on the attitude of the general manager toward IT. According to a study conducted by Pew in 2003, citizens with a higher level of education are more likely to attempt interaction with the government. In fact, this study shows that 56% of all Americans contacted government in the past year, 80% of those with a college education did so, as opposed to 44% of high school graduates.

In fact, developing societies need to upgrade their overall education and require a re-thinking of the traditional models of educational development for knowledge management and integration into the information society. Furthermore, educational systems should develop technical skills to enable users to take advantage of new ICTs; and communication skills, including English language training. In addition, educational leaders must integrate new technology tools and the culture of technology into public education strategies and curricula at all levels (UNPAN, 2004).

2.6.6.2 Culture

The main barriers to the implementation of e-government are not technical, but cultural implications of new technologies (Feng, 2003, p.50). Al-Musehel (2002) stated that personal characteristics and subjective conditions are more likely to be influenced by cultural factors than are the objective conditions surrounding the development and diffusion of new technology. Cultural norms and individual behavior patterns play a role in how citizens and policy makers use technology (West, 2001, p 16). Because culture plays a significant role in an individual's outlook, many people resist change and adopt new technologies slowly and with great deliberation (Al-Musehel, 2002, p. 53). Robey &

Rodriquez (1989) emphasized that culture can hinder the use and implementation of information systems, due to differences in how systems are interpreted and understood.

Furthermore, Hackney & Jones (2002) identified improving working relationships between internal departments and external agencies and adopting a corporate approach as major barriers to successful e-government. To achieve this, it was felt that major cultural changes are necessary. In order to accommodate the internal cultural changes necessary, organizational development must be included in the application process so that internal cultural changes are accommodated. Technical enhancements are not only structural changes, but also cultural changes. These cultural changes, though not as easily tangible, must receive at least as much planning so that technical change is implemented successfully (O'Looney 2002).

2.6.6.3 Religion

Al-Musehel (2002) stated that the greatest obstacles to Internet adoption are cultural and religious factors (p. 54). Wilson (1982) pointed out that there exist conflicts between Islamic outlook and Western scientific and technological practices that may create considerable obstacles. Burkhart (1998) pointed out that Muslims desire to be in charge of both the “immoral” medium, including pornography and access to chat rooms in which young people can discuss sex, as well as the capacity to spread nonconformist political attitudes. Al-Ghailani & Moor (1995) stated that among issues shaping the adoption and absorption of technology, important ones include tradition, religion, historical habits and personal aspirations for a new life.

CHAPTER III: METHODOLOGY

The research methodology is the set of processes used to collect and analyze data (Leedy & Ormrod, 2001). Mingers (2001) defined research methodology as a "structured set of guidelines or activities to assist in generating valid and reliable research results" (p. 242). This chapter describes the research methods and procedures used to obtain and analyze data in this study. On the basis of the purpose of the study, a quantitative research design was used as a descriptive study. A descriptive study was conducted to describe all the variables since descriptive research is a necessary first step in order that an accurate description of the phenomenon exists prior to change interventions (Gall, Borg, & Gall, 1996). To obtain the required data needed to address the research questions posed in this study, a questionnaire was sent to full-time faculty members and students at three educational institutions in Riyadh, Saudi Arabia. This chapter includes research questions, purpose of the study, research design, population and sample, research instrumentation, validity and reliability measures, pilot study, and collection and analysis data.

Research Questions

The research questions are:

- To what extent are current governmental (legislation and regulations) policies perceived as obstacles to implementing e-government in educational institutions by faculty members and students?
- To what extent are current financial systems perceived as obstacles to the implementation of e-government in educational institutions by faculty members and students?

- To what extent are current technological systems perceived as obstacles to the implementation of e-government in educational institutions by faculty members and students?
- To what extent are current educational and training systems perceived as obstacles to the implementation of e-government in educational institutions by faculty members and students?
- To what extent are current organizational systems perceived as obstacles to the implementation of e-government in educational institutions by faculty members and students?
- To what extent are current social systems perceived as obstacles to the implementation of e-government in educational institutions by faculty members and students?
- What differences are there between groups (faculty members and students, males and females, different groups from different institutions, and different groups from different academic majors) in their responses?
- Are there any additional obstacles or challenges preventing the implementation of e-government as perceived by faculty members and students in educational institutions?

PPH - Descriptive statistics were provided for each of the survey's categories (A= political, B= educational, C= financial, D= technological, E= organizational, F= Social) to help address to what extent they were perceived as the obstacles to the implementation of e-government in educational institutions by faculty members and students.

Purpose of the Study

The purpose of this study is to document and analyze faculty members' and students' perceptions toward the obstacles of implementing e-government in educational institutions in Saudi Arabia. Thus, the problem of this study is to identify and assess the obstacles and challenges associated with the implementation of e-government in educational institutions. This study provides decision-makers in Saudi Arabia with practical information regarding obstacles and challenges preventing or influence e-government applications based on the findings. It identifies and examines the obstacles of e-government implementation, based on perceptions of faculty members and students, with the aim of understanding those difficulties and defining those that are the greatest obstacles.

Research Design

Research design reflects the structure of the research project and provides the means of collecting suitable data to answer the research questions (Davis & Cosenza 1996). This study employs quantitative techniques to investigate that obstacles and challenges that prevent or influence e-government implementation in educational institutions in Saudi Arabia. A descriptive design helps to describe the current status of e-government implementation obstacles in educational institutions in Saudi Arabia. Gay (1996) pointed out that "the descriptive study is concerned with the assessment of attitudes, opinions, demographic information, conditions and procedures" (p. 249). The survey method (questionnaire) was used in this study because it is a useful technique and appropriate tool to answer the research questions (Fraenkel & Wallen, 2002). Also, it is one of the most effective techniques available for the study of attributes, values, beliefs

and attitudes (Sharma, 1983). Furthermore, the survey methods are familiar in educational institutions and it offers statistical strength as an information-gathering tool (Tseng, 1995). In addition, it costs less than other methods of data collection, especially when the sample is large (Elbaz, 1998). Kerlinger (1973) pointed out that a self-administered instrument, as a questionnaire, has certain advantages. These advantages include: (1) greater uniformity and thus greater reliability compared to a non-written data-collection instrument; (2) the advantage of written tests and scales; (3) the encouraging of anonymity and frankness; (4) easy administration to large numbers; and (5) the advantage of being easily mailed.

Population and Sample

The number of faculty members and students varies from one stage to another, from one department to another and from one institution to another. According to the Planning Division censuses, there were about 385 students who are in the last semester and 195 faculty members; both are specialized in public administration and computer at the IPA, KSU, and IMBSIU. However, since the study outcomes will not be generalized other than to the population of faculty members and students in these departments, and because the target population of this study is limited. Therefore, the sample included all full time faculty members in public administration and computer departments at the IPA, KSU, and IMBSIU. In addition, the sample included students who are in the final stage before graduation in those departments. Babbie (1998) suggests the use of a purposive sample, especially on occasions when the researcher wants to select a sample on the basis of knowledge of the population. Thus, the researcher chose a purposive sample because

he believes faculty members and students who specialized in public administration and computer fit best for this purpose based on prior knowledge.

Research Instrumentation

This study employs a quantitative method to collect data, and a survey questionnaire technique was used. A cover letter explains the details of the survey, and it describes the purpose and importance of the study, assures confidentiality of the responses, and states that participation is voluntary. To answer the research questions, the researcher developed two questionnaires based on information obtained from the literature review: one of them for faculty members and the other for students, and each survey consisting of four parts. Part I collected demographic information about the respondents. Part II of the survey included yes-no questions that were designed to collect additional information about the spreading of PCs and Internet among respondents as well as their knowledge and desiring to e-government implementation. Part III contained 46 statements (obstacles) describing participants' perceptions about e-government obstacles and challenges. All 46 variables were the same in two different surveys, and they were measured by a five scale on a Likert-type scale. Responses were ordered as follows: 1= (strongly disagree), 2 = (disagree), 3 = (neutral), 4= (agree), 5 = (strongly agree). The 46 variables of the survey (part III) were grouped into six categories (political, educational, financial, technological, organizational and social obstacles).

Part IV, is to gain better understanding of the factors (obstacles) that prevent or influence e-government implementation, so respondents were invited to list any additional items that they considered obstacles to the implementation of e-government. Testing for the equality of groups means was conducted using t- test or Analyses of

Variance (ANOVA). The level of significance is 0.05 for all tests for the equality of the groups' means. The researcher distributed 535 surveys to the participants in the three institutions (IPA, KSU, and IMBSU).

Validity

Gay (1996) pointed out that content validity is determined by expert judgment while face validity is achieved by asking individuals similar to those the researcher wants to study. Best (1981) stated that the only measure of validity available to survey instruments is the scrutiny and considered judgment of subject-matter specialists. The pilot study was used to revise the surveys and identify the proper questions. The validity of the instruments was checked in different ways. The questionnaire was reviewed by dissertation committee members to evaluate and comment on the validity. The clarity and readability of the questions was tested through the pilot study. The researcher made recommended changes, comments and used the suggestions in developing the applied instrument. Because the official language is Arabic in Saudi Arabia, the researcher had to translate the questionnaire into Arabic. However, when the researcher completed the translation, he e-mailed the questionnaire to two professors who are linguists specialized in teaching English as a second language. They were asked to review it in both versions (Arabic and English). This was done for clarity content, and suitability of the questions and to check the translation. They were also asked to provide feedback on the adequacy of the instrument, giving special attention to the layout, clarity, and any ambiguous or confusing items. The cover letter includes statements which indicate to the respondents that participation in this study is voluntary, not required, and that their refusal to participate would not adversely affect them in any way.

Reliability

Reliability refers to the property of a measurement instrument that causes it to give similar results for inputs. Gay (1992) pointed out that reliability is the degree to which a test consistently measures whatever it measures. Thus, if the measuring instrument repeatedly gives the same results of the same object, it is reliable. Gravetter & Wallnau (1996) stated that a measurement procedure is considered reliable to the extent that it produces stable and consistent measurements. A reliable measurement procedure produces the same, or nearly the same, scores when the same individuals are measured under the same conditions. Reliability was measured by the Alpha- Cronbach method. The value of alpha equals about 0.87 which is high reliability as shown in Table 3.1 below. It could be noticed from the last column that there is no variable that may be removed to affect the value of alpha significantly. For more details see Table 3.2

Table 3.1 Reliability of the survey

Cronbach's Alpha	Number of Items
.869	46

Table 3.2 Item-Total Statistics

Variables	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Inadequate individual legal rights	168.73	483.392	.344	.866
Lack of political leadership support	168.91	481.193	.354	.866
Lack of appropriate laws for e-usage	168.53	483.328	.381	.866
Insufficient programs, seminars or workshops to train staff on e-government applications	168.64	483.967	.328	.867
Weak educational systems	168.58	483.414	.390	.866
Formal educational curricula failure to respond to the IT era demands	168.71	477.214	.485	.865
Limited of financial spending on IT	168.63	480.156	.400	.866
High cost of IT	168.80	480.246	.378	.866
High-priced services of telecommunications	169.47	472.865	.464	.864
Inadequate software programs to implement e-government	169.08	482.318	.334	.867
Insufficient maintenance of e-devices	169.81	477.945	.334	.866
No e-signature option	169.45	479.279	.317	.867
Computer usage is not widely spread among people	168.92	476.527	.430	.865
Limited postal services	169.33	479.613	.347	.866
Weak IT infrastructure	168.98	476.671	.412	.865
No e-payment option	168.95	477.299	.393	.865
Inadequate phone lines	169.82	460.734	.215	.878
Difficulties in keeping up with current technological advancements and rapid changes	169.12	473.229	.460	.864
Insufficient network security	169.05	476.027	.424	.865
Weakness of telecommunication infrastructure	168.50	483.389	.350	.866
Lack of programs to promote e-government benefits and advantages	168.63	480.179	.458	.865
Lack of cooperation between public and private sector in IT	168.75	478.879	.455	.865

Lack of advisory committees or task forces to implement e-government projects	168.60	480.597	.430	.865
Complexity of current procedures	168.56	470.006	.125	.884
Lack of support from upper management	168.71	481.391	.393	.866
Lack of strategic planning	168.53	483.978	.386	.866
Little collaboration among governmental agencies	168.97	479.918	.365	.866
Weak current administrative systems	168.78	477.095	.502	.864
Lack of reengineering of procedures and operations	168.52	481.214	.168	.872
No central authority at the country level for e-government applications	168.88	486.576	.317	.867
No clear vision about e-government project	168.55	483.761	.402	.866
Inadequacy of qualified personnel for e-government applications	168.67	475.209	.489	.864
Staff resistance to change	168.45	479.730	.460	.865
Lack of society's awareness about e-government advantages and benefits	169.20	475.330	.391	.865
Fear of new technology	169.96	474.522	.399	.865
Low levels of literacy among citizens	168.72	478.701	.414	.865
Lack of trust in e-dealings	169.49	477.775	.347	.866
Technology usage conflicts with cultural habits	169.11	478.834	.358	.866
Lack of computer literacy among citizens	169.10	476.743	.405	.865
Fear of change	169.83	486.446	.173	.869
Technology usage conflicts with religious tenets	169.17	476.285	.405	.865
Lack of Internet access among various sections of population	168.76	478.989	.440	.865
Lack of necessary skills for e-government applications	169.06	477.843	.348	.866
Dependence of Internet usage on the English language	168.95	478.115	.391	.866
Low level of citizen income	169.17	476.337	.439	.865
Uncertainties about the benefits of the new technology usage	168.60	480.518	.361	.866

Pilot Study

A pilot study of the questionnaire was conducted to assure validity. The pilot study served as a “small scale trial of the proposed procedures” in order to identify any problems that needed resolution prior to the implementation of the actual study (Fraenkel & Wallen, 2002). Gay (1996) stated that the pilot test of reliability is determined by testing the same participants with the same instrument at different times, not less than one week apart. After the researcher got approval by the West Virginia University’s Institutional Review Board for the Protection of Human Subjects, the pilot study was conducted to test the validity of the survey instruments, and to determine its content validity and understanding. The instruments were sent to a number of participants chosen conveniently from the populations in selected departments of three institutions in Saudi Arabia. The questionnaires were sent to 12 faculty members and 33 students from the target population. Participants randomly included 4 faculty members and 11 students from each institution which are the IPA, KSU, and IMBSU, in order to validate the instruments. Thus, changes were made to the questionnaire based on their responses and presented to the adviser. People who had participated in the pilot study were excluded from the actual study.

Data Collection

The data was collected by using the questionnaire tool after the dissertation committee approved it and the researcher translated it to Arabic. When the researcher obtained approval from WVU, he took a trip to Saudi Arabia. The researcher then, distributed the survey on 9/25/2005 to each individual faculty member in the departments

that had been chosen and to selected students in their last semesters or stage before graduation. On 10/10/2005 he collected the surveys from participants.

Data Analysis

After the researcher got the surveys from participants he used the Statistical Package for Social Sciences (SPSS) to accomplish the statistical analysis. The data was subjected to statistical analysis and procedures, including descriptive statistics, frequencies, percentages, mean, and standard deviation analysis. Testing for the equality of groups' means was conducted using t- test or Analyses of Variance (ANOVA) accompanied. However, the statistical tests are provided for descriptive purpose only. The level of significance was factored as 0.05 for all tests for the equality of the groups' means.

CHAPTER IV:

RESULTS OF THE STUDY

The purpose of this study was to examine the perceptions of faculty members and students towards the obstacles of e-government implementation in educational institutions in Saudi Arabia. Descriptive statistics were chosen as an appropriate way to analyze the questionnaire data. Frequency and percentage were conducted for each variable. Means and standard deviations for all Likert-type scale variables were calculated as well. This study included two surveys (faculty members and students), and each one consisted of four parts. Part I collected demographic information about the respondents. Part II of the survey included yes-no questions that were designed to collect additional information about the spreading of PCs and Internet among respondents as well as knowledge and desire of participants for e-government application. Part III contained 46 statements describing participants' perceptions about e-government obstacles in educational institutions. All 46 variables were measured by five scales on the Likert-type scale. Responses were ordered as follows: 1= (strongly disagree), 2 = (disagree), 3 = (neutral), 4= (agree), 5 = (strongly agree). Forty six variables of the survey (part III) were grouped to six categories (political, educational, financial, technological, organizational, and social obstacles). Part IV to add any other obstacles which were not mentioned in the survey. It included gaining better understanding of challenges and obstacles that prevent or influence e-government implementation; respondents were invited to list any additional items that they considered obstacles to the implementation of e-government. Testing for the equality of groups' means was conducted using t- test or Analyses of variance (ANOVA). However, the statistical tests are provided for

descriptive purpose only. The level of significance was 0.05 for all tests for the equality of groups' means. The researcher distributed 535 surveys to the participants in three institutions (IPA, KSU and IMBSIU) and 419 (80%) were returned. Thirteen of the 419 (3%) were excluded from the study since they were deemed incomplete, having 25% or more of their values missing. The final sample is 406 (77.62%) faculty members and students who specialized in public administration and computer. This response rate exceeds the 50% plus one response rate requirement for survey studies (Kerlinger, 1986). The Statistical Package for Social Sciences (SPSS) version 12.0 was used to accomplish the statistical analysis. Missing values were eliminated from the analysis; thus the frequency for each variable or question item may not be 406.

4.1 The characteristics of the participants:

The following tables and figures represent the demographic characteristics of participants.

4.1.1 Status

As illustrated in Table 4.1 and Figure 4.1, the greatest proportions of respondents were students (75.1%) while (24.9%) were faculty members.

Table 4.1 Faculty and Students Distribution

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Student	<i>305</i>	<i>75.1</i>	<i>75.1</i>	<i>75.1</i>
	Faculty	<i>101</i>	<i>24.9</i>	<i>24.9</i>	<i>100.0</i>
	Total	<i>406</i>	<i>100.0</i>	<i>100.0</i>	

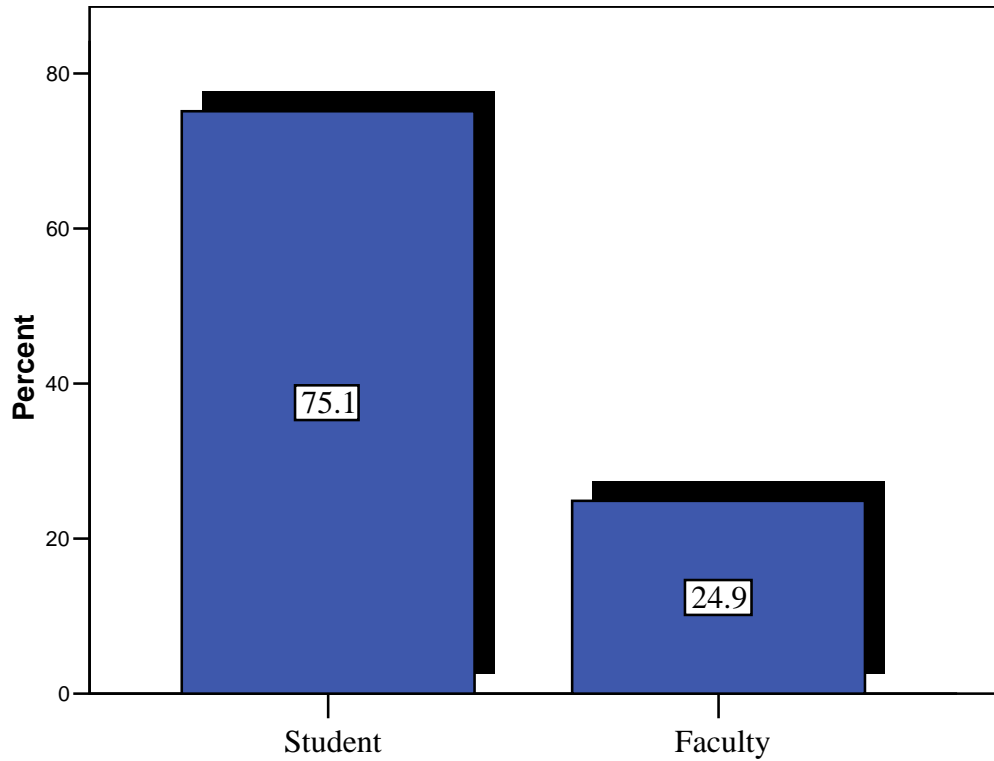


Figure 4.1 Faculty and Students distribution

4.1.2 Gender

Out of 406 respondents who participated in the study, 326 or (80.9%) were males and 77 or (19.1%) were females. Table 4.2 and Figure 4.2 below indicate that the majority of the respondents were males.

Table 4.2 Participant's gender distribution

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	326	80.9	80.9	80.9
	Female	77	19.1	19.1	100.0
	Total	403	100.0	100.0	

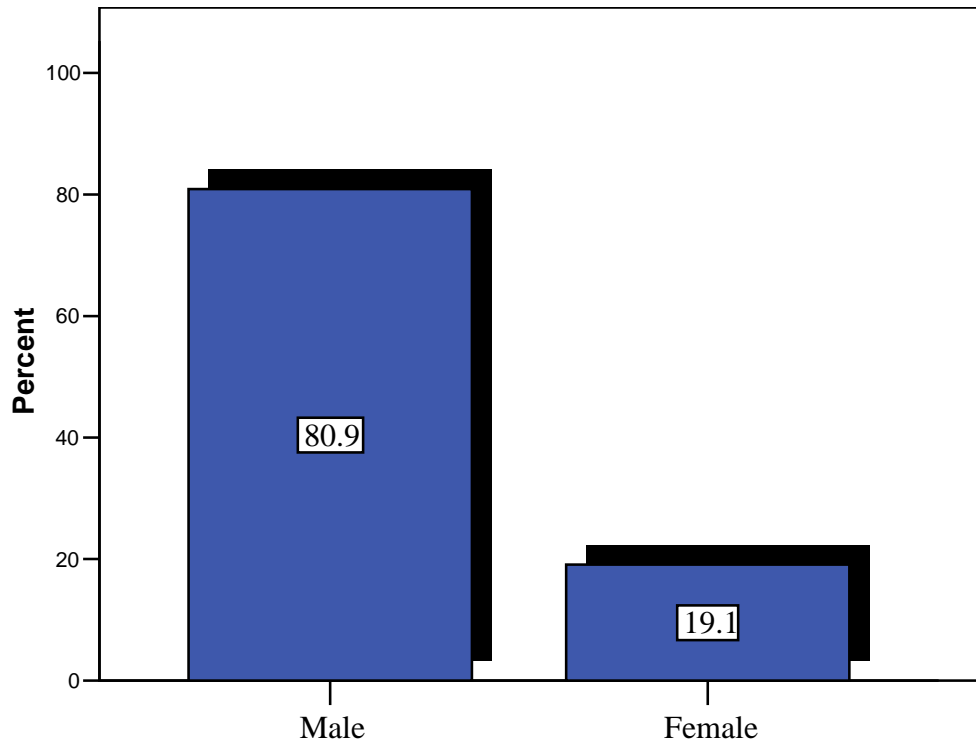


Figure 4.2 Participant' gender distribution

4.1.3 Students' Ages

Table 4.3 and Figure 4.3 show the students' age distribution. About (71.9%) of students were between the ages of 20-25 years, which is the largest category. There were few students (8.2%) below 20 or over 35 years of age.

Table 4.3 Students' Ages Distributions

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 20	18	5.9	5.9	5.9
	20-25	218	71.9	71.9	77.9
	26-30	33	10.9	10.9	88.8
	31-35	27	8.9	8.9	97.7
	36-40	7	2.3	2.3	100.0
	Total	303	100.0	100.0	

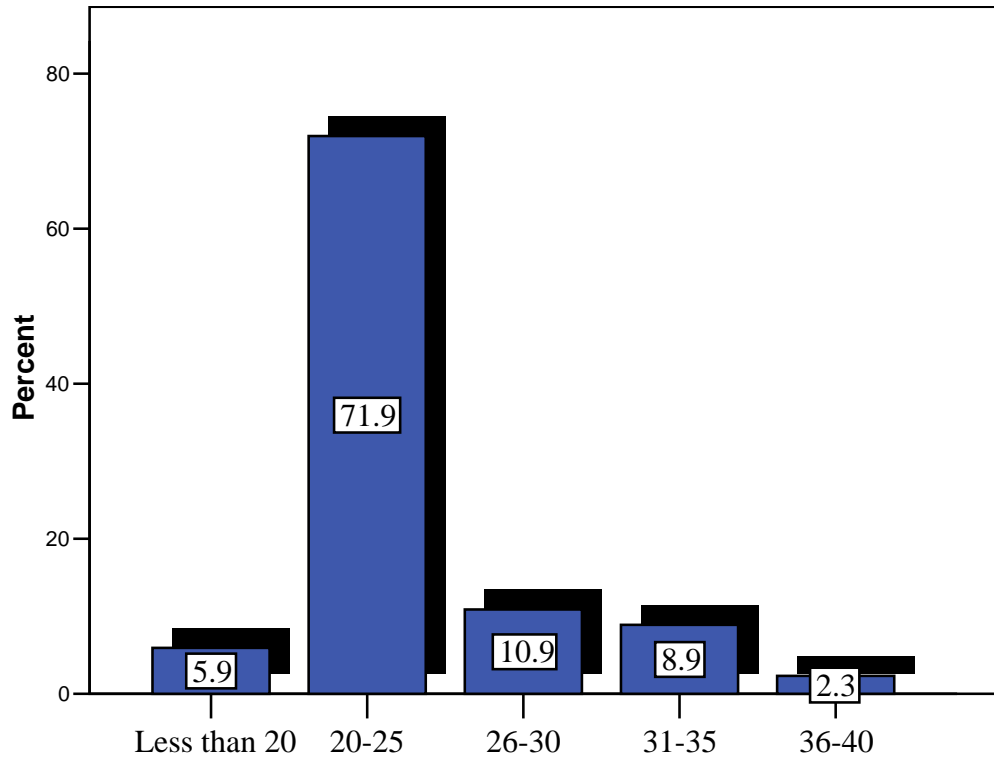


Figure 4.3 Students' Ages Distributions

4.1.4 Faculty Ages

Table 4.4 and Figure 4.4 show the distribution of faculty ages. The faculties' aged 25-30 and 31-35 years represent the largest category (46%). About 84 % of respondents were between the age of 25 and 45. There were few faculty members (16%) below 25 or over 46 years of age.

Table 4.4 Faculty's Ages Distributions

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 25 years	7	7.0	7.0	7.0
	25-30	23	23.0	23.0	30.0
	31-35	23	23.0	23.0	53.0
	36-40	20	20.0	20.0	73.0
	41-45	18	18.0	18.0	91.0
	46- 50	5	5.0	5.0	96.0
	51- Above	4	4.0	4.0	100.0
	Total	100	100.0	100.0	

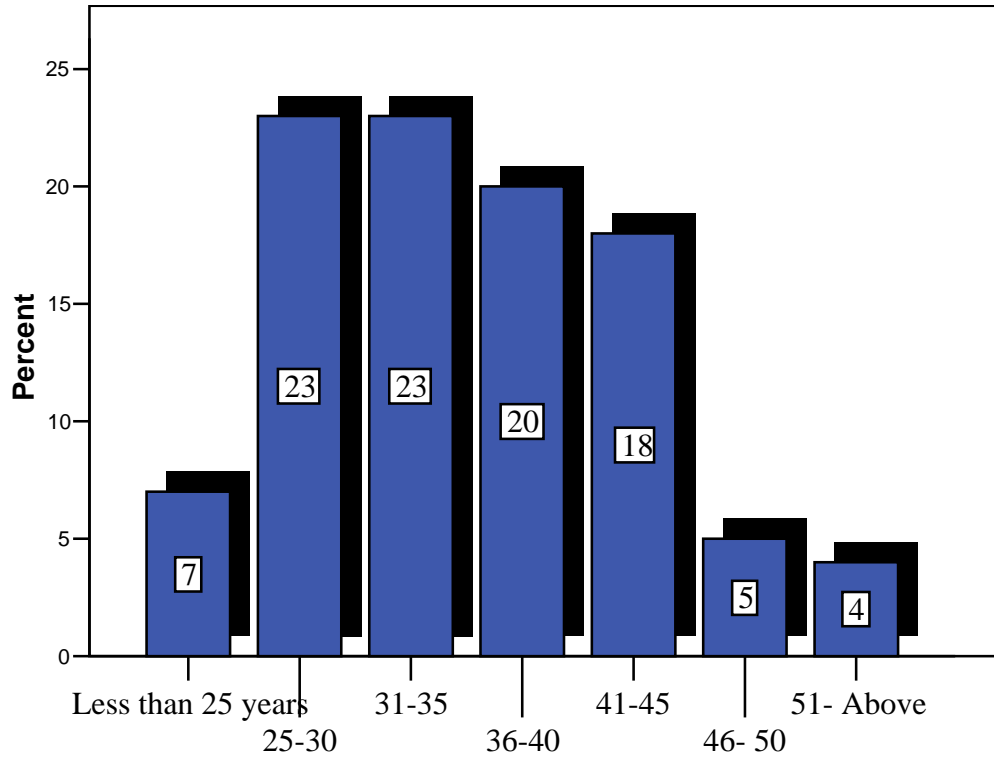


Figure 4.4 Faculty's Ages Distributions

4.1.5 Length of Technological Experience

Table 4.5 and Figure 4.5 below show the length of technological experience of participants. About (48.4%) of the respondents (faculty members and students) have less than 5 years of experience with technology, and about (34.6%) of them has 5 – 10 years experience. The majority of faculty members and students (83%) have less than 11 years experience with technology.

Table 4.5 Participants' Technological Experience

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 5 years	193	48.4	48.4	48.4
	5-10 years	138	34.6	34.6	83.0
	11-15 years	42	10.5	10.5	93.5
	16-20 years	20	5.0	5.0	98.5
	21 years- and more	6	1.5	1.5	100.0
	Total	399	100.0	100.0	

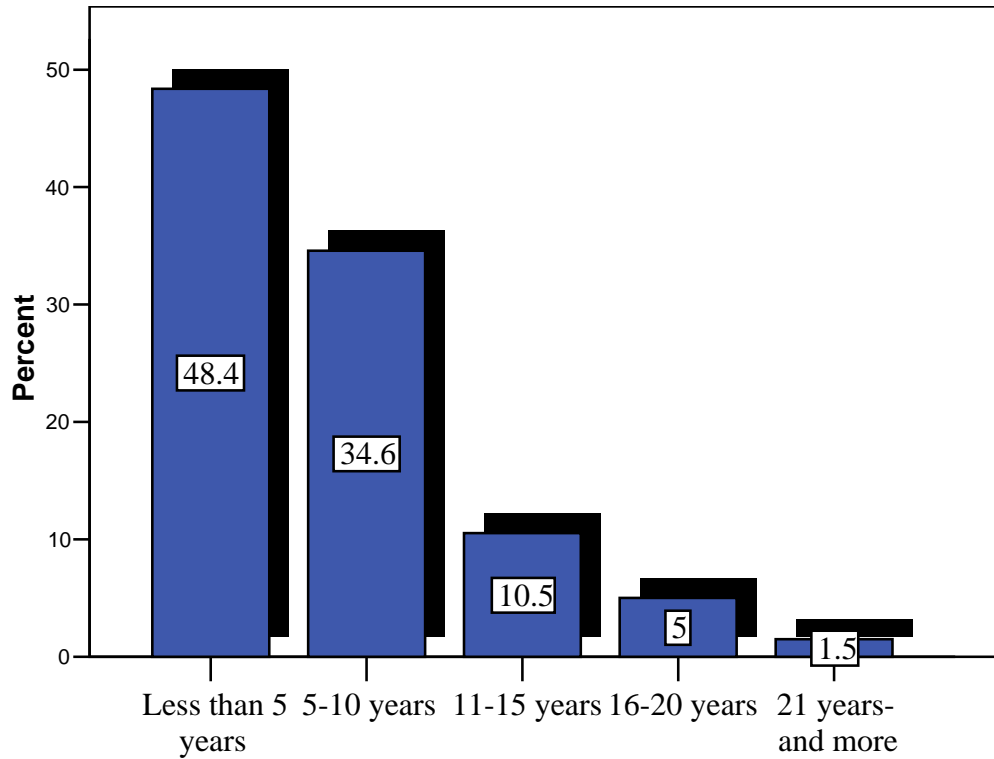


Figure 4.5 Participants' Technological Experience

4.1.6 Academic Major of the Participants

The survey respondents represent two fields (public administration and computer) as shown in Table 4.6 and Figure 4.6 below. The distribution of respondent faculty members and students are represented below according to their academic major. The majority of participants have computer specializations (62%), and (38%) of them have public administration.

Table 4.6 Participants' Academic Major Distributions

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Public Administration	130	38.0	38.0	38.0
	Computer	212	62.0	62.0	100.0
	Total	342	100.0	100.0	

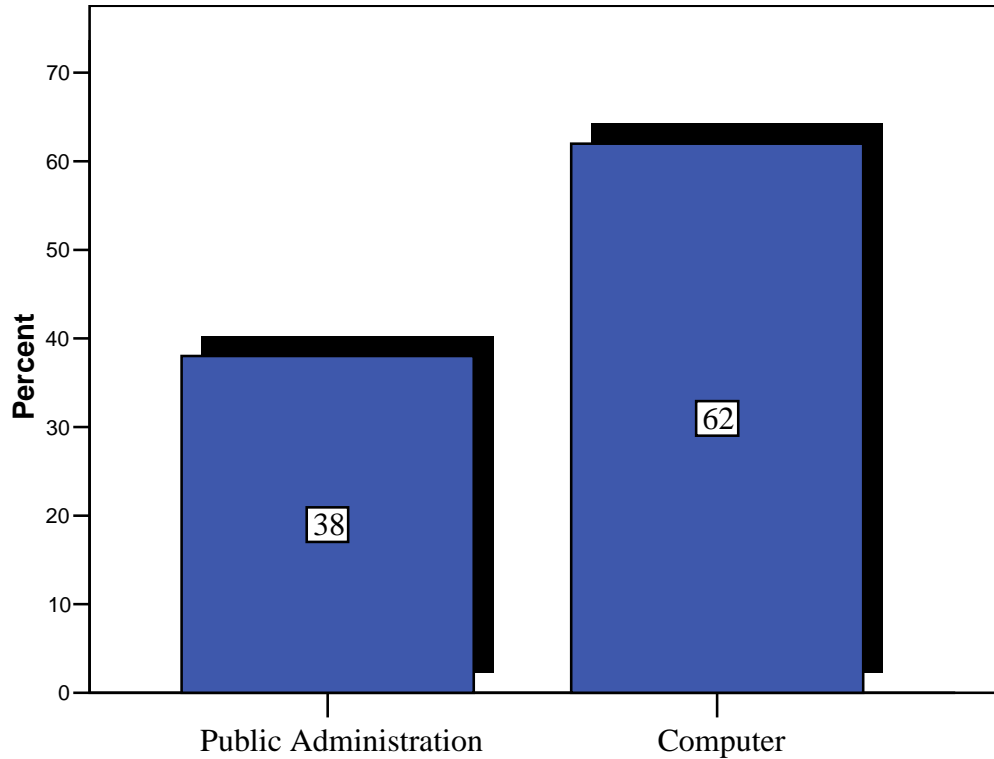


Figure 4.6 Participants' Academic Major Distributions

4.1.7 Participants' Education Level Distributions

The student participants were divided into three educational levels. About (46%) of student participants has diploma's degree. The majority (50.3%) of them hold a bachelor's degree. Few students (3.7%) have a master's degree. Please refer to Table 4.7 and Figure 4.7 to see the distribution of students' education levels.

Table 4.7 Educational Level of Students

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High School	137	46.0	46.0	46.0
	Bachelor's degree	150	50.3	50.3	96.3
	Master's degree	11	3.7	3.7	100.0
	Total	298	100.0	100.0	

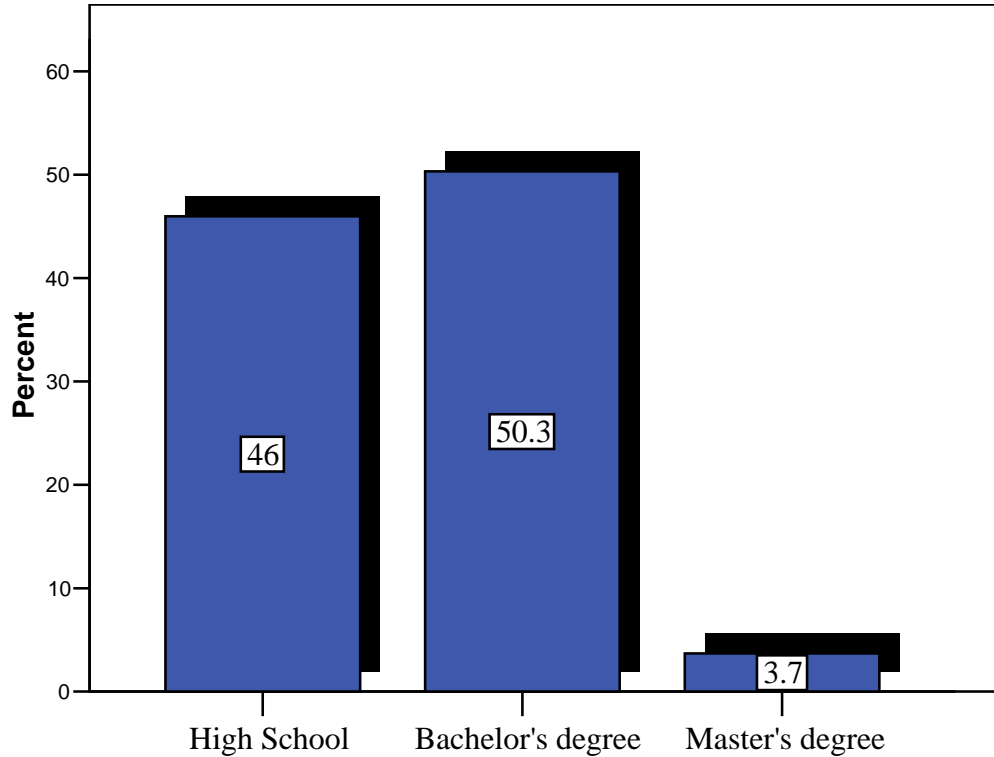


Figure 4.7 Students' Educational Level Distributions

The faculty participants were divided into four educational levels. About (26.3%) of faculty participants hold bachelor's degrees. About (43.4%) of faculty participants hold master's degrees while (5.1%) hold high diplomas. About (25.3%) of faculty participants hold doctoral degrees. See Table 4.8 and Figure 4.8.

Table 4.8 Faculty's Education Level Distributions

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Bachelor's degree	26	26.3	26.3	26.3
	High diploma's degree	5	5.1	5.1	31.3
	Master's degree	43	43.4	43.4	74.7
	Doctorate	25	25.3	25.3	100.0
	Total	99	100.0	100.0	

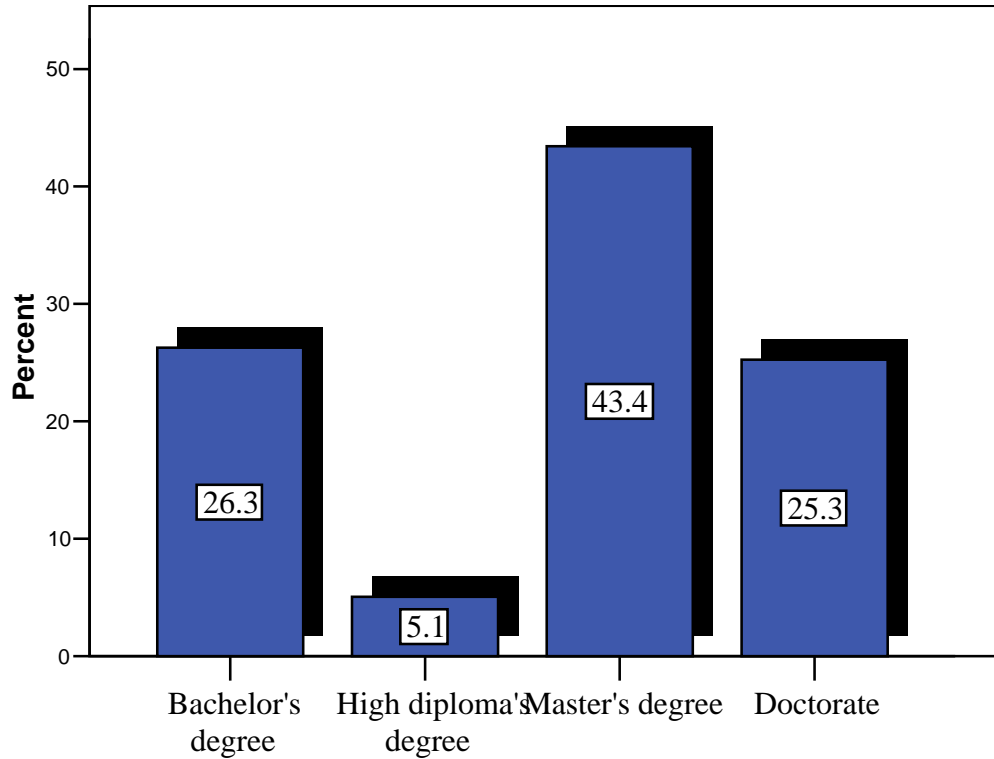


Figure 4.8 Faculty's Education Level Distributions

4.1.8 The Institution distribution

The survey participants come from three educational institutions. Table 4.9 and Figure 4.9 show the distribution of respondent faculty members and students according to their institutions. The largest number (42.2%) of participants was from IMBSIU. The participants from the IPA were (31.2%) while (26.6%) were from KSU.

Table 4.9 Institution distribution

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	IPA	124	31.2	31.2	31.2
	KSU	106	26.6	26.6	57.8
	IMBSIU	168	42.2	42.2	100.0
	Total	398	100.0	100.0	

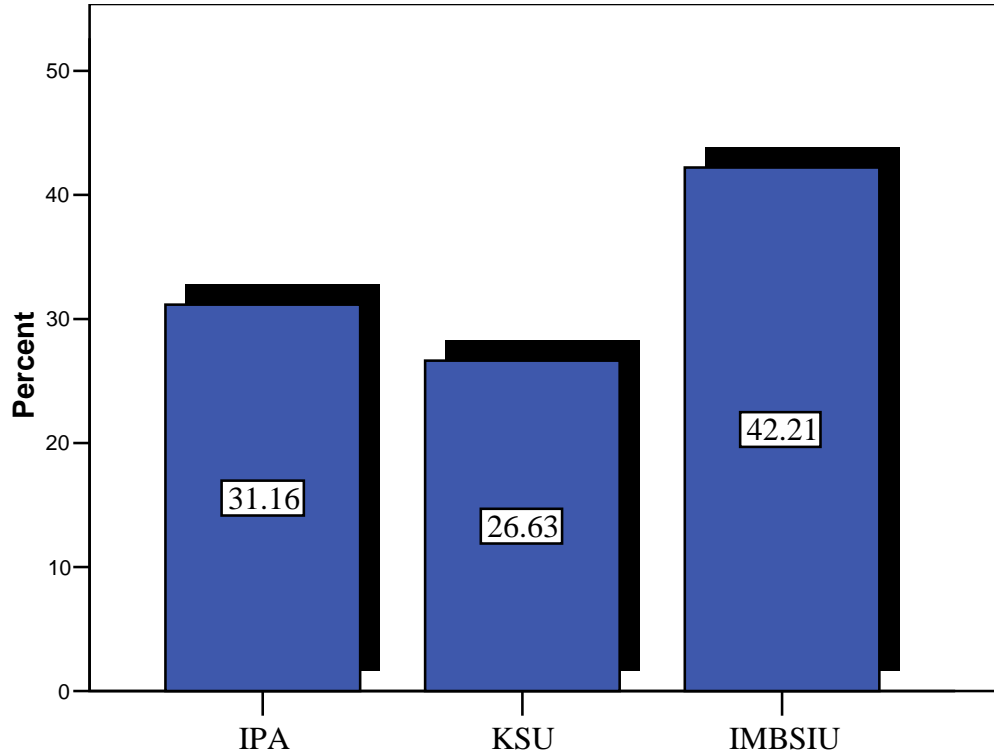


Figure 4.9 Institution distribution

4.1.9 Participants' Incomes

Table 4.10 and Figure 4.10 summarize the students' income distributions. About (43.5%) of students had less than 1000 SR per month. Nineteen percent of them had 1,001-2,000 SR. About (11.9%) had 2,001-3,000 while (5.1%) of them had 3,001-4,000. About 20.4% of them had more than 4000 SR per month.

Table 4.10 Student Income Distribution

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than SR 1,000	128	43.5	43.5	43.5
	1,001-2,000 RS	56	19.0	19.0	62.6
	2,001-3,000 RS	35	11.9	11.9	74.5
	3,001-4,000 RS	15	5.1	5.1	79.6
	4,001RS or more	60	20.4	20.4	100.0
	Total	294	100.0	100.0	

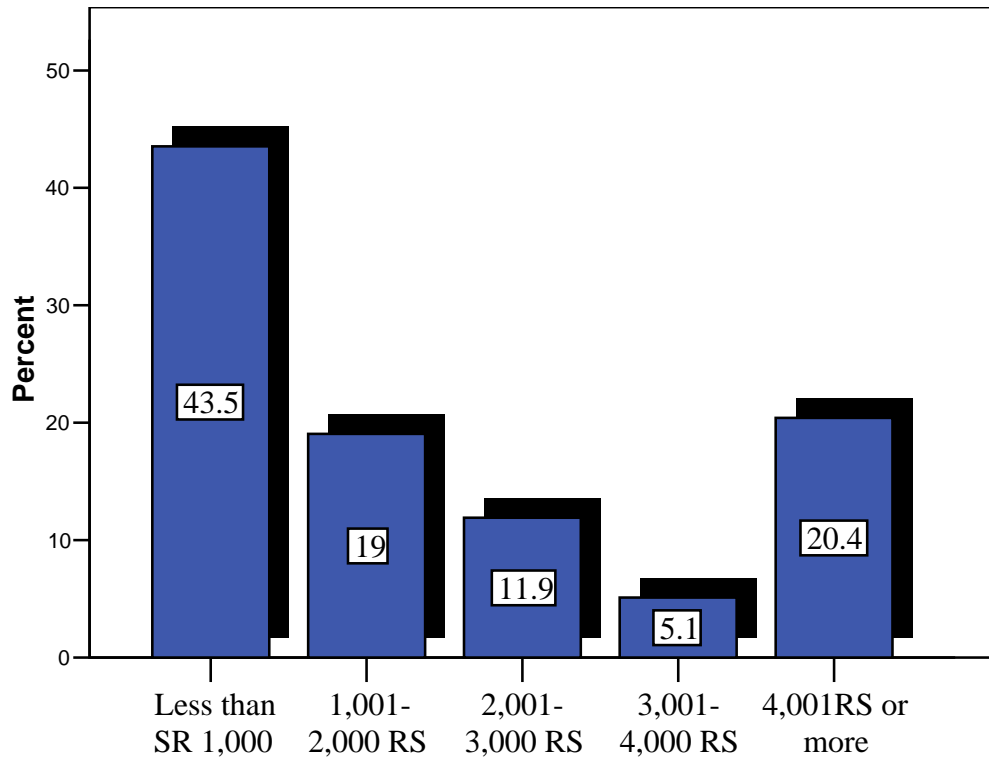


Figure 4.10 Student Income Distributions

Table 4.11 and Figure 4.11 summarize the faculties' income distributions. Seven percent of faculty members had 5,000 SR per month or less. About (51.2%) of them had 5,001-10,000. About (39.5%) had 10,000-15,000 SR per moth, while (2.3%) of them had 20,001 or more. About (90.7%) of faculty participants were between 5000 and 15000 SR per month. There were few faculty members (9.4%) under 5000 or over 15000.

Table 4.11 Faculty Income Distributions

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	5,000 RS or less	6	7.0	7.0	7.0
	5,001-10,000 RS	44	51.2	51.2	58.1
	10,001-15,000 RS	34	39.5	39.5	97.7
	20,001 RS or more	2	2.3	2.3	100.0
	Total	86	100.0	100.0	

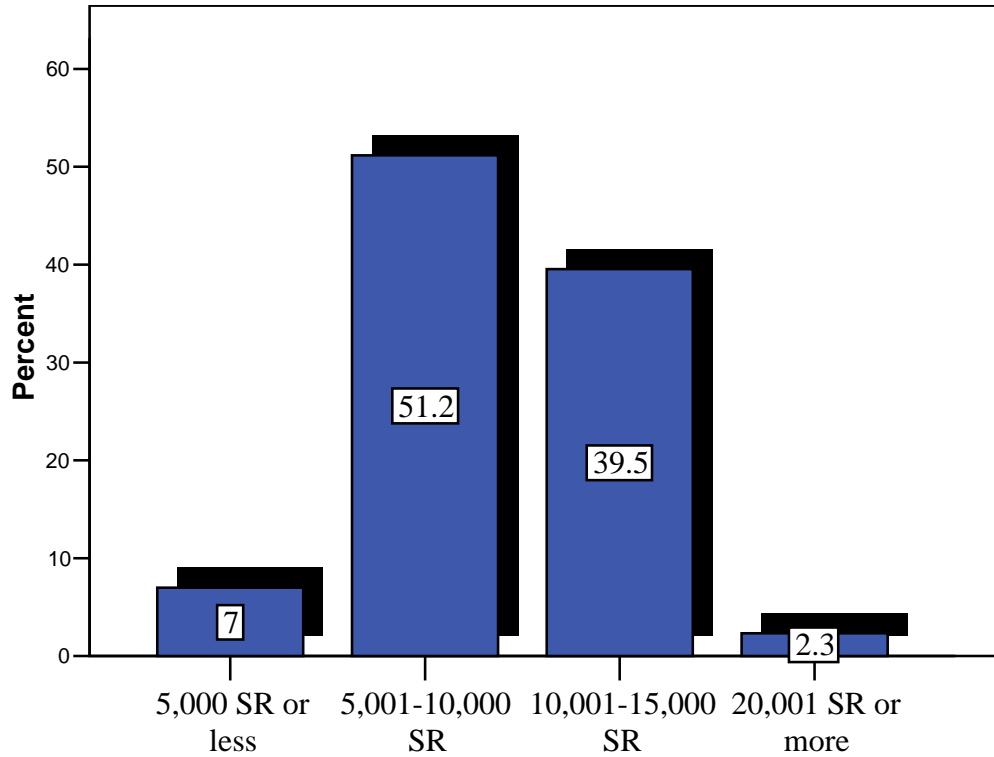


Figure 4.11 Faculty Income Distributions

4.2 Yes/No Questions

This part included yes-no questions that were designed to collect additional information about the spreading of PCs and Internet among respondents and their knowledge and desire to e-government implementation.

Table 4.12 and Figure 4.12 show the distribution of respondent faculty members who have or have not had a computer in their offices. Faculty members were asked to mark “Yes” or “No” in response to the question: “Do you have a computer in your office?” Ninety six of faculty members have computers in their offices while only (4%) of them do not have.

Table 4.12 Do you have a computer in your office?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	4	4.0	4.0	4.0
	Yes	95	96.0	96.0	100.0
	Total	99	100.0	100.0	

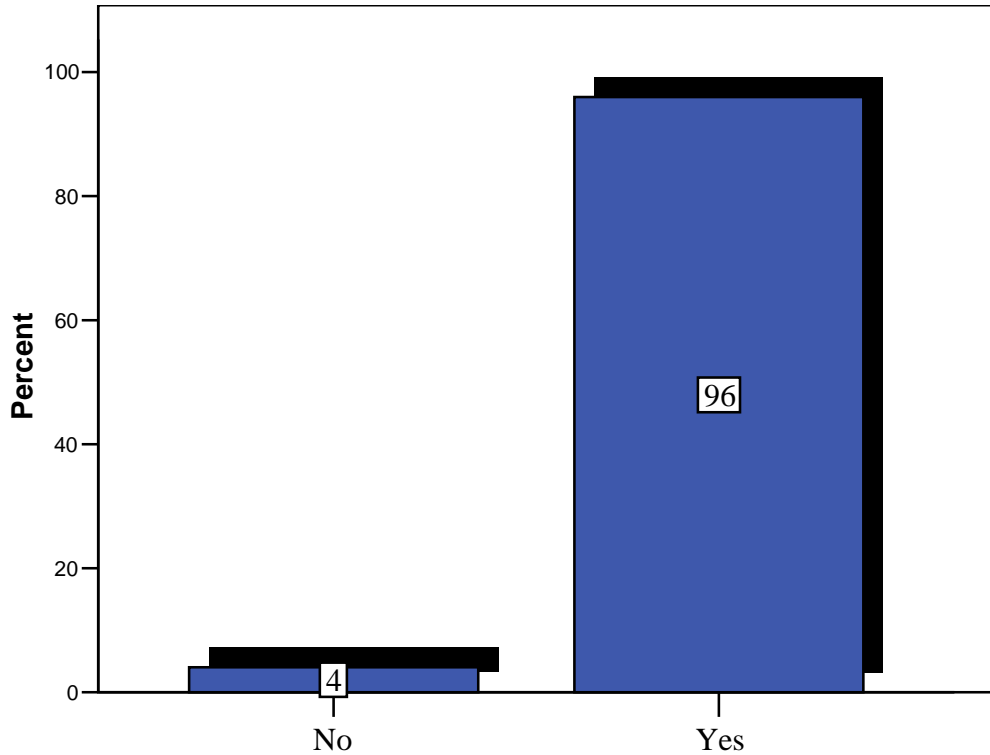


Figure 4.12 Do you have a computer in your office

Table 4.13 and Figure 4.13 show the distribution of respondent faculty members who have or have not had Internet service at office. Faculty members were asked to mark “Yes” or “No” in response to the question: “Do you have Internet service in your office?” About (93.9%) of faculty members has Internet service in their offices while (6.1%) do not have.

Table 4.13 Do you have Internet service in your office?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	6	6.1	6.1	6.1
	Yes	93	93.9	93.9	100.0
	Total	99	100.0	100.0	

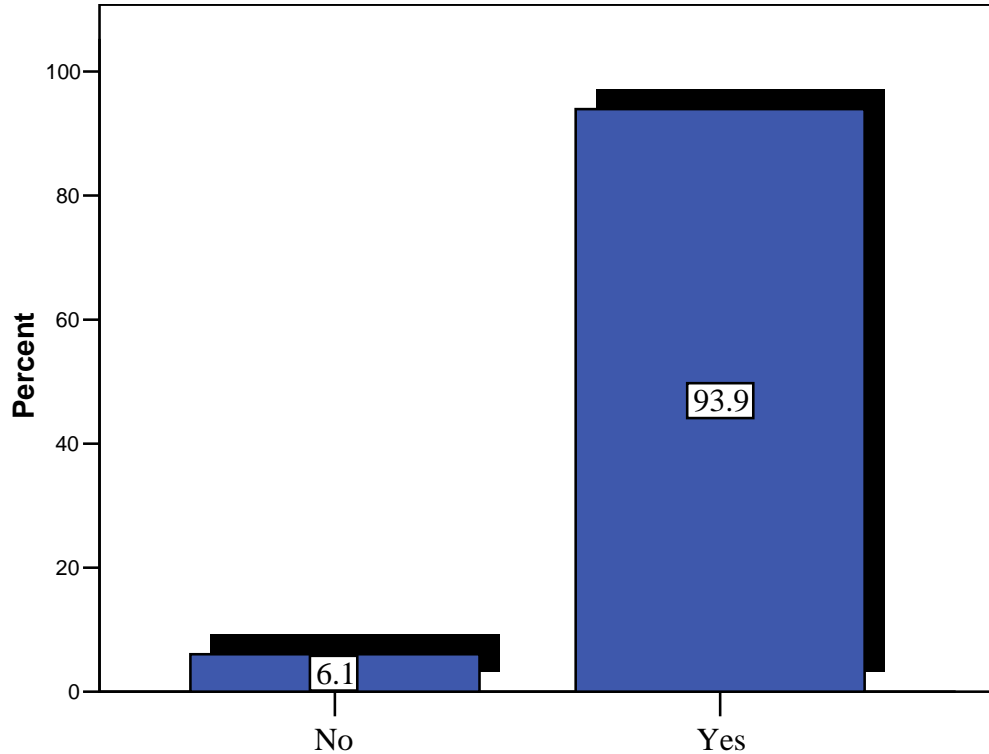


Figure 4.13 Do you have Internet service in your office

Table 4.14 and Figure 4.14 show the distribution of respondents (faculty members and students) who have or have not had easy access to the Internet service regardless of place. Respondents were asked to mark “Yes” or “No” in response to the question: “Do you have easy access to the Internet?” About (89.9%) of participants have easy accesses to the Internet. About 10.1% of respondents do not have easy access to the Internet.

Table 4.14 Do you have easy access to the Internet?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	41	10.1	10.1	10.1
	Yes	364	89.9	89.9	100.0
	Total	405	100.0	100.0	

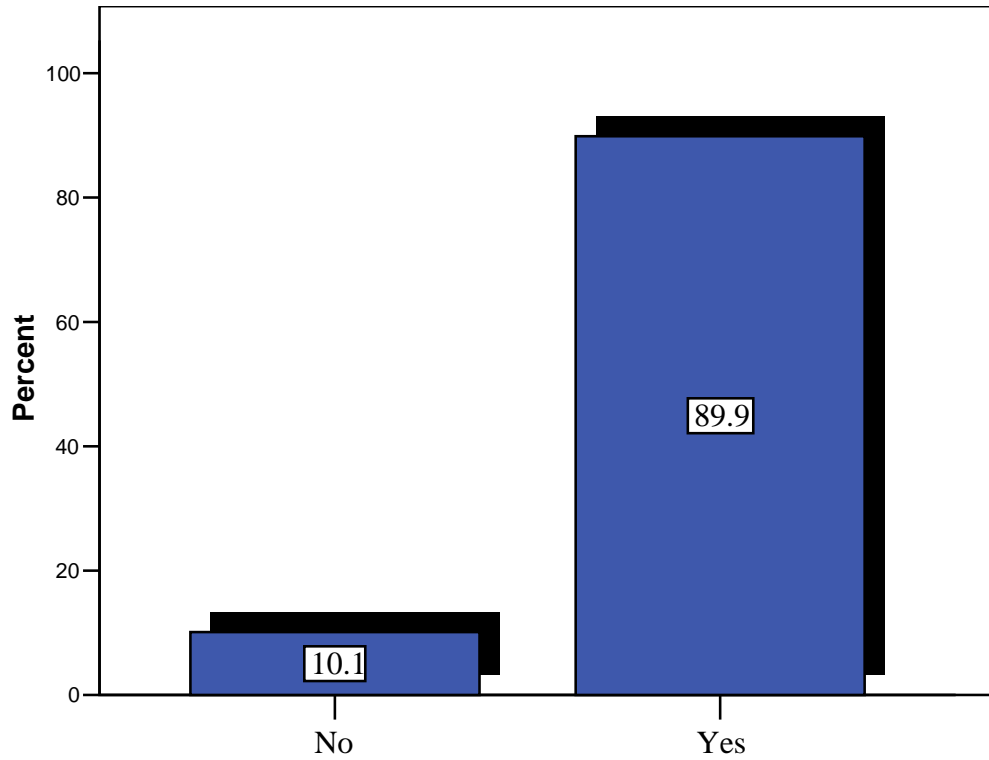


Figure 4.14 Do you have easy access to the Internet?

Table 4.15 and Figure 4.15 show the distribution of respondents who prefer to put e-government in place. Respondents were asked to mark “Yes” or “No” in response to the question: “Would you prefer to put e-government in place?” About (96.3%) of participants prefer to put e-government in place while only (3.8%) of them do not want to put e-government in place.

Table 4.15 Would you prefer to put e-government in place?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	15	3.8	3.8	3.8
	Yes	385	96.3	96.3	100.0
	Total	400	100.0	100.0	

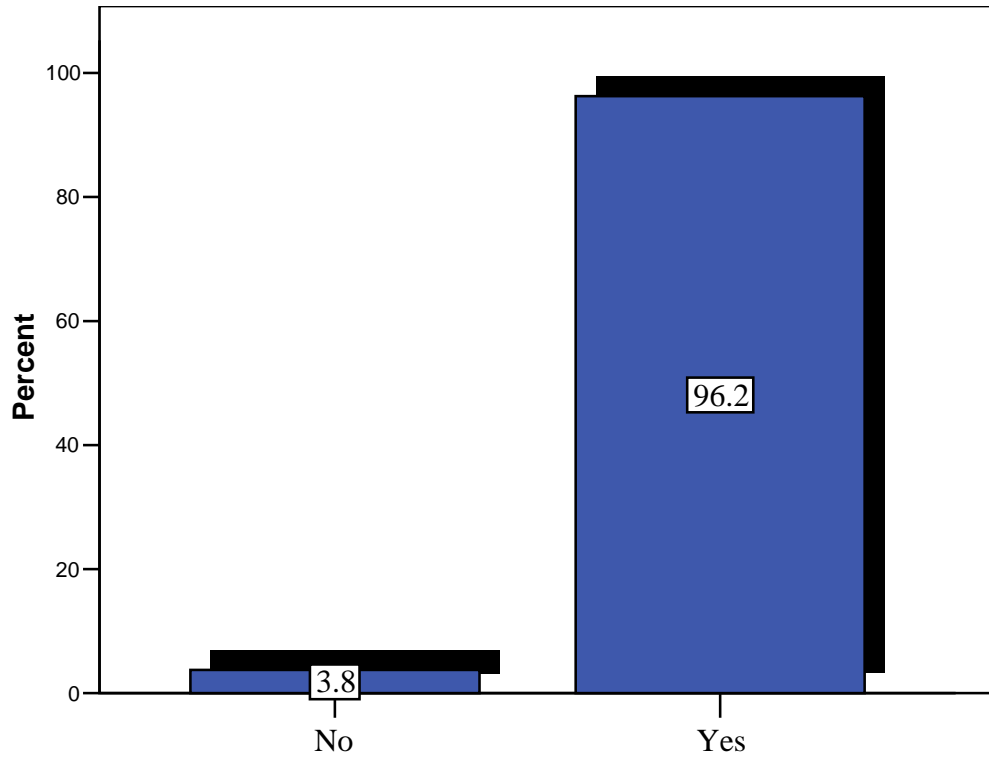


Figure 4.15 Preferring of e-government application

Table 4.16 and Figure 4.16 show the distribution of respondents who have or have not had knowledge about e-government. Respondents were asked to mark “Yes” or “No” in response to the question: “Do you have knowledge about e-government?” About (62.7%) of participants has knowledge about e-government while (37.3%) of respondents do not have knowledge about e-government.

Table 4.16 Do you have knowledge about e-government?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	151	37.3	37.3	37.3
	Yes	254	62.7	62.7	100.0
	Total	405	100.0	100.0	

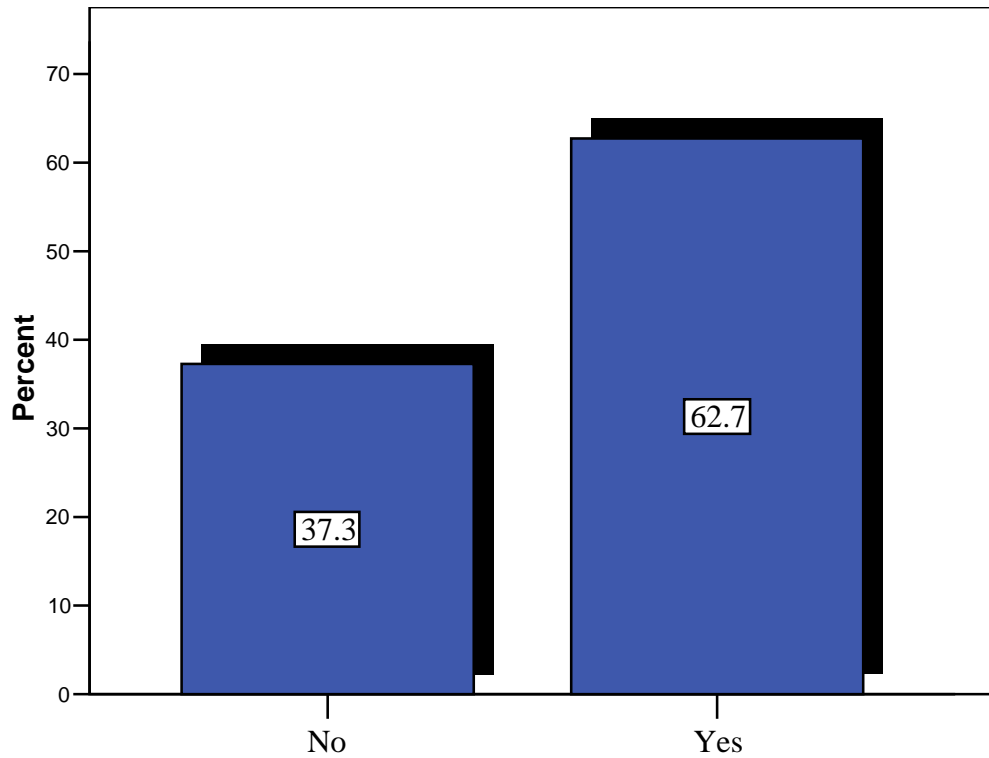


Figure 4.16 Participants' knowledge about e-government

Table 4.17 and Figure 4.17 show the distribution of respondents (faculty members and students) who have or do not have a computer at home. Participants were asked to mark “Yes” or “No” in response to the question: “Do you have a personal computer at home?” three hundred and eighty one or (94.3%) of respondents have personal computers at home, while 23 or (5.7%) of participants do not have.

Table 4.17 Do you have a personal computer at home?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	23	5.7	5.7	5.7
	Yes	381	94.3	94.3	100.0
	Total	404	100.0	100.0	

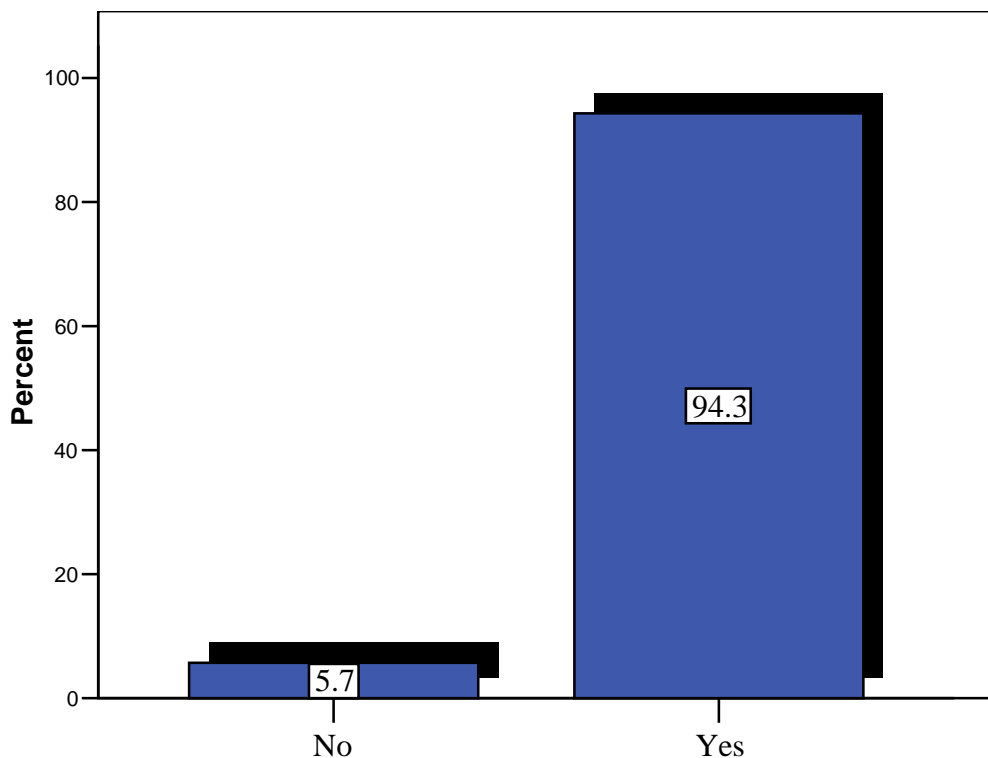


Figure 4.17 Do you have a personal computer at home?

Table 4.18 and Figure 4.18 show the distribution of respondents (faculty members and students) who have or do not have Internet service at home. Participants were asked to mark “Yes” or “No” in response to the question: “Do you have Internet service at home?” About (85.6%) of respondents has Internet service at home while (14.4%) of respondents do not have.

Table 4.18 Do you have Internet service at home?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	58	14.4	14.4	14.4
	Yes	345	85.6	85.6	100.0
	Total	403	100.0	100.0	

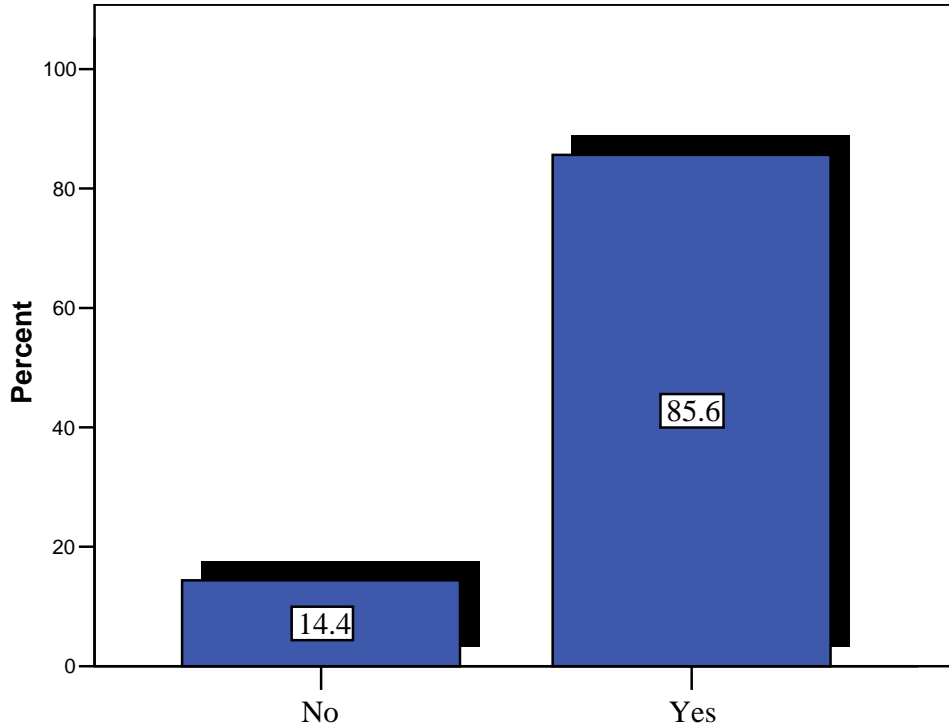


Figure 4.18 Do you have Internet service at home?

4.3 Perception of Respondents toward Obstacles of E-government Implementation in Educational Institutions

Descriptive statistics (mean, standard deviation, frequency, and percentage) were performed on the perceptions towards the obstacles of implementing e-government in educational institutions. To fully delineate the perceptions and attitudes of faculty members and students, analysis of the survey was grouped into six variables (political, educational, financial, technological, organizational, and social obstacles). The questionnaire statements from A1 to F46 were analyzed together, whether the respondent was faculty member or student, because these variables are the same. In this

section when the mean of the variable is (3.5) or above that means it is considered obstacle, but if it is below (3.5), it is considered not obstacle.

4.3.1 Obstacles Related to the Policy (legislation and regulation) Systems

The following research question related to political obstacles preventing or influence e-government implementation in educational institutions.

Research Question1

- To what extent are current governmental (legislation and regulation) policies perceived as obstacles to implementing e-government in educational institutions by faculty members and students?

The following three identified obstacles related to the political systems:

- Inadequate individual legal rights

Table 4.19 and Figure 4.19 show that (35.6%) of respondents strongly agree and (35.1%) agree. Two percent of respondents strongly disagree, (6.4%) disagree and (20.8%) neutral. The mean score was 3.96 with Std. Deviation 1.000. The majority of respondents (70.7%) fall between strongly agree or agree, which indicates that inadequate individual legal rights is considered one of the obstacles to the implementation of e-government in educational institutions.

Table 4.19 Inadequate individual legal rights

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	8	2.0	2.0	2.0
	Disagree	26	6.4	6.4	8.4
	Neutral	84	20.8	20.8	29.2
	Agree	142	35.1	35.1	64.4
	Strongly Agree	144	35.6	35.6	100.0
	Total	404	100.0	100.0	

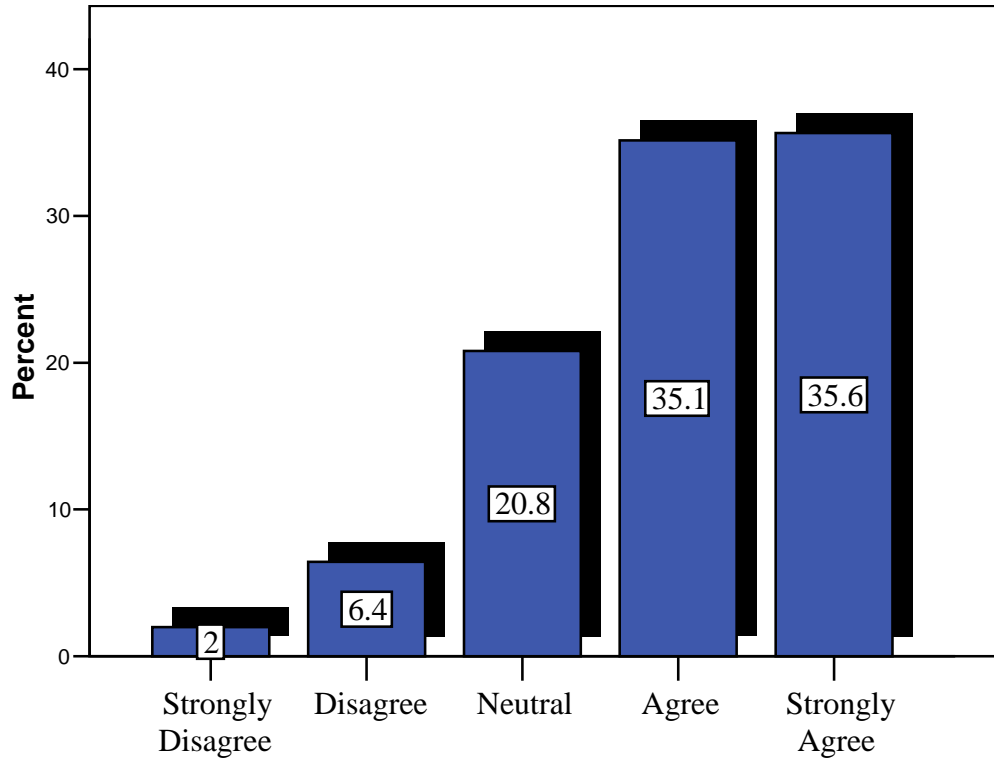


Figure 4.19 Inadequate individual legal rights

- Lack of political leadership support.

Table 4.20 and Figure 4.20 show that (30.8%) of respondents strongly agree and (34%) agree. About (11%) of respondents disagree, (2%) strongly disagree, and (22.3%) neutral. The mean score was 3.81 with Std. Deviation 1.056. The majority of respondents (64.8%) fall between strongly agrees or agrees which indicates that lack of political leadership support is considered one of the obstacles of e-government implementation in educational institutions.

Table 4.20 Lack of political leadership support

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	8	2.0	2.0	2.0
	Disagree	44	11.0	11.0	13.0
	Neutral	89	22.3	22.3	35.3
	Agree	136	34.0	34.0	69.3
	Strongly Agree	123	30.8	30.8	100.0
	Total	400	100.0	100.0	

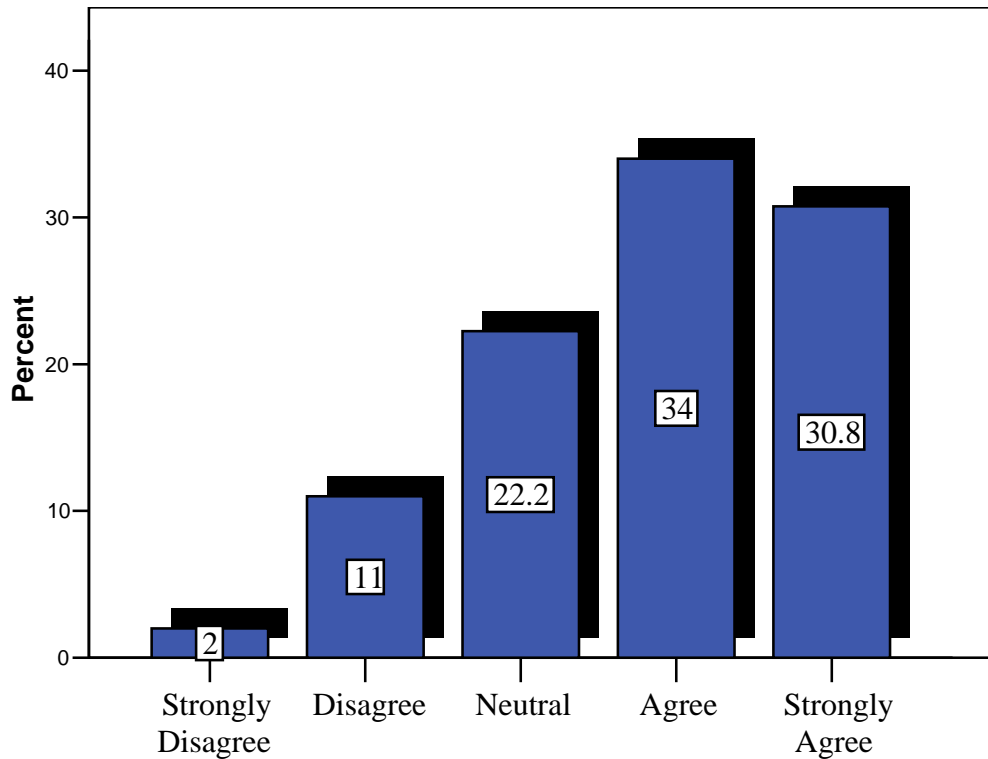


Figure 4.20 Lack of political leadership support

- Lack of appropriate laws for e-usage

Table 4.21 and Figure 4.21 show that (41.6%) of respondents strongly agree and (37.6%) agree. About (3.5%) of respondents disagree, (0.7%) strongly disagree, and (16.6%) neutral. The mean score was 4.16 with Std. Deviation .874. The majority of respondents (79.2%) fall between strongly agrees or agrees which indicates that lack of appropriate laws for e-usage is considered one of the obstacles of e-government implementation in educational institutions.

Table 4.21 Lack of appropriate laws for e-usage

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	3	.7	.7	.7
	Disagree	14	3.5	3.5	4.2
	Neutral	67	16.6	16.6	20.8
	Agree	152	37.6	37.6	58.4
	Strongly Agree	168	41.6	41.6	100.0
	Total	404	100.0	100.0	

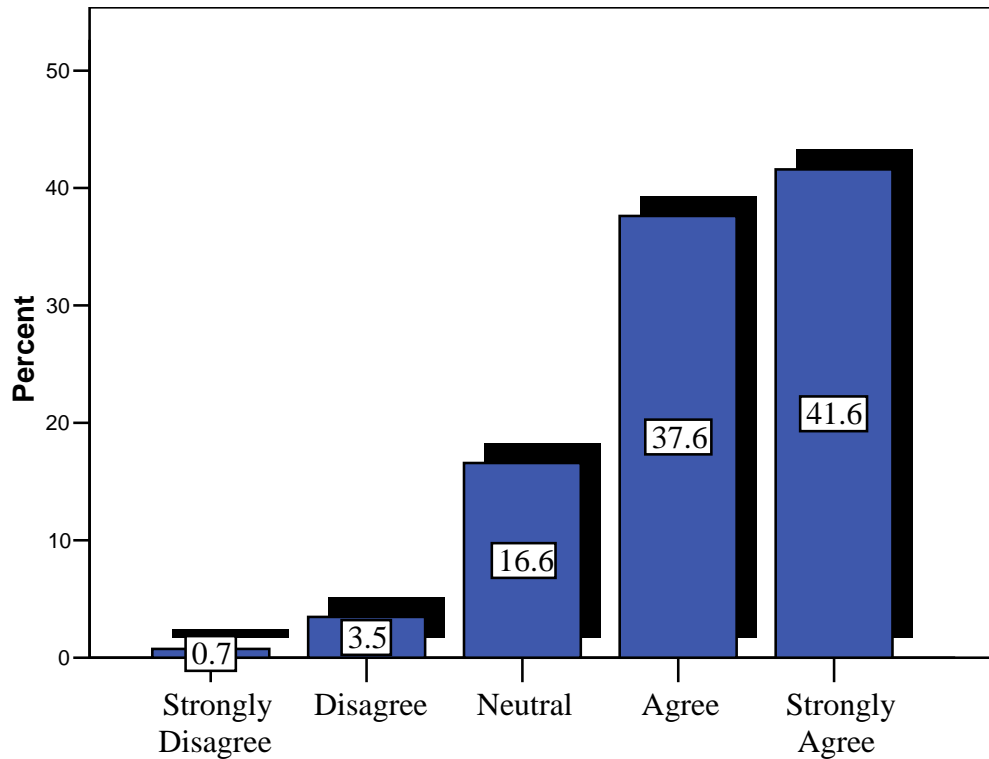


Figure 4.21 Lack of appropriate laws for e-usage

Generally, as shown in Table 4.22, lack of appropriate laws for e-usage represents the major obstacle relating to the policy (legislation and regulation) systems while lack of political leadership support is the least. However, all variables in the table below are considered as real obstacles. The mean score of political obstacle was 3.99 with Std. Deviation .785. This means participants agree that there are political obstacles preventing or influence e-government implementation in educational institutions in Saudi Arabia.

Table 4.22 Comparison of political obstacles

Variables	N	Mean	Std. Deviation
Lack of appropriate laws for e-usage	404	4.16	.874
Inadequate individual legal rights	402	3.96	1.000
Lack of political leadership support	399	3.81	1.055
POLITICAL OBSTACLES	398	3.99	.785

4.3.2 Obstacles Related to the Financial Systems

The following research question related to financial obstacles preventing e-government implementation in educational institutions that are related to the current financial systems.

Research Question 2

- To what extent are current financial systems perceived as obstacles to e-government implementation in educational institutions by faculty members and students?

The following three identified obstacles relate to the financial systems:

- Limited of financial spending on IT.

Table 4.23 and Figure 4.22 show that (43.3%) of respondents strongly agree, (31.4%) agree, (15.1%) neutral, (9.2%) disagree, and (1.0%) strongly disagree. The mean score was 4.07 with Std. Deviation 1.019. The majority of respondents (74.7%) fall between strongly agrees or agrees which indicates that limited of financial spending on IT is considered one of the obstacles of e-government implementation in educational institutions.

Table 4.23 Limited of financial spending on IT

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	4	1.0	1.0	1.0
	Disagree	37	9.2	9.2	10.1
	Neutral	61	15.1	15.1	25.2
	Agree	127	31.4	31.4	56.7
	Strongly Agree	175	43.3	43.3	100.0
	Total	404	100.0	100.0	

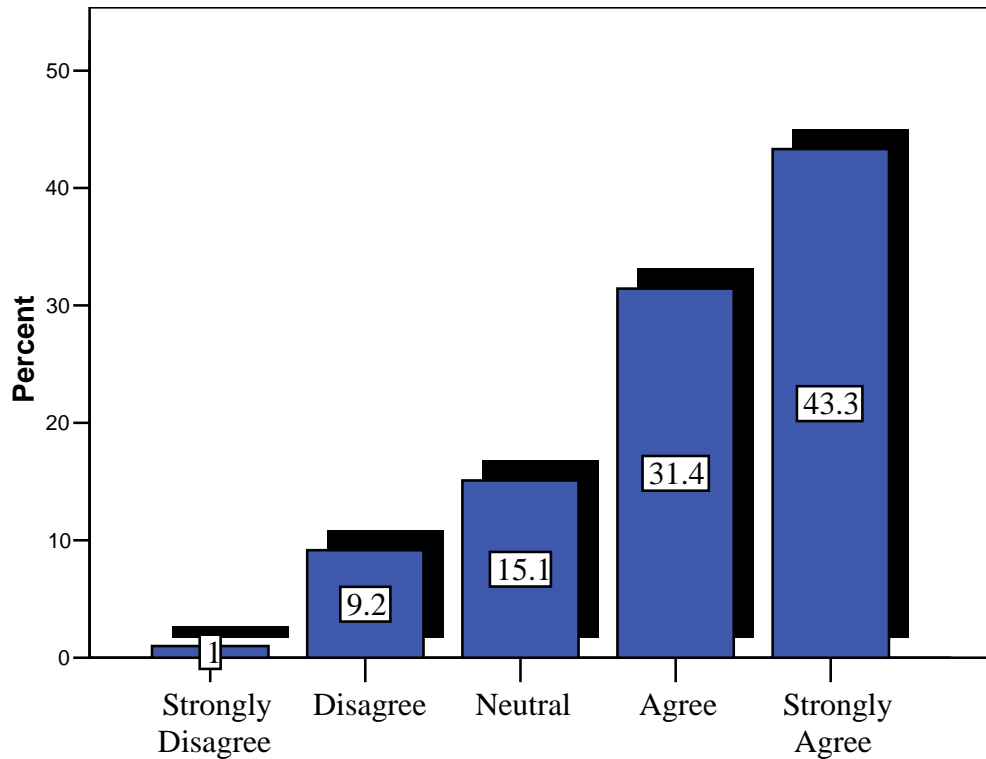


Figure 4.22 Limited of financial spending on IT

- High cost of IT.

Table 4.24 and Figure 4.23 show that (34.3%) of respondents strongly agree, (35.6%) agree, (18.8%) neutral, (9.3%) disagree, and (2%) strongly disagree. The mean score was 3.91 with Std. Deviation 1.038. The majority of respondents (69.9%) fall between strongly agrees or agrees which indicates the high cost of IT is considered one of the obstacles of e-government implementation in educational institutions.

Table 4.24 High cost of IT

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	8	2.0	2.0	2.0
	Disagree	37	9.3	9.3	11.3
	Neutral	75	18.8	18.8	30.1
	Agree	142	35.6	35.6	65.7
	Strongly Agree	137	34.3	34.3	100.0
	Total	399	100.0	100.0	

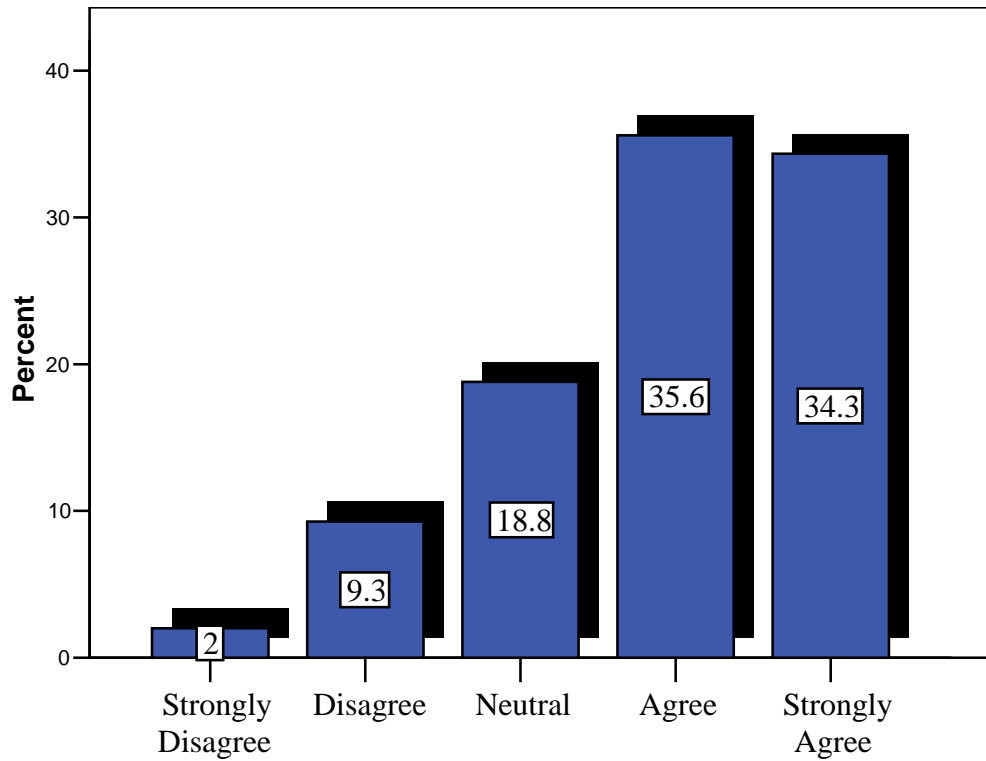


Figure 4.23 High cost of IT

- High-priced services of telecommunications.

Table 4.25 and Figure 4.24 show the percentage of the respondents who agreed is (26.5%), compared with (29.3%) of respondents disagreed. About (18.4%) of respondents strongly agree, (20.7%) neutral, and (5.1%) strongly disagree. The mean score was 3.24 with Std. Deviation 1.201. The respondents don't show a clear trend about this statement.

Table 4.25 High-priced services of telecommunications

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	20	5.1	5.1	5.1
	Disagree	116	29.3	29.3	34.3
	Neutral	82	20.7	20.7	55.1
	Agree	105	26.5	26.5	81.6
	Strongly Agree	73	18.4	18.4	100.0
	Total	396	100.0	100.0	

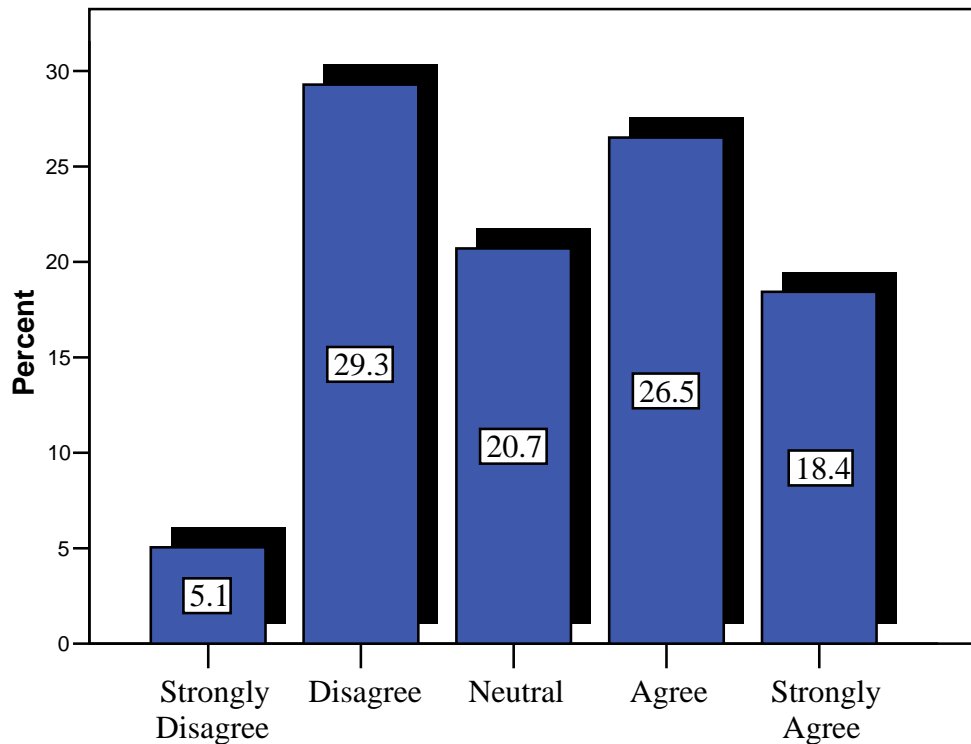


Figure 4.24 High-priced services of telecommunications

Generally, as shown in Table 4.26 limited of financial spending on IT represents the major obstacle relating to the financial systems while high-priced services of telecommunications are the least which may not be considered a neutral obstacle. The mean score of financial obstacle was 3.75 with Std. Deviation .857. This means participants agree that there are financial obstacles preventing or influence e-government implementation in educational institutions in Saudi Arabia.

Table 4.26 Comparison of financial obstacles

Variables	N	Mean	Std. Deviation
Limited of financial spending on IT	404	4.07	1.019
High cost of IT	399	3.91	1.038
High-priced services of telecommunications	396	3.24	1.201
FINANCIAL OBSTACLES	389	3.75	.86

4.3.3 Obstacles Related to the Technological (infrastructure) Systems

The following research question related to technological (infrastructure) obstacles of e-government implementation in educational institutions that are related to the current technological systems.

Research Question 3

- To what extent are current technological systems perceived as obstacles of e-government implementation in educational institutions by faculty members and students?

The following eleven identified obstacles relate to the technological systems:

- Inadequate software programs to implement e-government.

Table 4.27 and Figure 4.25 show that (1.7%) of respondents strongly disagree, (28.4%) agree compared with (23.9%) strongly agree and (12.9%) disagree. The mean score was 3.60 with Std. Deviation 1.041. Over half of the respondents (52.3%) are between agree or strongly agree which indicates that inadequate software programs is considered one of the obstacles to the implementation of e-government in educational institutions.

Table 4.27 Inadequate software programs to implement e-government

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	7	1.7	1.7	1.7
	Disagree	52	12.9	12.9	14.7
	Neutral	133	33.1	33.1	47.8
	Agree	114	28.4	28.4	76.1
	Strongly Agree	96	23.9	23.9	100.0
	Total	402	100.0	100.0	

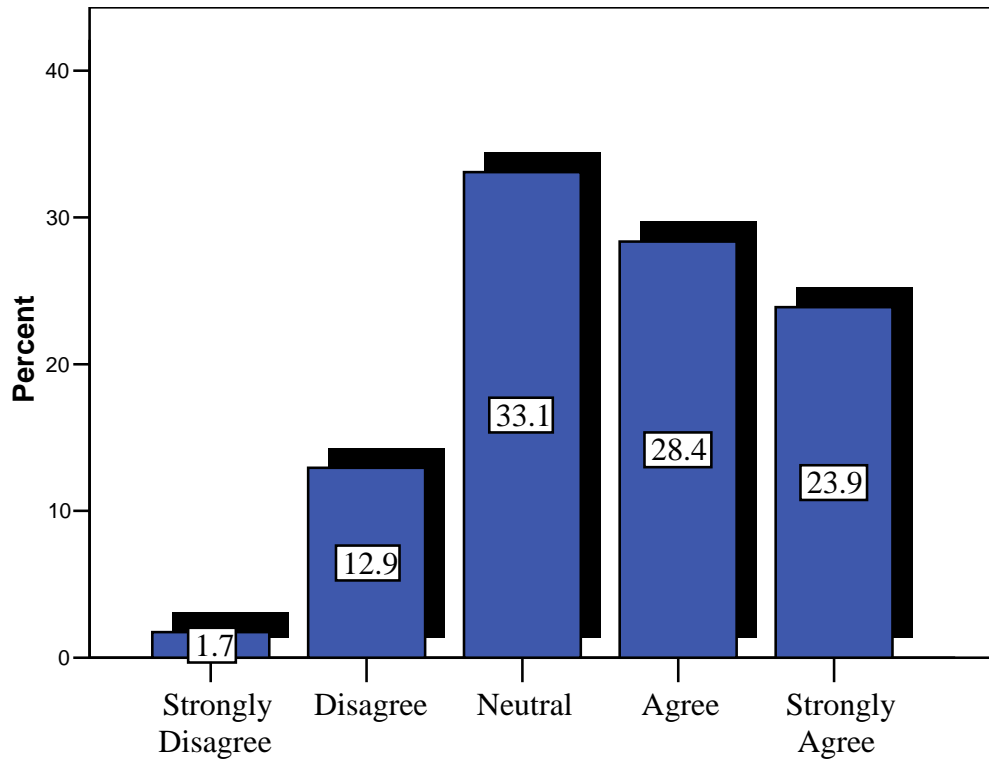


Figure 4.25 Inadequate software programs to implement e-government

- Insufficient maintenance of e-devices.

Table 4.28 and Figure 4.26 show that (13.9%) of respondents strongly agree, (25%) agree compared with (13.6%) strongly disagree and (39.1%) disagree. The mean score was 2.86 with Std. Deviation 1.314. Over half of the respondents (52.7%) are between disagree or strongly disagree, which indicates that insufficient maintenance of e-devices is not one of the obstacles to the implementation of e-government in educational institutions.

Table 4.28 Insufficient maintenance of e-devices

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	55	13.6	13.6	13.6
	Disagree	158	39.1	39.1	52.7
	Neutral	34	8.4	8.4	61.1
	Agree	101	25.0	25.0	86.1
	Strongly Agree	56	13.9	13.9	100.0
	Total	404	100.0	100.0	

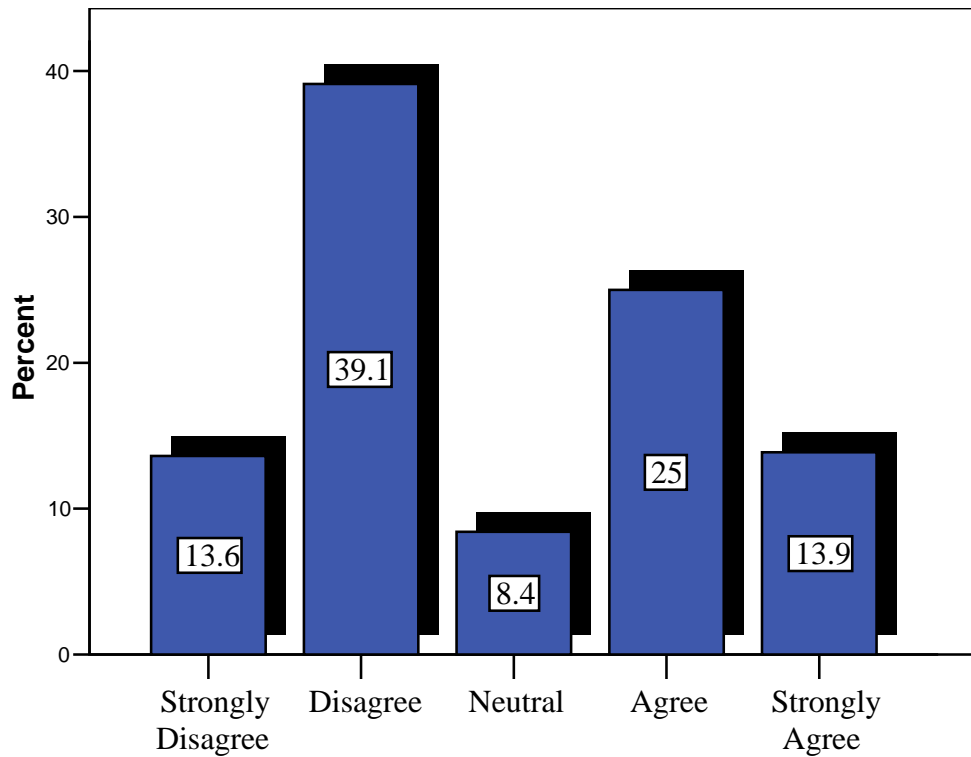


Figure 4.26 Insufficient maintenance of e-devices

- Lack of e-signature option.

Table 4.29 and Figure 4.27 show that (18.9%) of respondents strongly agree, (27.9%) agree compared with (8.5%) strongly disagree and (27.6%) disagree as well as (17.2%) neutral. The mean score was 3.21 with Std. Deviation 1.268. There is no majority of participants to be agreed or disagreed to above statement as one of the obstacles of e-government implementation in educational institutions.

Table 4.29 Lack of e-signature option

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	34	8.5	8.5	8.5
	Disagree	111	27.6	27.6	36.1
	Neutral	69	17.2	17.2	53.2
	Agree	112	27.9	27.9	81.1
	Strongly Agree	76	18.9	18.9	100.0
	Total	402	100.0	100.0	

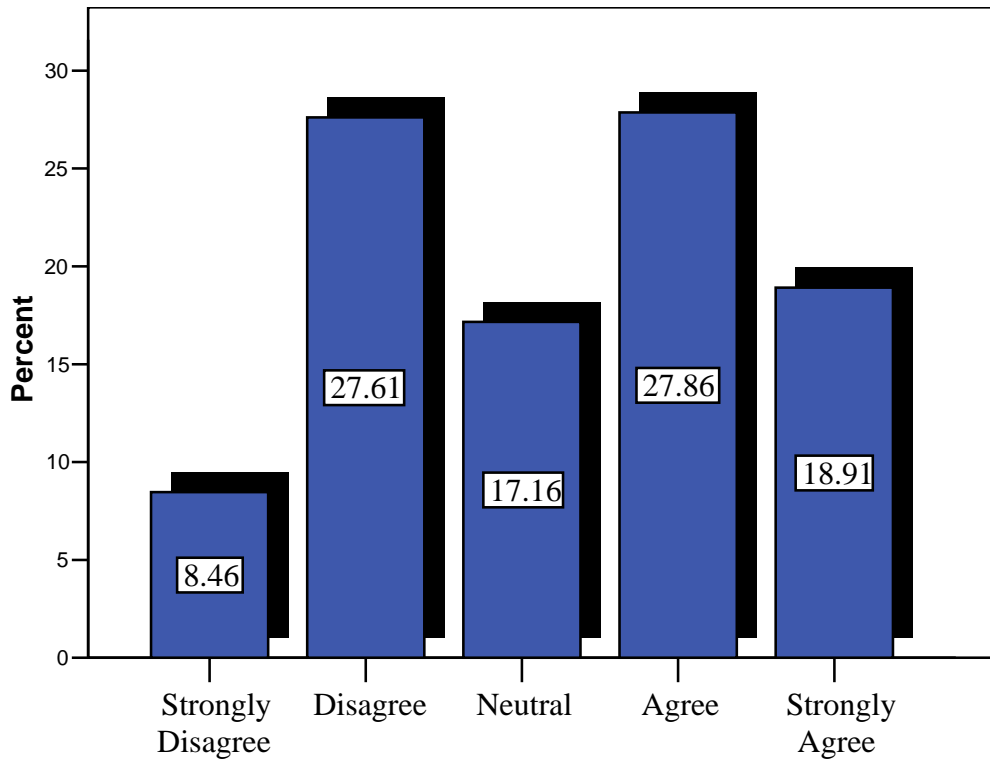


Figure 4.27 Lack of e-signature option

- Computer usage is not widely spread among people.

Table 4.30 and Figure 4.28 below show that (29.9%) of respondents strongly agree and (37.4%) agree compared with (3.5%) strongly disagree and (12.0%) disagree as well as (17.2%) neutral. The mean score was 3.78 with Std. Deviation 1.105. The majority of respondents (67.3%) fall between strongly agrees or agrees, which indicates that the above statement is considered one of the obstacles to the implementation of e-government in educational institutions.

Table 4.30 Computer usage is not widely spread among people

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	14	3.5	3.5	3.5
	Disagree	48	12.0	12.0	15.5
	Neutral	69	17.2	17.2	32.7
	Agree	150	37.4	37.4	70.1
	Strongly Agree	120	29.9	29.9	100.0
	Total	401	100.0	100.0	

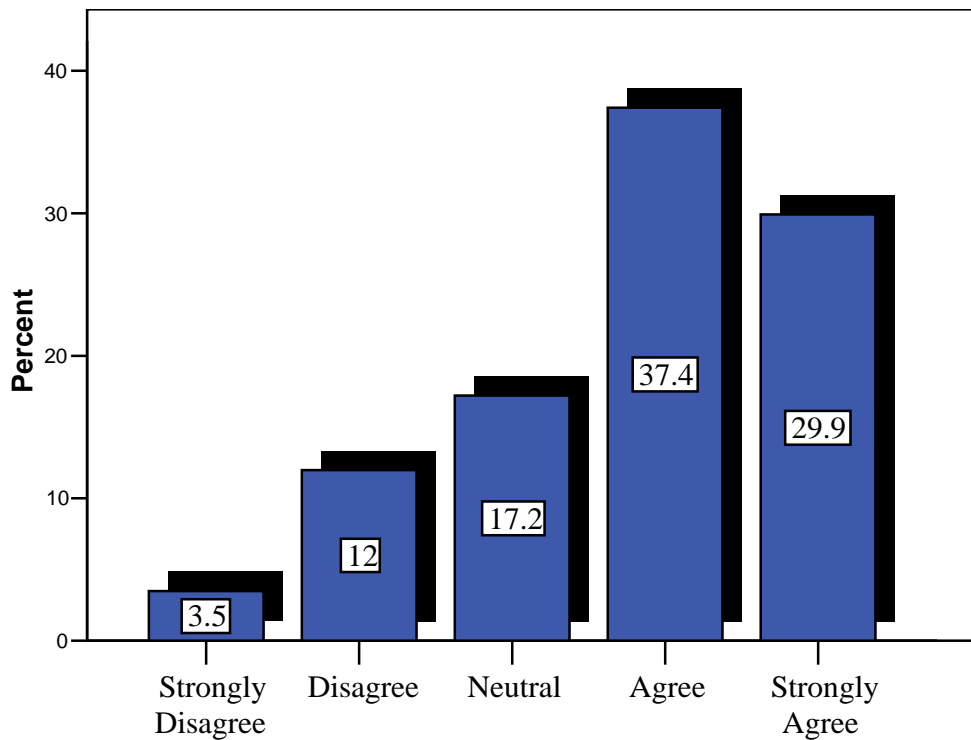


Figure 4.28 Computer usage is not widely spread among people

- Limited postal services.

Table 4.31 and Figure 4.29 below show that (4.0%) of respondents strongly disagree, (25.9%) disagree compared with (19.7%) strongly agree and (33.3%) agree. About (17.2%) of respondents are neutral. The mean score was 3.39 with Std. Deviation 1.179. Over half of the respondents (53%) are between agree or strongly agree. Generally, respondents agree that limited postal services are considered one of the obstacles to implementing e-government.

Table 4.31 Limited postal services

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	16	4.0	4.0	4.0
	Disagree	104	25.9	25.9	29.9
	Neutral	69	17.2	17.2	47.0
	Agree	134	33.3	33.3	80.3
	Strongly Agree	79	19.7	19.7	100.0
	Total	402	100.0	100.0	

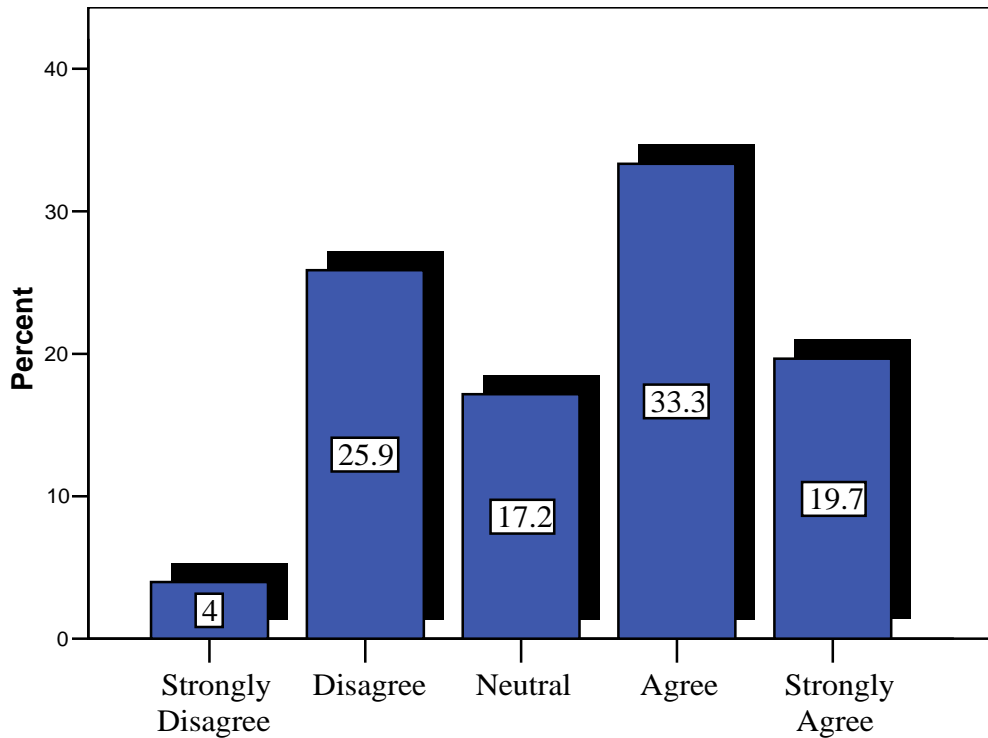


Figure 4.29 Limited postal services

- Weak IT infrastructure.

Table 4.32 and Figure 4.30 below show that (30%) of respondents strongly agree, (33.2%) agree compared with (2.7%) strongly disagree and (14.1%) disagree as well as (20%) neutral. The mean score was 3.74 with Std. Deviation 1.115. The majority of respondents (63.2%) falls between strongly agree or agree, which indicates that weak IT infrastructure is considered one of the obstacles to the implementation of e-government in educational institutions.

Table 4.32 Weak IT infrastructure

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	11	2.7	2.7	2.7
	Disagree	57	14.1	14.1	16.8
	Neutral	81	20.0	20.0	36.9
	Agree	134	33.2	33.2	70.0
	Strongly Agree	121	30.0	30.0	100.0
	Total	404	100.0	100.0	

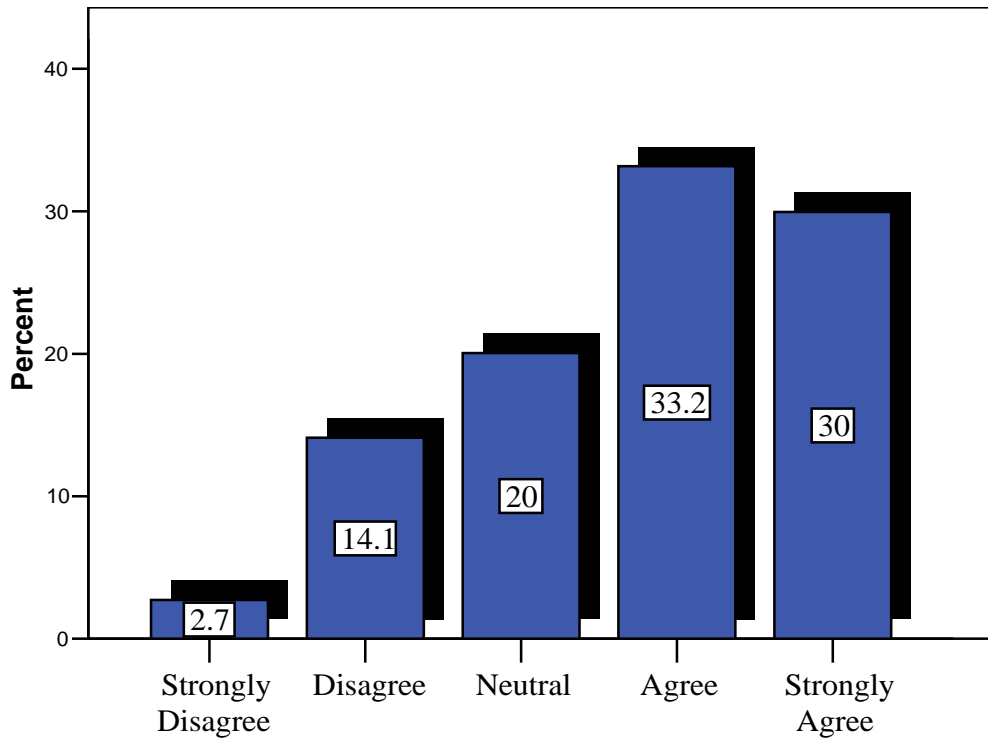


Figure 4.30 Weak IT infrastructures

- Lack of e-payment option.

Table 4.33 and Figure 4.31 below show that (32.8%) of respondents strongly agree, (31.5%) agree compared with (2.2%) strongly disagree and (19.4%) disagree as well as (14.1%) neutral. The mean score was 3.73 with Std. Deviation 1.173. The majority of respondents (64.3%) fall between strongly agrees or agrees, which indicates that above item is considered one of the obstacles to the implementation of e-government in educational institutions.

Table 4.33 Lack of e-payment option

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	9	2.2	2.2	2.2
	Disagree	78	19.4	19.4	21.6
	Neutral	57	14.1	14.1	35.7
	Agree	127	31.5	31.5	67.2
	Strongly Agree	132	32.8	32.8	100.0
	Total	403	100.0	100.0	

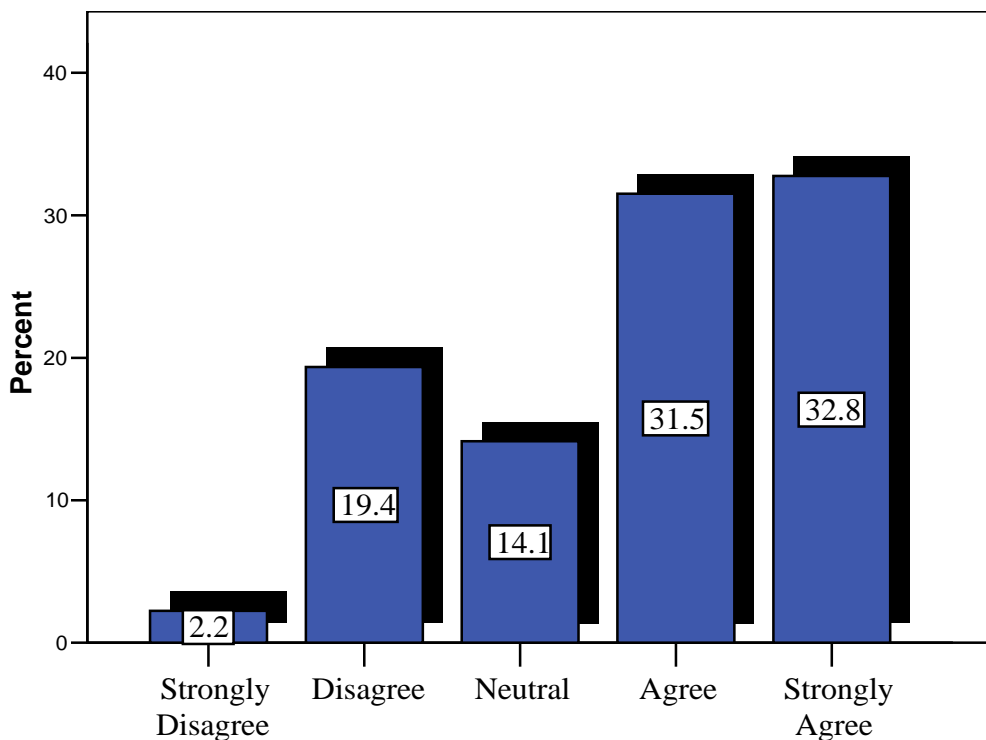


Figure 4.31 Lack of e-payment option

- Inadequate phone lines.

Table 4.34 and Figure 4.32 below show that (14.8%) of respondents strongly disagree, (38.5%) disagree compared with (14%) strongly agree and (18.5%) agree as well as (14.3%) neutral. The mean score was 2.79 with Std. Deviation 1.295. Over half of the respondents (53.3%) are between disagree or strongly disagree in considering inadequate phone lines as one of the obstacles to the implementation of e-government in educational institutions.

Table 4.34 Inadequate phone lines

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	59	14.8	14.8	14.8
	Disagree	154	38.5	38.5	53.3
	Neutral	57	14.3	14.3	67.5
	Agree	74	18.5	18.5	86.0
	Strongly Agree	56	14.0	14.0	100.0
	Total	400	100.0	100.0	

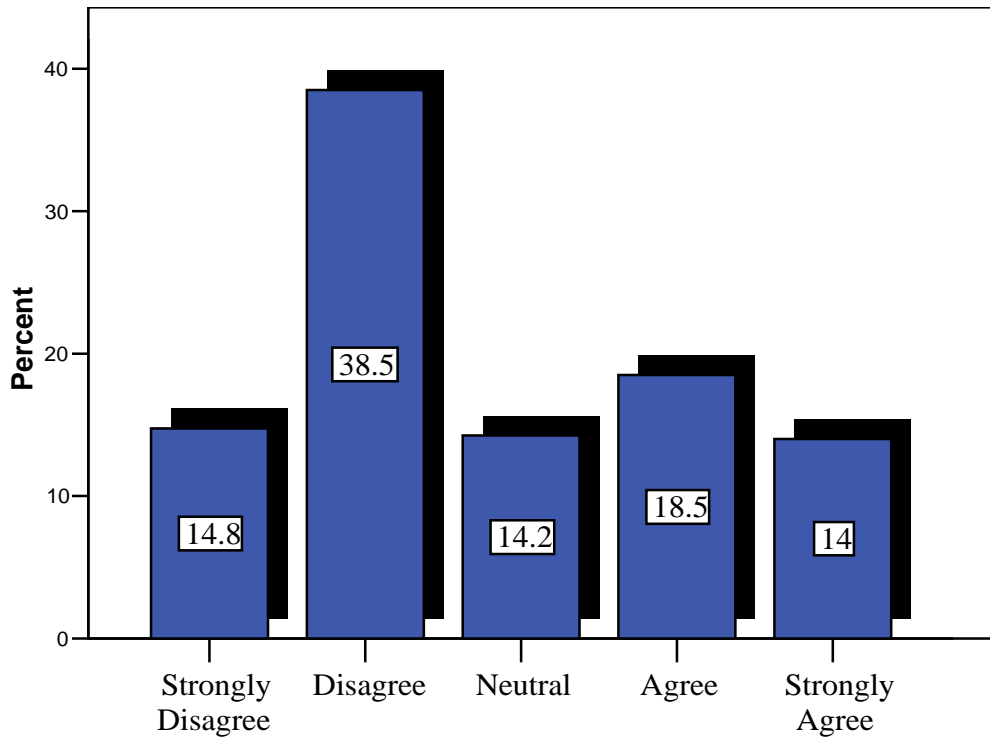


Figure 4.32 Inadequate phone lines

- Difficulties in keeping up with current technological advancements and rapid changes.

Table 4.35 and Figure 4.33 show that (24.3%) of respondents strongly agree, (36.2%) agree compared with (4.5%) strongly disagree and (22.3%) disagree as well as (12.7%) neutral. The mean score was 3.54 with Std. Deviation 1.206. The majority of respondents (60.5%) fall between strongly agrees or agrees to that statement above as one of the obstacles to the implementation of e-government in educational institutions.

Table 4.35 Technological advancements and rapid changes

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	18	4.5	4.5	4.5
	Disagree	90	22.3	22.3	26.8
	Neutral	51	12.7	12.7	39.5
	Agree	146	36.2	36.2	75.7
	Strongly Agree	98	24.3	24.3	100.0
	Total	403	100.0	100.0	

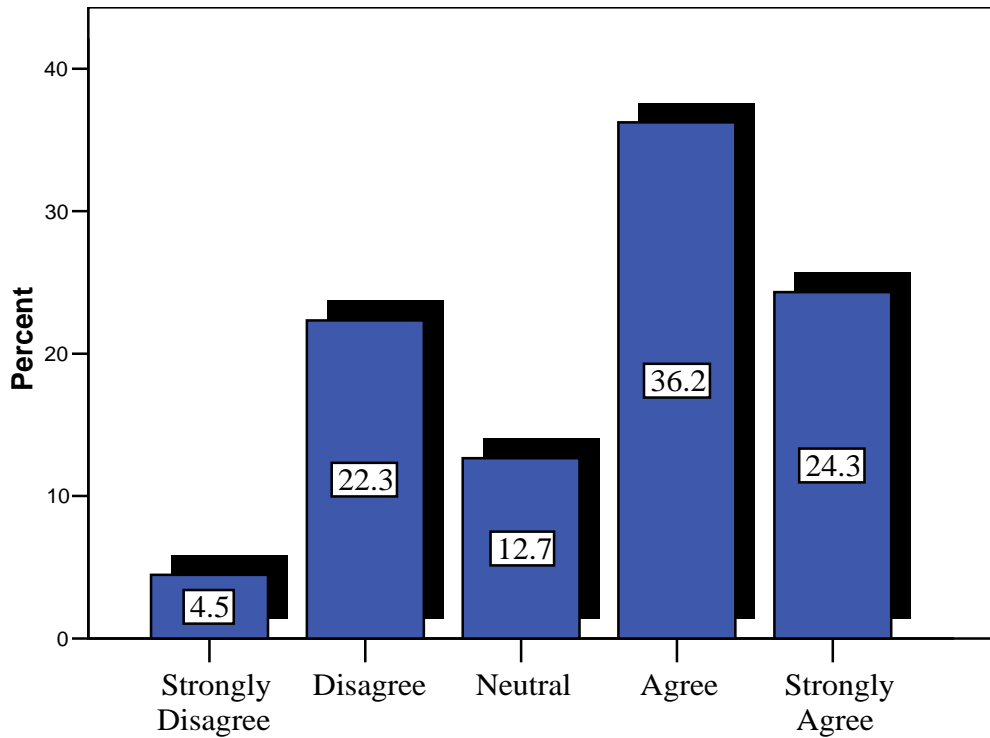


Figure 4.33 Technological advancements and rapid changes

- Insufficient network security.

Table 4.36 and Figure 4.34 below show that (28.2%) of respondents strongly agree, (30.5%) agree compared with (3%) strongly disagree and (16.1%) disagree as well as (22.2%) neutral. The mean score was 3.65 with Std. Deviation 1.140. The majority of respondents (58.7%) fall between strongly agrees or agrees which indicates that insufficient network security is considered one of the obstacles to the implementation of e-government in educational institutions.

Table 4.36 Network security

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	12	3.0	3.0	3.0
	Disagree	64	16.1	16.1	19.1
	Neutral	88	22.2	22.2	41.3
	Agree	121	30.5	30.5	71.8
	Strongly Agree	112	28.2	28.2	100.0
	Total	397	100.0	100.0	

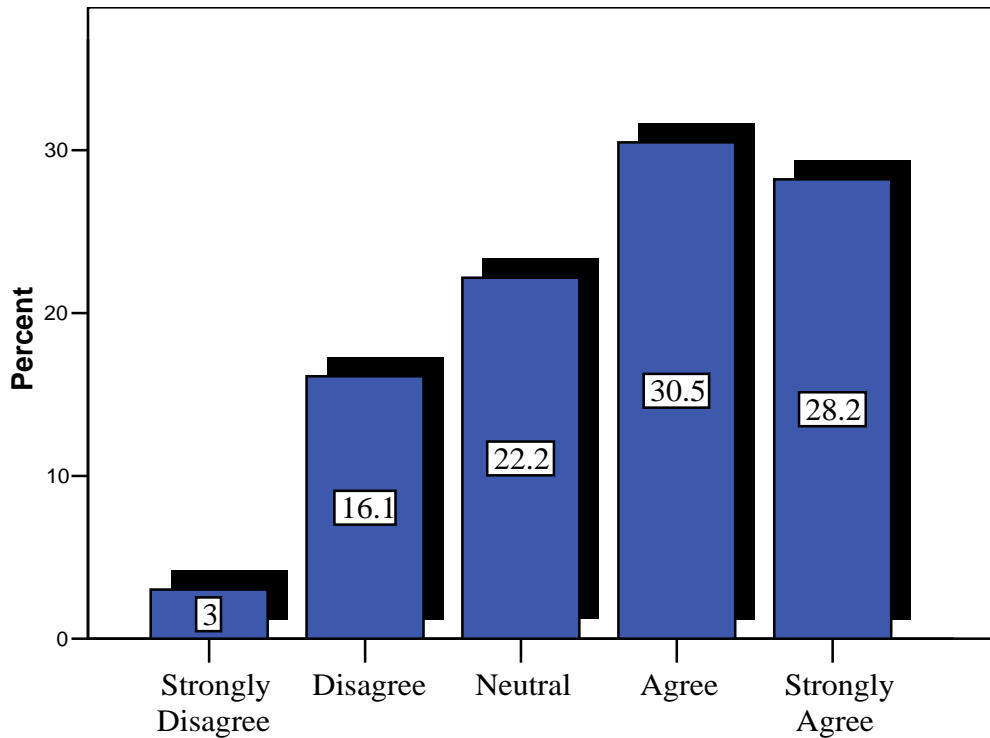


Figure 4.34 Network security

- Weakness of telecommunication infrastructure.

Table 4.37 and Figure 4.35 below show that (47.5%) of respondents strongly agree, (35.2%) agree compared with (2.5%) strongly disagree and (3.9%) disagree as well as (10.8%) neutral. The mean score was 4.21 with Std. Deviation .959. The greatest of respondents (82.7%) fall between strongly agree or agree which indicates that weakness of telecommunication infrastructure is considered one of the obstacles to the implementation of e-government in educational institutions.

Table 4.37 Telecommunication infrastructure

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	10	2.5	2.5	2.5
	Disagree	16	3.9	3.9	6.4
	Neutral	44	10.8	10.8	17.2
	Agree	143	35.2	35.2	52.5
	Strongly Agree	193	47.5	47.5	100.0
	Total	406	100.0	100.0	

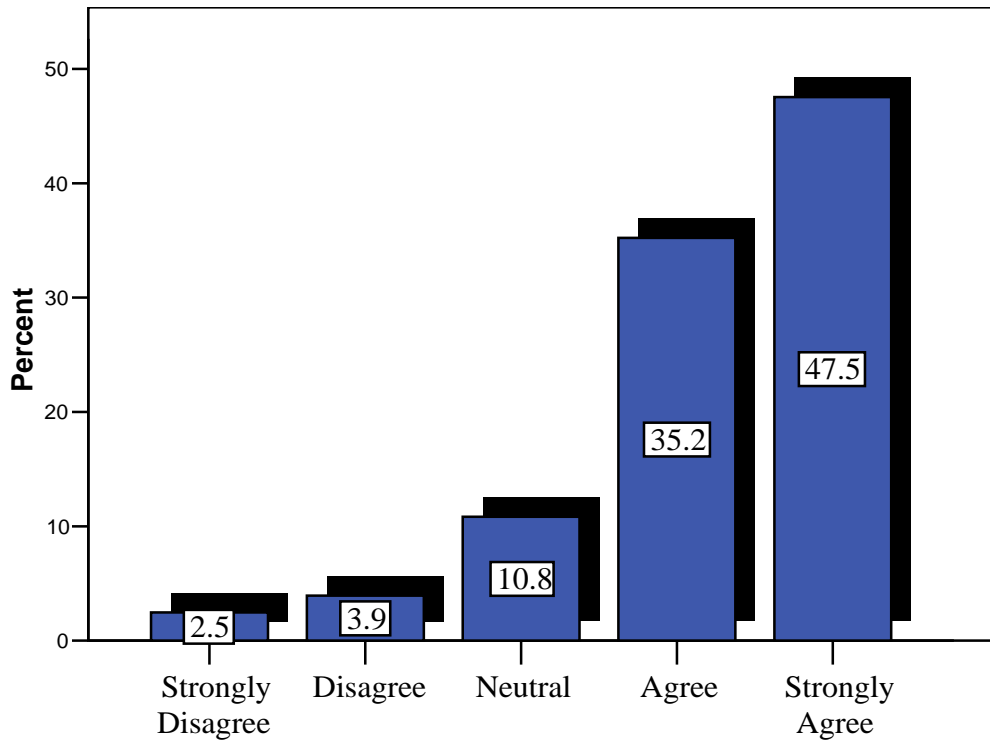


Figure 4.35 Telecommunication infrastructure

Generally, as shown below in Table 4.38 below that weakness of the telecommunication infrastructure represents the major obstacle relating to the technological (infrastructure) issues while inadequate phone lines is the least. The last four variables may not be considered as real obstacles. The mean score of technological obstacle was 3.51 with Std. Deviation .685 as shown below. This means participants agree that there are technological obstacles preventing or influence e-government implementation in educational institutions in Saudi Arabia.

Table 4.38 Comparison of Technological Obstacles

Variables	N	Mean	Std. Deviation
Weakness of telecommunication infrastructure	406	4.21	.959
Computers usage is not widely spread among people	401	3.78	1.105
Weak IT infrastructure	404	3.74	1.115
Lack of e-payment option	403	3.73	1.173
Insufficient network security	397	3.65	1.140
Inadequate software programs to implement e-government	402	3.60	1.041
Difficulties in keeping up with current technological advancements and rapid changes	403	3.54	1.206
Limited postal services	402	3.39	1.179
Lack of e-signature option	402	3.21	1.268
Insufficient maintenance of e-devices	404	2.86	1.314
Inadequate phone lines	401	2.79	1.295
TECHNOLOGICAL OBSTACLES	382	3.51	.69

4.3.4 Obstacles Related to the Educational and Training Systems

The following research question related to educational and training obstacles to the implementation of e-government in educational institutions that are related to the current educational and training systems.

Research Question 4

- To what extent are current educational and training systems perceived as obstacles to the implementation of e-government in educational institutions by faculty members and students?

The following three identified obstacles related to the educational and training systems:

- Insufficient programs, seminars or workshops to train staff on e-government applications.

Table 4.39 and Figure 4.36 show that (37.8%) of respondents strongly agree, (43.3%) agree, (9.8%) neutral, (7.8%) disagree, and (1.3%) strongly disagree. The mean

score was 4.09 with Std. Deviation .947. The greatest of respondents (81.1%) fall between strongly agree or agree, which indicates that insufficient programs, seminars or workshops to train staff on e-government applications is considered one of the obstacles to the implementation of e-government in educational institutions.

Table 4.39 Insufficient programs for e-government applications

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	5	1.3	1.3	1.3
	Disagree	31	7.8	7.8	9.1
	Neutral	39	9.8	9.8	18.9
	Agree	172	43.3	43.3	62.2
	Strongly Agree	150	37.8	37.8	100.0
	Total	397	100.0	100.0	

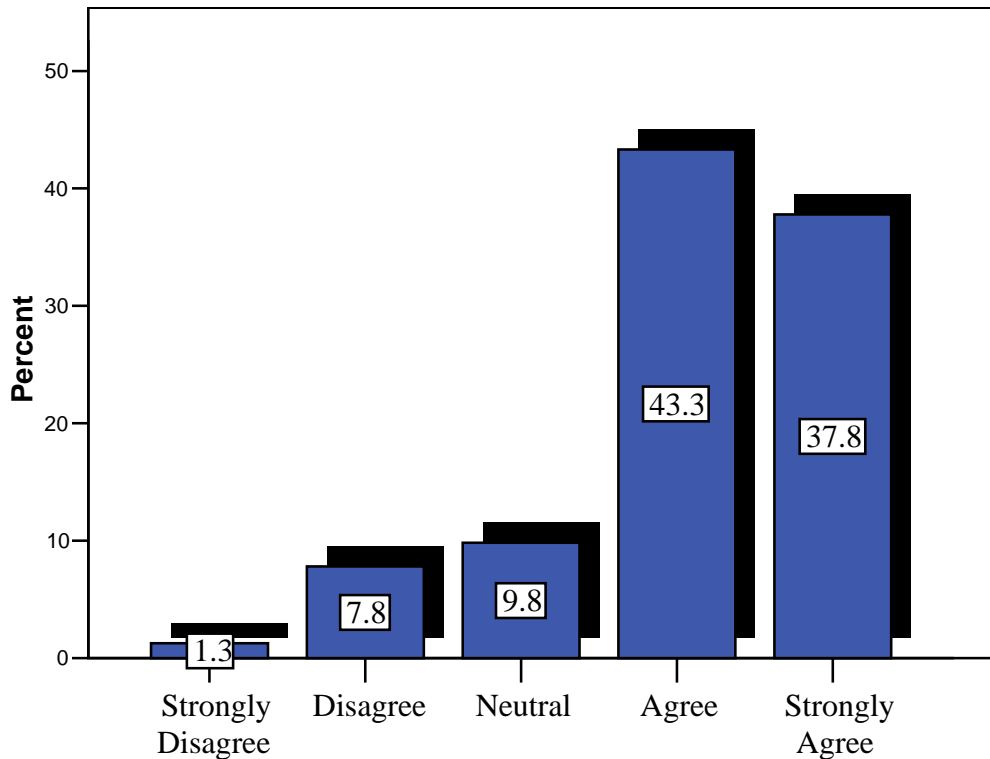


Figure 4.36 Insufficient programs for e-government applications

- Weak educational systems.

Table 4.40 and Figure 4.37 show that (39.2%) of respondents strongly agree, (39.7%) agree, (17.1%) neutral, (3.5%) disagree, and (0.5%) strongly disagree. The

mean score was 4.14 with Std. Deviation .854. The majority of respondents (78.9%) fall between strongly agree or agree, which indicates the weak educational systems is considered one of the obstacles to the implementation of e-government in educational institutions.

Table 3.40 Weak educational systems

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	2	.5	.5	.5
	Disagree	14	3.5	3.5	4.0
	Neutral	69	17.1	17.1	21.1
	Agree	160	39.7	39.7	60.8
	Strongly Agree	158	39.2	39.2	100.0
	Total	403	100.0	100.0	

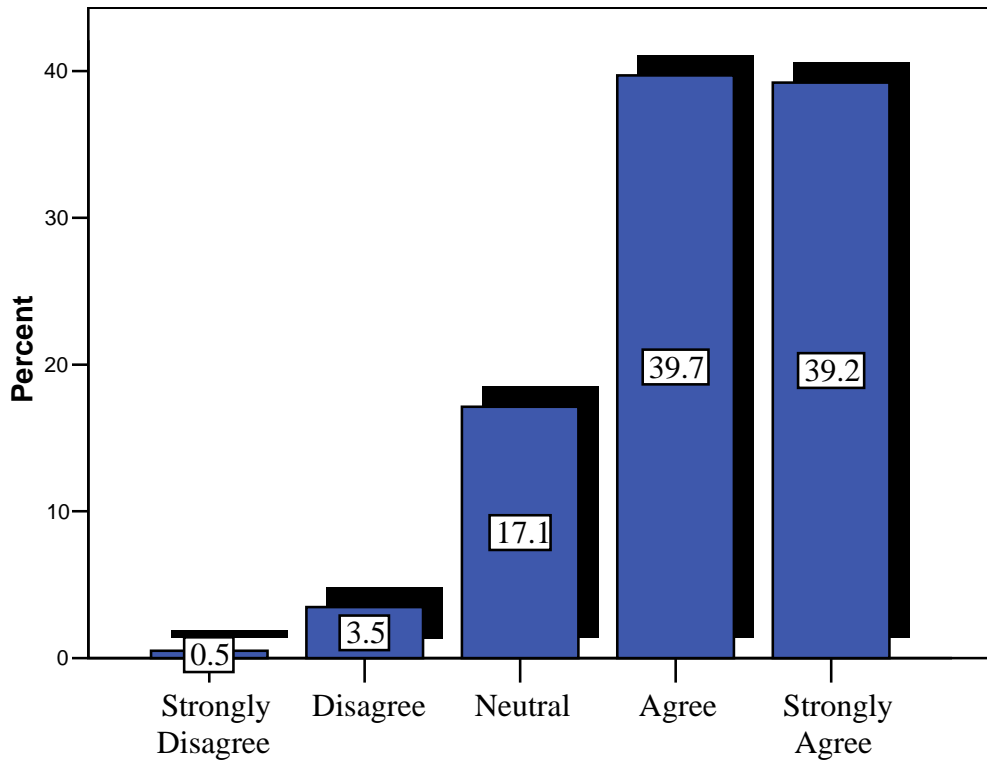


Figure 3.37 Weak educational systems

- Formal educational curricula failure to respond to the IT era demands.

Table 4.41 and Figure 4.38 show that (35.4%) of respondents strongly agree, (38.2%) agree, (16.5%) neutral, (9.2%) disagree, and (0.7%) strongly disagree. The

mean score was 3.98 with Std. Deviation .978. The majority of respondents (73.6%) falls between strongly agree or agree, which indicates the above variable is considered one of the obstacles to the implementation of e-government in educational institutions.

Table 4.41 Educational curricula and the IT demands

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	3	.7	.7	.7
	Disagree	37	9.2	9.2	10.0
	Neutral	66	16.5	16.5	26.4
	Agree	153	38.2	38.2	64.6
	Strongly Agree	142	35.4	35.4	100.0
	Total	401	100.0	100.0	

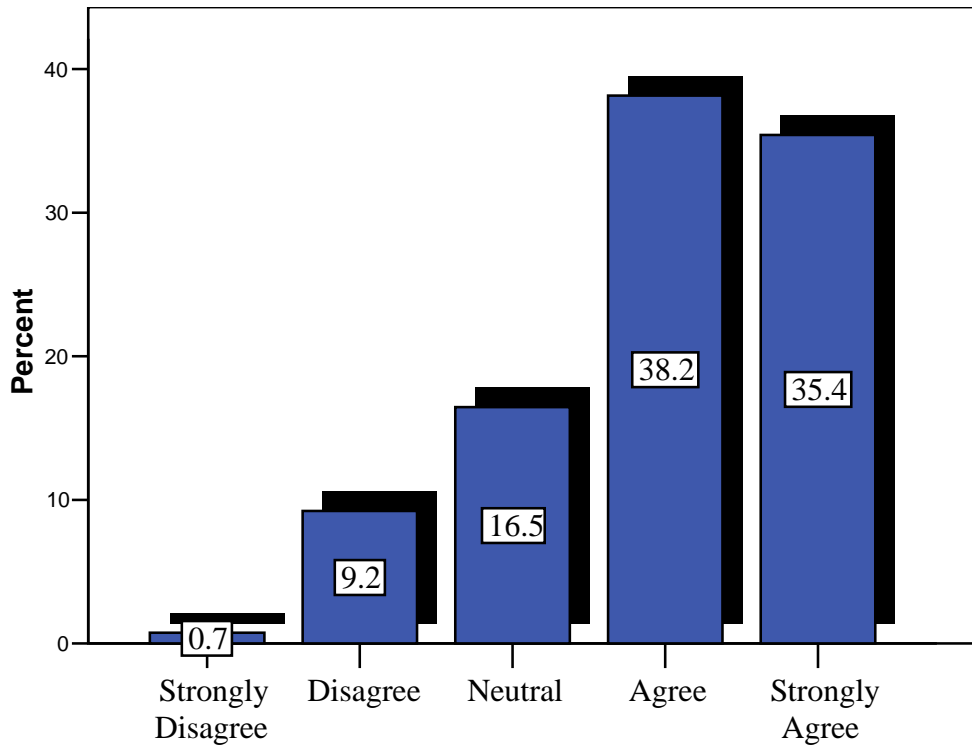


Figure 4.38 Educational curricula and the IT demands

Generally, as shown in Table 4.42, weak educational systems represent the major obstacle relating to the educational and training systems, while formal educational curricula failure to respond to the IT era demands is the least. However, all items are considered as major obstacles. The mean score of educational and training obstacle was

4.08 with Std. Deviation .74. This means participants agree that there are educational and training obstacles preventing or influence e-government implementation in educational institutions in Saudi Arabia.

Table 4.42 Comparison of Educational Obstacles

	N	Mean	Std. Deviation
Weak educational systems	403	4.14	.854
Insufficient programs for e-government applications	397	4.09	.947
Formal educational curricula and IT demands	401	3.98	.978
EDUCATIONAL OBSTACLES	405	4.08	.74

4.3.5 Obstacles Related to the Organizational (management) Systems

The following research question related to the organizational obstacles to the implementation of e-government in educational institutions that are related to the current organizational systems.

Research Question 5

- To what extent are current organizational systems perceived as obstacles to the implementation of e-government in educational institutions by faculty members and students?

The following thirteen identified obstacle related to the organizational systems:

- Lack of programs to promote e-government benefits and advantages.

Table 4.43 and Figure 4.39 show that (37.6%) of respondents strongly agree, (37.1%) agree, (20.3%) neutral, (4%) disagree, and (1%) strongly disagree. The mean score was 4.06 with Std. Deviation .908. The majority of respondents (74.7%) falls between strongly agree or agree, which indicates that the lack of programs to promote e-government benefits and advantages is considered one of the obstacles to the implementation of e-government in educational institutions.

Table 4.43 Lack of programs to promote e-government advantages

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	4	1.0	1.0	1.0
	Disagree	16	4.0	4.0	5.0
	Neutral	82	20.3	20.3	25.2
	Agree	150	37.1	37.1	62.4
	Strongly Agree	152	37.6	37.6	100.0
	Total	404	100.0	100.0	

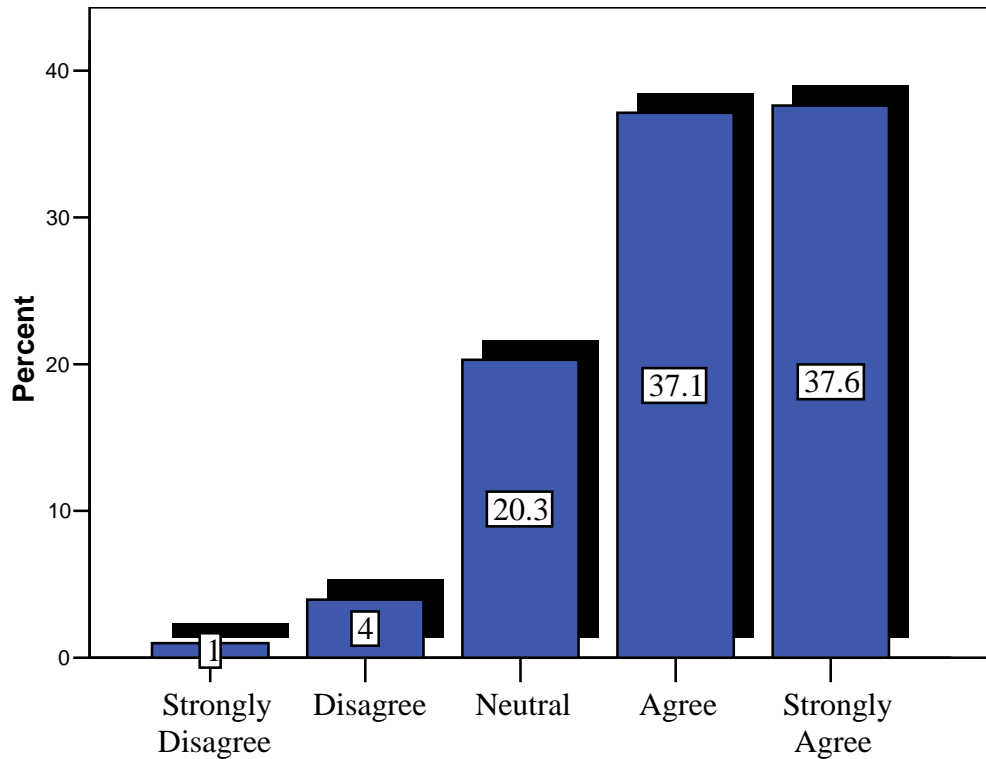


Figure 4.39 Lack of programs to promote e-government advantages

- Lack of cooperation between public and private sector in IT.

Table 4.44 and Figure 4.40 show that (33.9%) of respondents strongly agree (36.9%) agree, (22.8%) neutral, (5.2%) disagree, and (1.2%) strongly disagree. The mean score was 3.97 with Std. Deviation .942. The majority of respondents (70.8%) falls between strongly agree or agree, which indicates that the lack of cooperation between public and private sector in IT is considered one of the obstacles to the implementation of e-government in educational institutions.

Table 4.44 Cooperation between public and private sector

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	5	1.2	1.2	1.2
	Disagree	21	5.2	5.2	6.4
	Neutral	92	22.8	22.8	29.2
	Agree	149	36.9	36.9	66.1
	Strongly Agree	137	33.9	33.9	100.0
	Total	404	100.0	100.0	

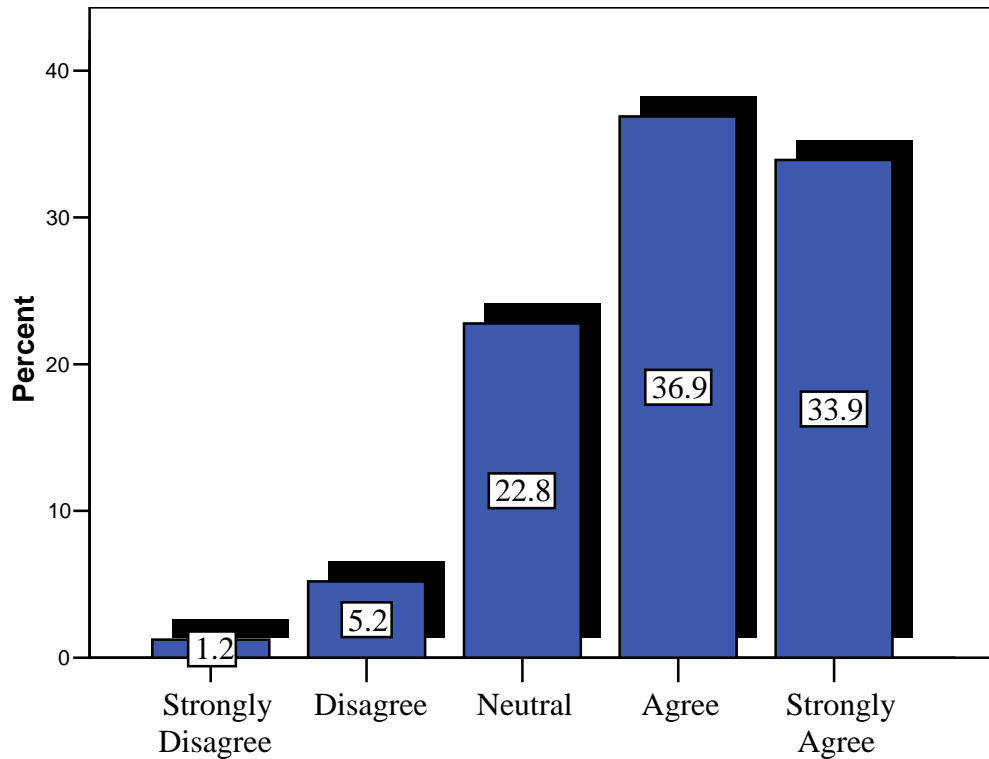


Figure 4.40 Cooperation between public and private sector

- Lack of advisory committees to implement e-government projects.

Table 4.45 and Figure 4.41 show that (41.7%) of respondents strongly agree, (35.8%) agree, (16.8%) neutral, (4.7%) disagree, and (1%) strongly disagree. The mean score was 4.13 with Std. Deviation .921. The majority of respondents (77.5%) falls between strongly agree or agree, which indicates the lack of advisory committees or task forces to implement e-government projects is considered one of the obstacles to the implementation of e-government in educational institutions.

Table 4.45 Lack of advisory committees for e-government application

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	4	1.0	1.0	1.0
	Disagree	19	4.7	4.7	5.7
	Neutral	68	16.8	16.8	22.5
	Agree	145	35.8	35.8	58.3
	Strongly Agree	169	41.7	41.7	100.0
	Total	405	100.0	100.0	

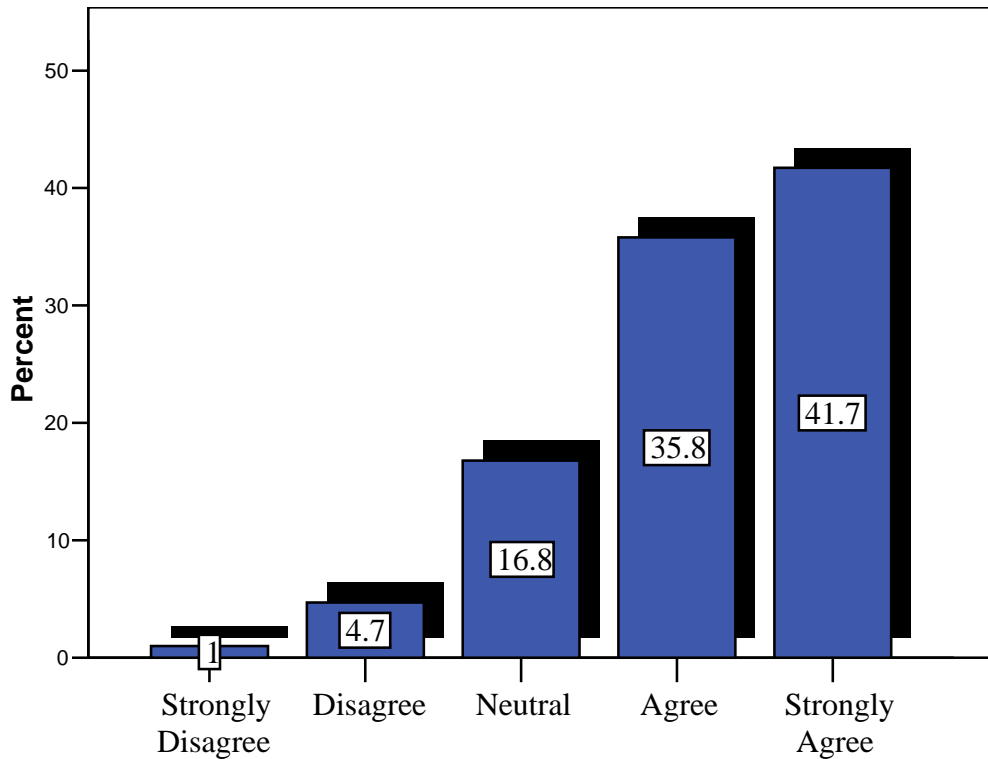


Figure 4.41 Lack of advisory committees for e-government application

- Complexity of current administrative procedures.

Table 4.46 and Figure 4.42 show that (29.5%) of respondents strongly agree, (37.4%) agree, (25.5%) neutral, (6.4%) disagree, and (1.2%) strongly disagree. The mean score was 3.87 with Std. Deviation .951. The majority of respondents (66.9%) falls between strongly agree or agree, which indicates that complexity of current procedures is considered one of the obstacles to the implementation of e-government in educational institutions.

Table 4.46 Complexity of administrative procedures

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	5	1.2	1.2	1.2
	Disagree	26	6.4	6.4	7.7
	Neutral	103	25.5	25.5	33.2
	Agree	151	37.4	37.4	70.5
	Strongly Agree	119	29.5	29.5	100.0
	Total	404	100.0	100.0	

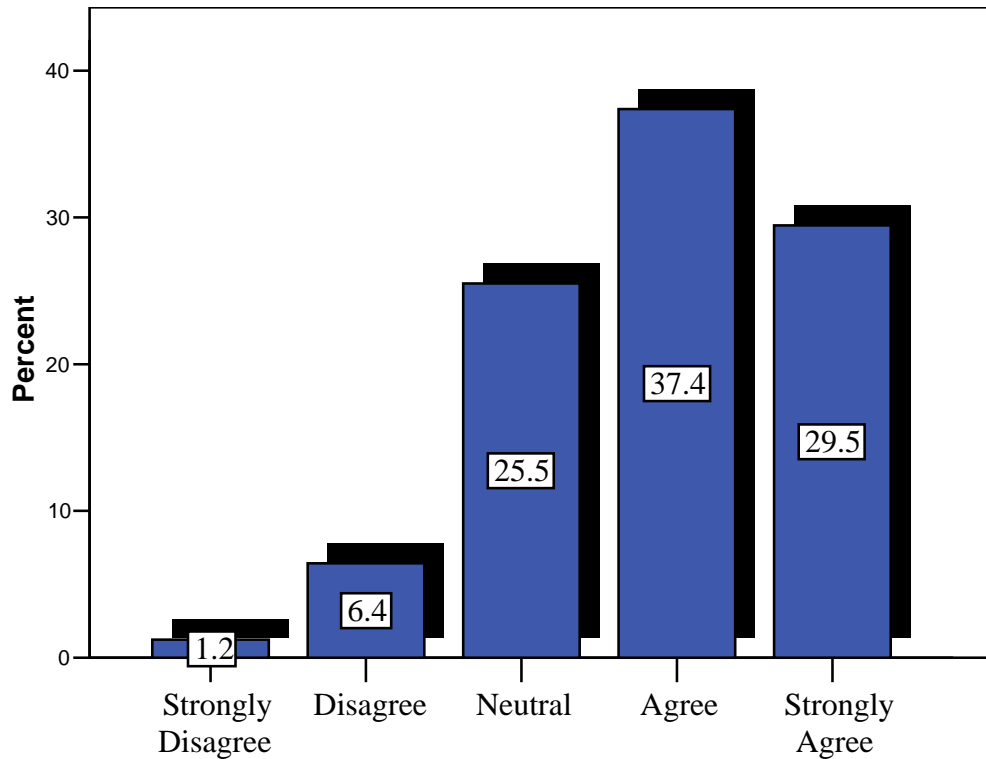


Table 4.42 Complexity of administrative procedures

- Lack of support from upper management.

Table 4.47 and Figure 4.43 below show that (37%) of respondents strongly agree, (30.9%) agree, (25.9%) neutral, (5.2%) disagree, and (1%) strongly disagree. The mean score was 3.98 with Std. Deviation .963. The majority of respondents (67.9%) falls between strongly agree or agree, which indicates that the lack of support from upper management is considered one of the obstacles facing the implementation of e-government in educational institutions.

Table 4.47 Lack of support from upper management

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	4	1.0	1.0	1.0
	Disagree	21	5.2	5.2	6.2
	Neutral	105	25.9	25.9	32.1
	Agree	125	30.9	30.9	63.0
	Strongly Agree	150	37.0	37.0	100.0
	Total	405	100.0	100.0	

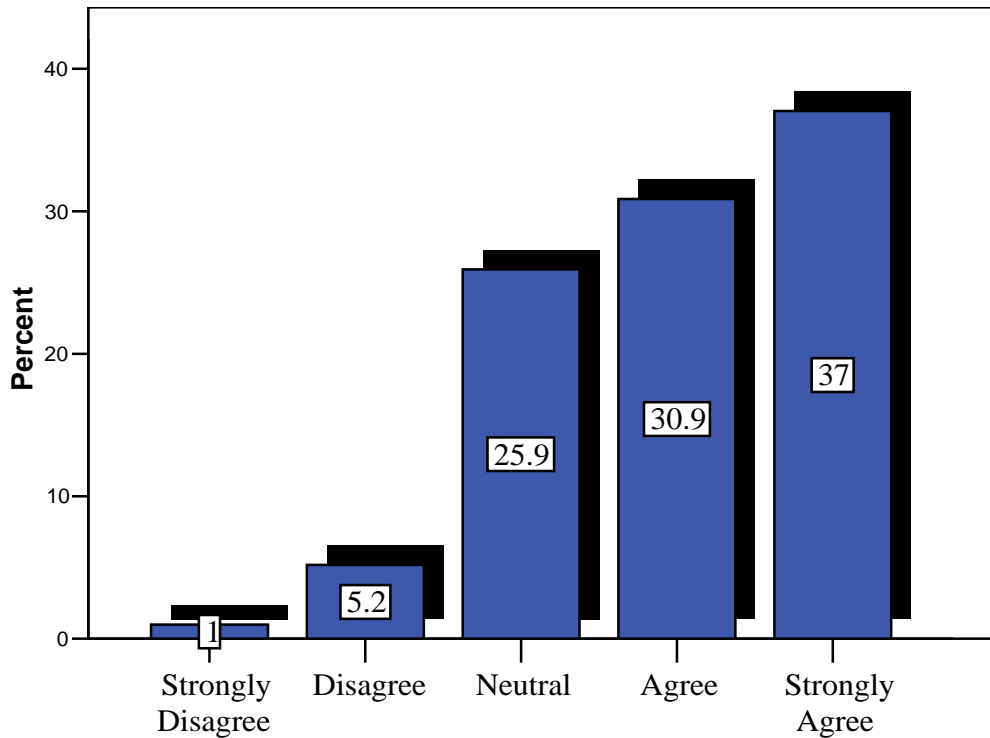


Figure 4.43 Lack of support from upper management

- Lack of strategic planning.

Table 4.48 and Figure 4.44 show that (41.2%) of respondents strongly agree, (37.7%) agree, (16.4%) neutral, (4.2%) disagree, and (.5%) strongly disagree. The mean score was 4.15 with Std. Deviation .877. The majority of respondents (68.9%) falls between strongly agree or agree, which indicates that lack of strategic planning is considered one of the obstacles facing the implementation of e-government in educational institutions.

Table 4.48 Lack of strategic planning

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	2	.5	.5	.5
	Disagree	17	4.2	4.2	4.7
	Neutral	66	16.4	16.4	21.1
	Agree	152	37.7	37.7	58.8
	Strongly Agree	166	41.2	41.2	100.0
	Total	403	100.0	100.0	

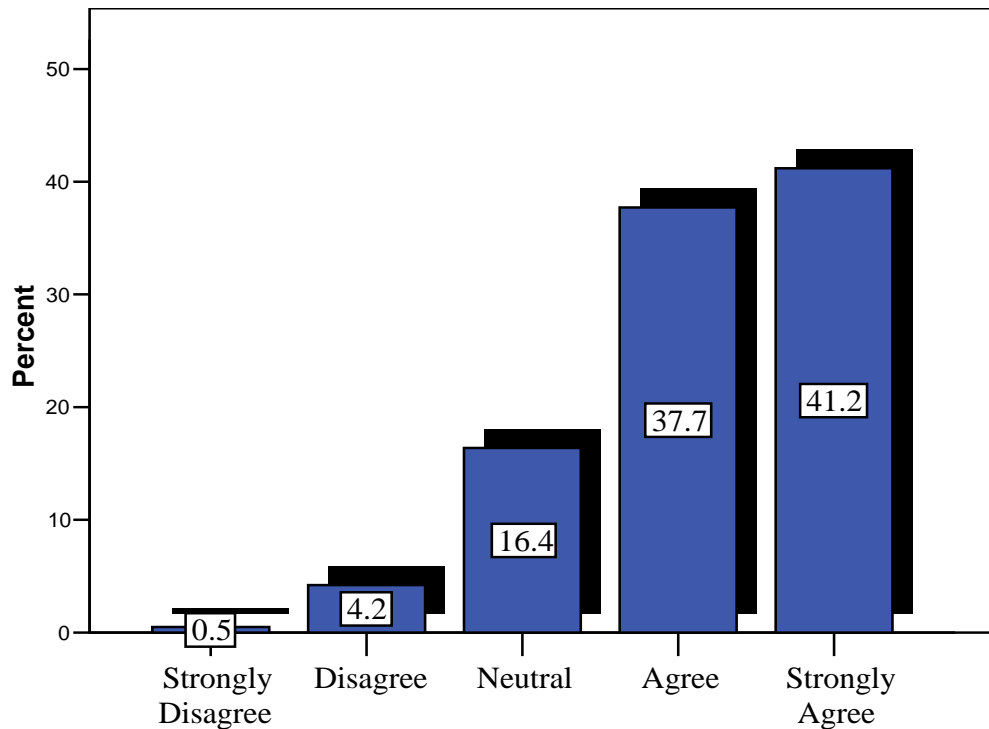


Figure 4.44 Lack of strategic planning

- Little collaboration among governmental agencies.

Table 4.49 and Figure 4.45 below show that (27.9%) of respondents strongly agree, (36.3%) agree, (20.5%) neutral, (12.1%) disagree, and (3.2%) strongly disagree. The mean score was 3.74 with Std. Deviation 1.091. The majority of respondents (64.2%) falls between strongly agree or agree, which indicates that little collaboration among governmental agencies is considered one of the obstacles facing the implementation of e-government in educational institutions.

Table 4.49 Little collaboration among governmental agencies

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	13	3.2	3.2	3.2
	Disagree	49	12.1	12.1	15.3
	Neutral	83	20.5	20.5	35.8
	Agree	147	36.3	36.3	72.1
	Strongly Agree	113	27.9	27.9	100.0
	Total	405	100.0	100.0	

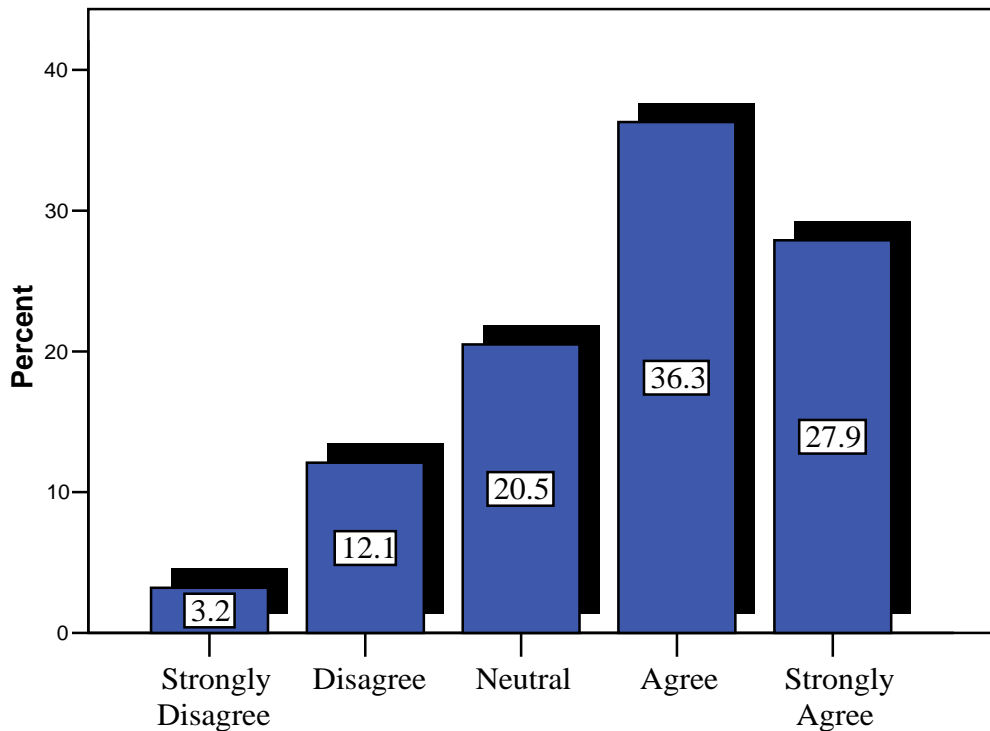


Figure 4.45 Little collaboration among governmental agencies

- Weak current administrative systems.

Table 4.50 and Figure 4.46 below show that (32.1%) of respondents strongly agree, (38%) agree, (22.2%) neutral, (5.9%) disagree, and (1.7%) strongly disagree. The mean score was 3.93 with Std. Deviation .966. The majority of respondents (70.1%) falls between strongly agree or agree, which indicates that weak current administrative systems is considered one of the obstacles facing the implementation of e-government in educational institutions.

Table 4.50 Weak administrative systems

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	7	1.7	1.7	1.7
	Disagree	24	5.9	5.9	7.7
	Neutral	90	22.2	22.2	29.9
	Agree	154	38.0	38.0	67.9
	Strongly Agree	130	32.1	32.1	100.0
	Total	405	100.0	100.0	

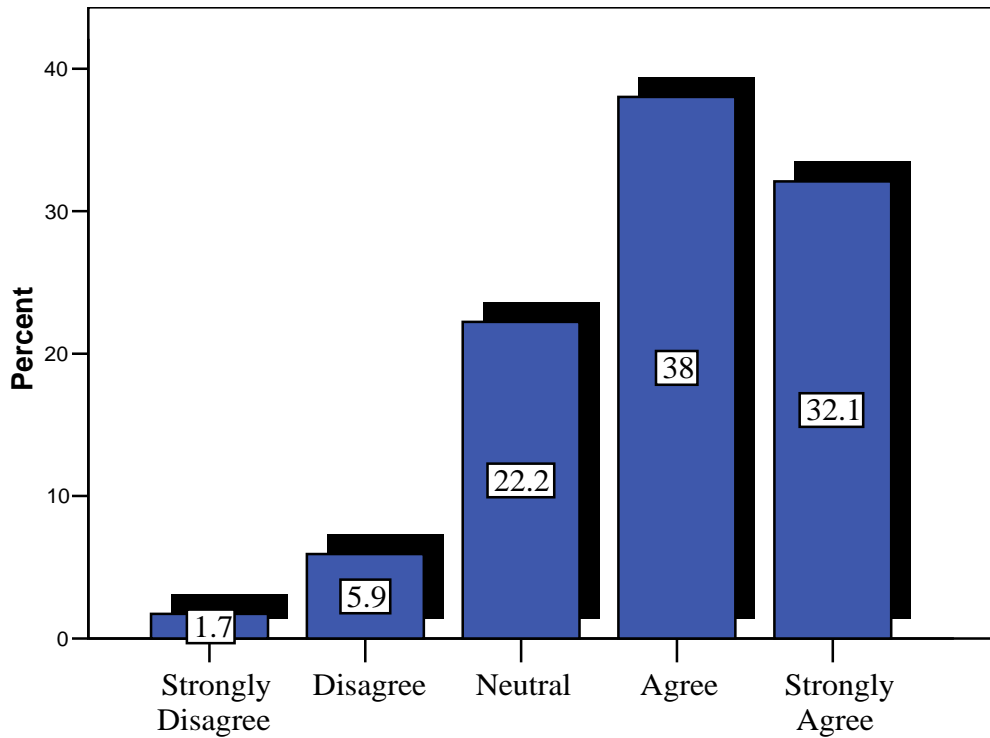


Table 4.46 Weak administrative systems

- Lack of reengineering of procedures and operations.

Table 4.51 and Figure 4.47 below show that (43.8%) of respondents strongly agree, (30.9%) agree, (19.1%) neutral, (4.5%) disagree, and (1.7%) strongly disagree. The mean score was 4.11 with Std. Deviation .977. The majority of respondents (74.7%) falls between strongly agree or agree, which indicates that lack of reengineering of procedures and operations is considered one of the obstacles facing the implementation of e-government in educational institutions.

Table 4.51 Lack of reengineering of procedures and operations

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	7	1.7	1.7	1.7
	Disagree	18	4.5	4.5	6.2
	Neutral	77	19.1	19.1	25.2
	Agree	125	30.9	30.9	56.2
	Strongly Agree	177	43.8	43.8	100.0
	Total	404	100.0	100.0	

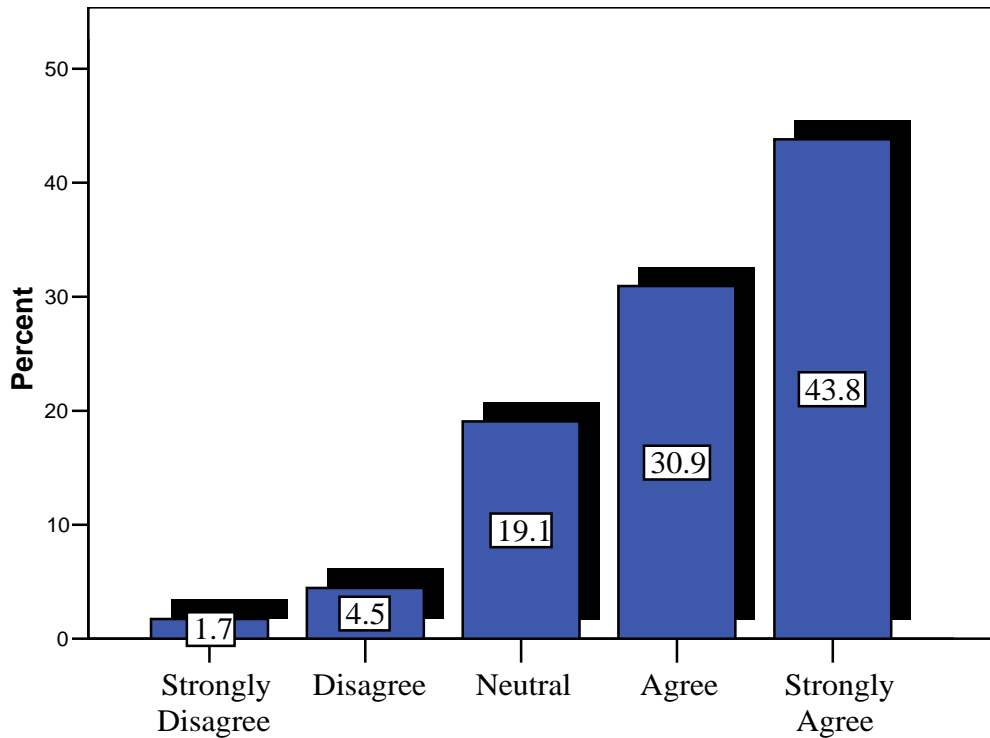


Figure 4.47 Lack of reengineering of procedures and operations

- Lack of central authority at the country level for e-government applications.

Table 4.52 and Figure 4.48 below show that (24.7%) of respondents strongly agree, (34.1%) agree, (38.3%) neutral, (2.5%) disagree, and (.5%) strongly disagree. The mean score was 3.80 with Std. Deviation .857. Over half of the respondents (58.8%) are between agree or strongly agree to the above variable as one of the obstacles facing the implementation of e-government in educational institutions.

Table 4.52 Lack of central authority for e-government applications

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	2	.5	.5	.5
	Disagree	10	2.5	2.5	3.0
	Neutral	155	38.3	38.3	41.2
	Agree	138	34.1	34.1	75.3
	Strongly Agree	100	24.7	24.7	100.0
	Total	405	100.0	100.0	

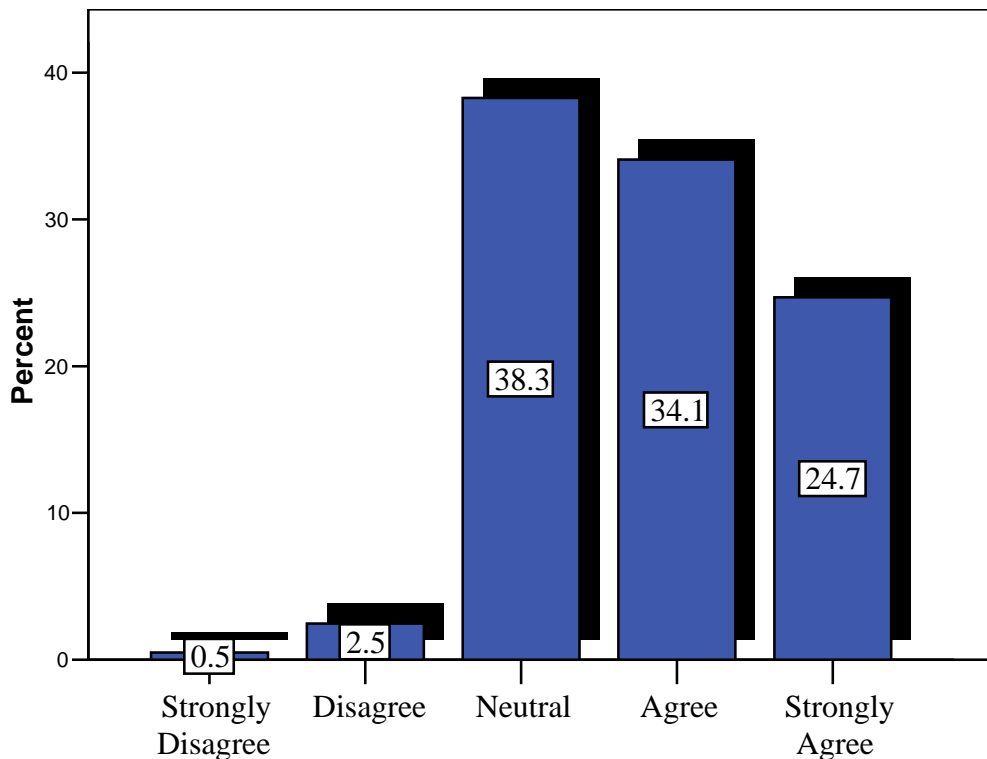


Figure 4.48 Lack of central authority for e-government applications

- Lack of clear vision about e-government project.

Table 4.53 and Figure 4.49 show that (38.3%) of respondents strongly agree, (44.3%) agree, (12%) neutral, (4.8%) disagree, and (.8%) strongly disagree. The mean score was 4.14 with Std. Deviation .861. The majority of respondents (82.6%) falls between strongly agree or agree, which indicates the above variable is considered one of the obstacles facing the implementation of e-government in educational institutions.

Table 4.53 Lack of clear vision about e-government project

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	3	.8	.8	.8
	Disagree	19	4.8	4.8	5.5
	Neutral	48	12.0	12.0	17.5
	Agree	177	44.3	44.3	61.8
	Strongly Agree	153	38.3	38.3	100.0
	Total	400	100.0	100.0	

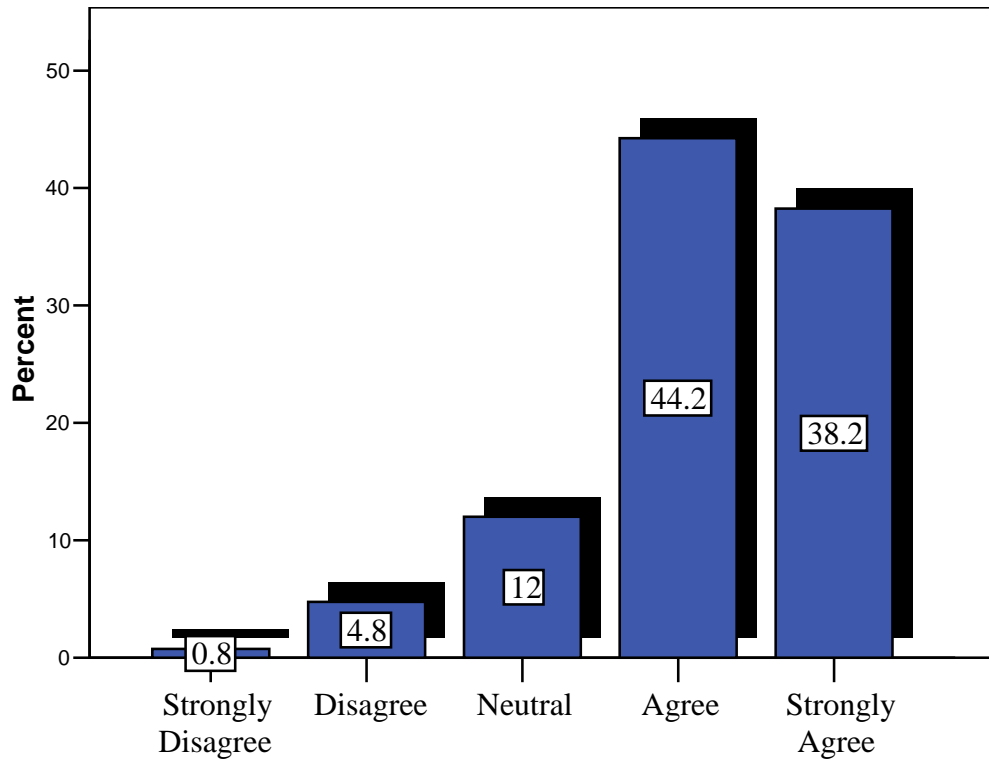


Figure 4.49 Lack of clear vision about e-government project

- Inadequacy of qualified personnel for e-government applications.

Table 4.54 and Figure 4.50 below show that (43.1%) of respondents strongly agree, (33.4%) agree, (11.6%) neutral, (9.9%) disagree, and (2%) strongly disagree. The mean score was 4.06 with Std. Deviation 1.059. The majority of respondents (76.5%) falls between strongly agree or agree, which indicates the above variable is considered one of the obstacles facing the implementation of e-government in educational institutions.

Table 4.54 Inadequacy of qualified personnel

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	8	2.0	2.0	2.0
	Disagree	40	9.9	9.9	11.9
	Neutral	47	11.6	11.6	23.5
	Agree	135	33.4	33.4	56.9
	Strongly Agree	174	43.1	43.1	100.0
	Total	404	100.0	100.0	

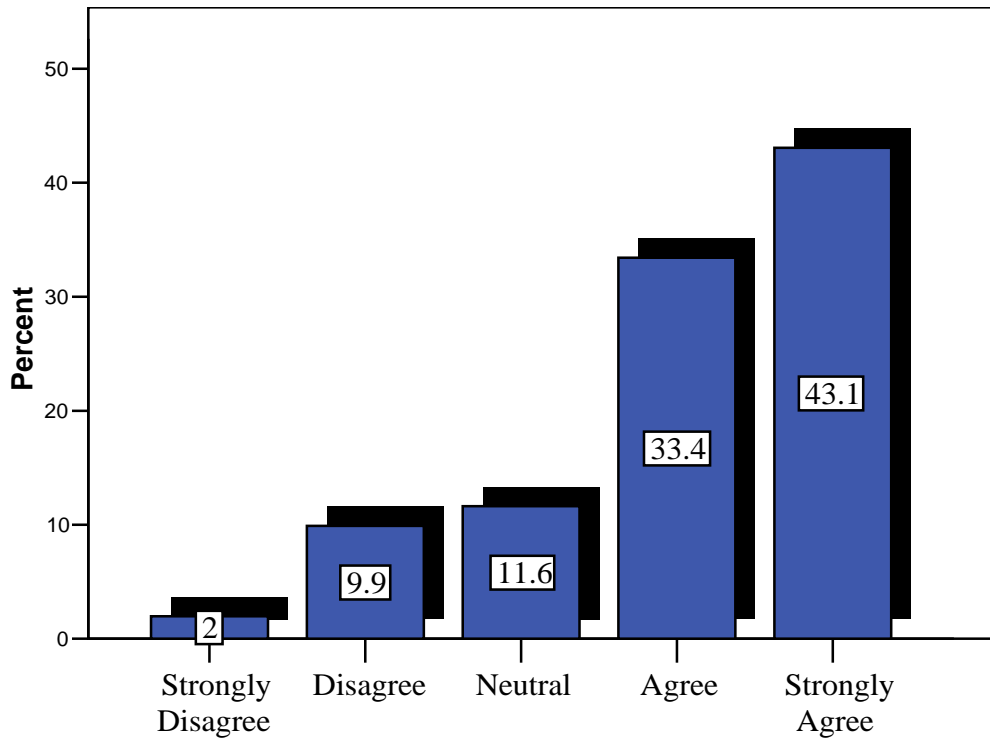


Figure 4.50 Inadequacy of qualified personnel

- Staff resistance to change.

Table 4.55 and Figure 4.51 below show that (47.6%) of respondents strongly agree, (36.8%) agree, (6.3%) neutral, (8.3%) disagree, and (1%) strongly disagree. The mean score was 4.22 with Std. Deviation .956. The majority of respondents (84.4%) falls between strongly agree or agree, which indicates that staff resistance to change is considered one of the obstacles facing the implementation of e-government in educational institutions.

Table 4.55 Staff resistance to change

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	4	1.0	1.0	1.0
	Disagree	33	8.3	8.3	9.3
	Neutral	25	6.3	6.3	15.5
	Agree	147	36.8	36.8	52.4
	Strongly Agree	190	47.6	47.6	100.0
	Total	399	100.0	100.0	

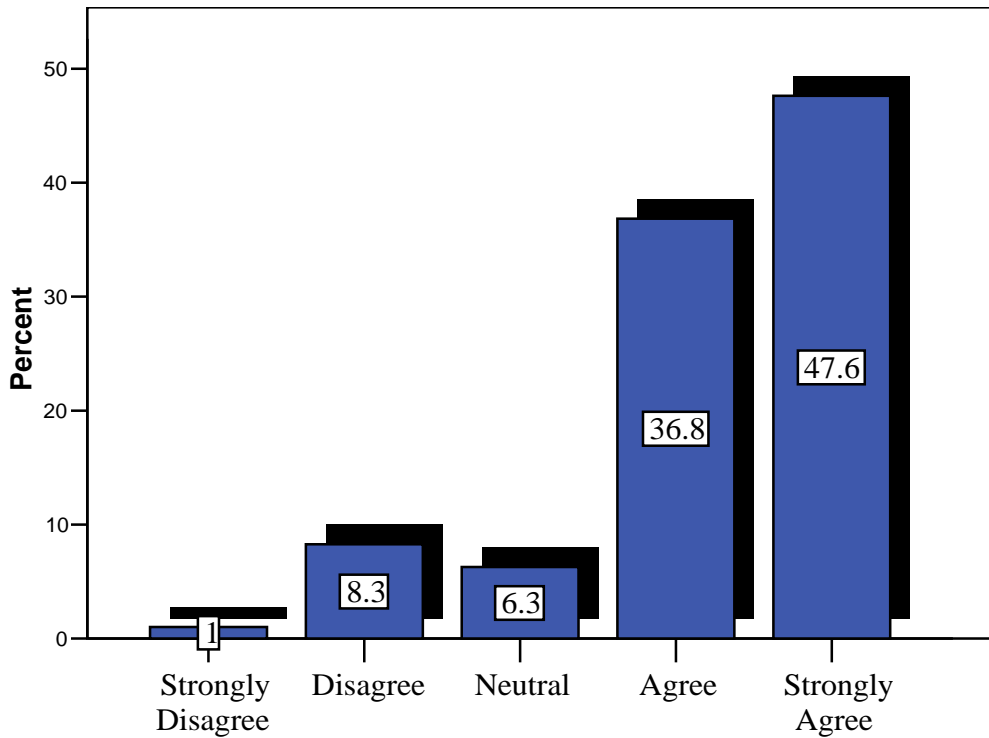


Figure 4.51 Staff resistance to change

Generally, as shown in Table 4.56, staff resistance to change represents the major obstacle relating to the organizational (management) issues while little collaboration among governmental agencies is the least. However, all variables listed in the table below are considered as real obstacles. The mean score of organizational obstacle was 4.04 with Std. Deviation .64. This means participants agree that there are organizational obstacles preventing or influence e-government implementation in educational institutions in Saudi Arabia.

Table 4.56 Comparison of Organizational Obstacles

Variables	N	Mean	Std. Deviation
Staff resistance to change	399	4.22	.956
Lack of strategic planning	403	4.15	.877
Lack of clear vision about e-government project	400	4.14	.861
Lack of advisory committees or task forces to implement e-government projects	405	4.13	.921
Lack of reengineering of procedures and operations	404	4.11	.977
Lack of programs to promote e-government benefits	404	4.06	.908
Inadequacy of qualified personnel for e-government applications	404	4.06	1.059
Lack of support from upper management	405	3.98	.963
Lack of cooperation between public and private sector in I	404	3.97	.942
Weak current administrative systems	405	3.93	.966
Complexity of current administrative procedures	402	3.87	.951
Lack of central authority at the country level for e-government applications	405	3.80	.857
Little collaboration among governmental agencies	405	3.74	1.091
ORGANIZATIONAL OBSTACLES	404	4.04	.64

4.3.6 Obstacles Related to the Social Systems

The following research question related to social obstacles that facing the implementation of e-government in educational institutions regarding current social systems.

Research Question 6

- To what extent are the current social systems perceived as obstacles to the implementation of e-government in educational institutions by faculty members and students?

The following thirteen identified obstacles related to the social systems:

- Lack of society's awareness about e-government advantages and benefits.

Table 4.57 and Figure 4.52 show that (28.3%) of respondents strongly agree, (30%) agree, (13.4%) neutral, (21.6%) disagree, and (6.7%) strongly disagree. The

mean score was 3.52 with Std. Deviation 1.286. Over half of the respondents (58.3%) are between agree or strongly agree to this statement as one of the obstacles that facing the implementation of e-government in educational institutions.

Table 4.57 Lack of awareness about e-government advantages

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	27	6.7	6.7	6.7
	Disagree	87	21.6	21.6	28.3
	Neutral	54	13.4	13.4	41.7
	Agree	121	30.0	30.0	71.7
	Strongly Agree	114	28.3	28.3	100.0
	Total	403	100.0	100.0	

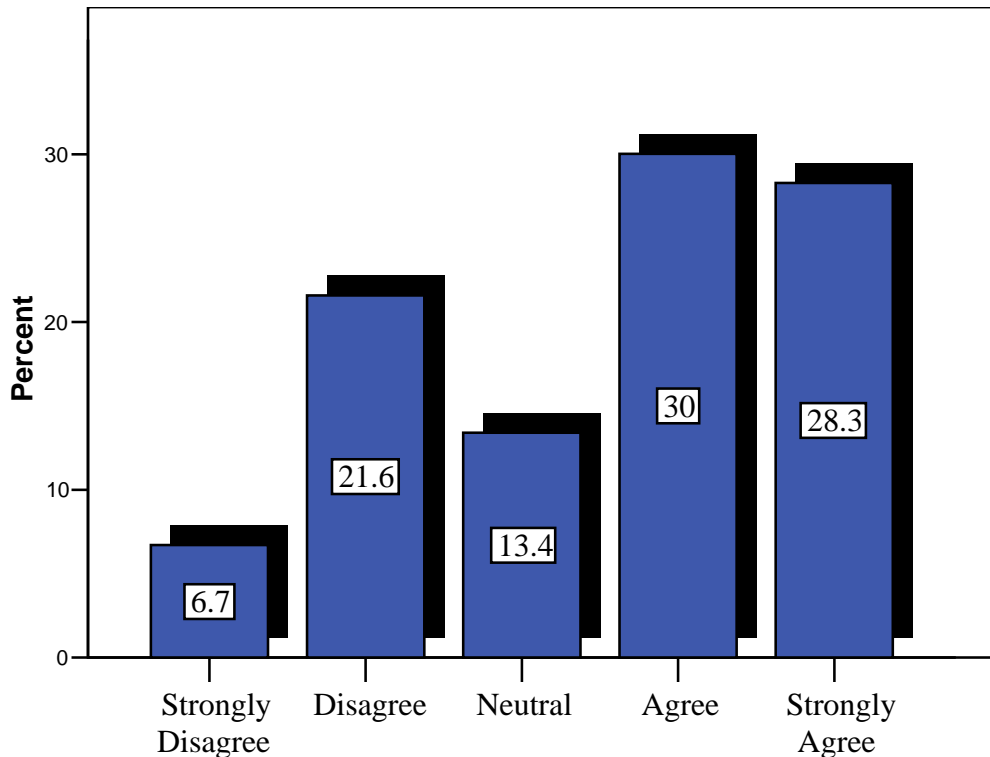


Figure 4.52 Lack of awareness about e-government advantages

- Fear of new technology.

Table 4.58 and Figure 4.53 show that (12.9%) of respondents strongly agree, (20.9%) agree, (12.9%) neutral, (36.3%) disagree, and (16.9%) strongly disagree. The mean score was 2.77 with Std. Deviation 1.310. Over half of the respondents (53.2%)

are between disagree or strongly disagree to consider fear of new technology as one of the obstacles facing the implementation of e-government in educational institutions.

Table 4.58 Fear of new technology

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	68	16.9	16.9	16.9
	Disagree	146	36.3	36.3	53.2
	Neutral	52	12.9	12.9	66.2
	Agree	84	20.9	20.9	87.1
	Strongly Agree	52	12.9	12.9	100.0
	Total	402	100.0	100.0	

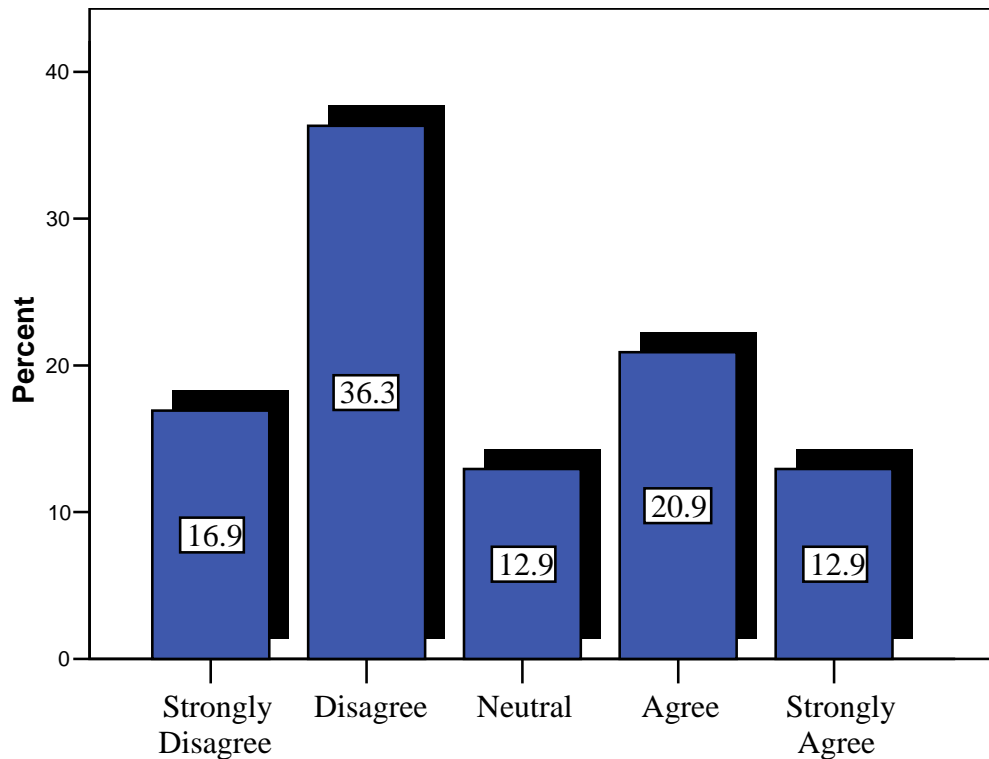


Figure 4.53 Fear of new technology

- Low levels of literacy among citizens.

Table 4.59 and Figure 4.54 show that (35%) of respondents strongly agree, (43.9%) agree, (6.9%) neutral, (11.4%) disagree, and (2.7%) strongly disagree. The mean score was 3.97 with Std. Deviation 1.060. The majority of respondents (78.9%) falls between strongly agree or agree, which indicates that low levels of literacy among

citizens is considered one of the obstacles that facing the implementation of e-government in educational institutions.

Table 4.59 Low levels of literacy among citizens

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	11	2.7	2.7	2.7
	Disagree	46	11.4	11.4	14.1
	Neutral	28	6.9	6.9	21.1
	Agree	177	43.9	43.9	65.0
	Strongly Agree	141	35.0	35.0	100.0
	Total	403	100.0	100.0	

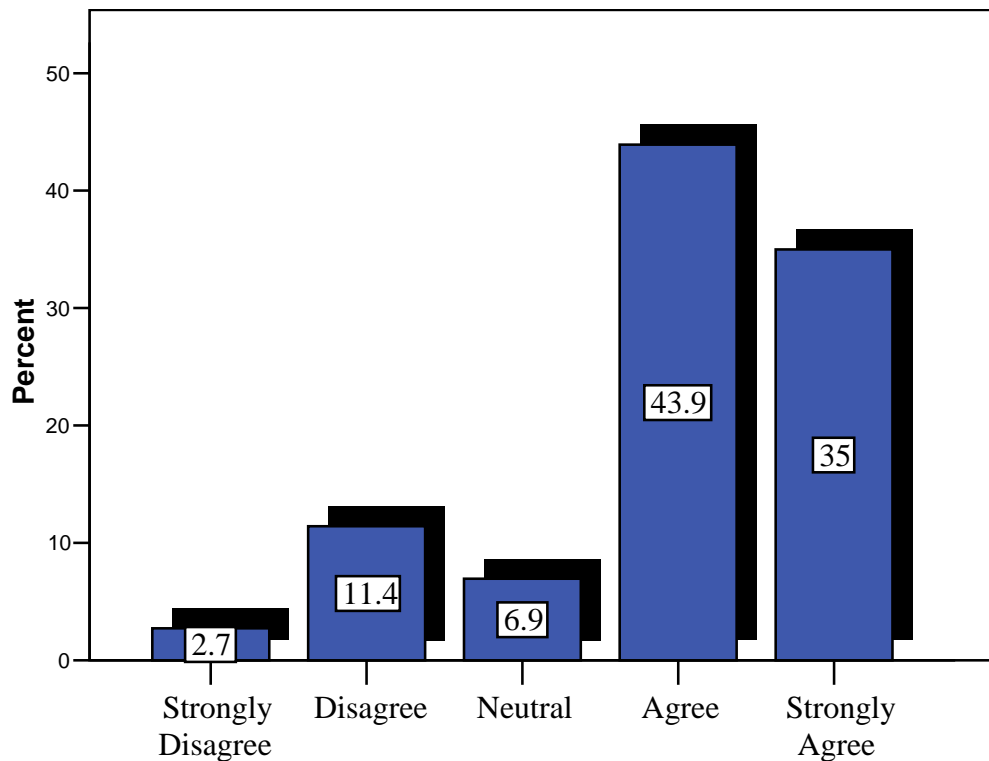


Figure Table 4.54 Low levels of literacy among citizens

- Lack of trust in e-dealings.

Table 4.60 and Figure 4.55 show that (19.2%) of respondents strongly agree, (29.9%) agree compared with (10.7%) strongly disagree and (22.9%) disagree as well as (17.4%) neutral. The mean score was 3.24 with Std. Deviation 1.292. No clear

conclusion can be derived from the responses regarding this statement as one of the obstacles to the implementation of e-government in educational institutions.

Table 4.60 Lack of trust in e-dealings

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	43	10.7	10.7	10.7
	Disagree	92	22.9	22.9	33.6
	Neutral	70	17.4	17.4	51.0
	Agree	120	29.9	29.9	80.8
	Strongly Agree	77	19.2	19.2	100.0
	Total	402	100.0	100.0	

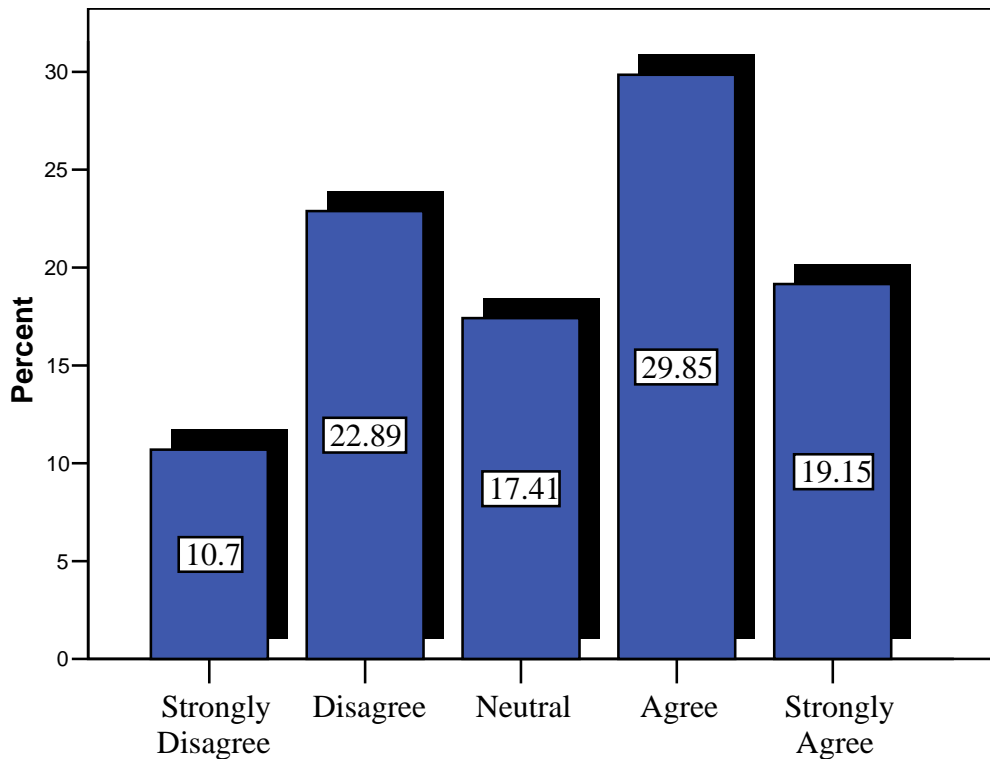


Figure 4.55 Lack of trust in e-dealings

- Technology usage conflicts with cultural habits.

Table 4.61 and Figure 4.56 show that (23.9%) of respondents strongly agree, (39.4%) agree, (12.2%) neutral, (20.4%) disagree, and (4%) strongly disagree. The mean score was 3.59 with Std. Deviation 1.172. The majority of respondents (63.3%) falls between strongly agree or agree, which indicates that conflicting of technology

usage with cultural habits is considered one of the obstacles that facing the implementation of e-government in educational institutions.

Table 4.61 Conflict between technology usage and cultural habits

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	16	4.0	4.0	4.0
	Disagree	82	20.4	20.4	24.4
	Neutral	49	12.2	12.2	36.7
	Agree	158	39.4	39.4	76.1
	Strongly Agree	96	23.9	23.9	100.0
	Total	401	100.0	100.0	

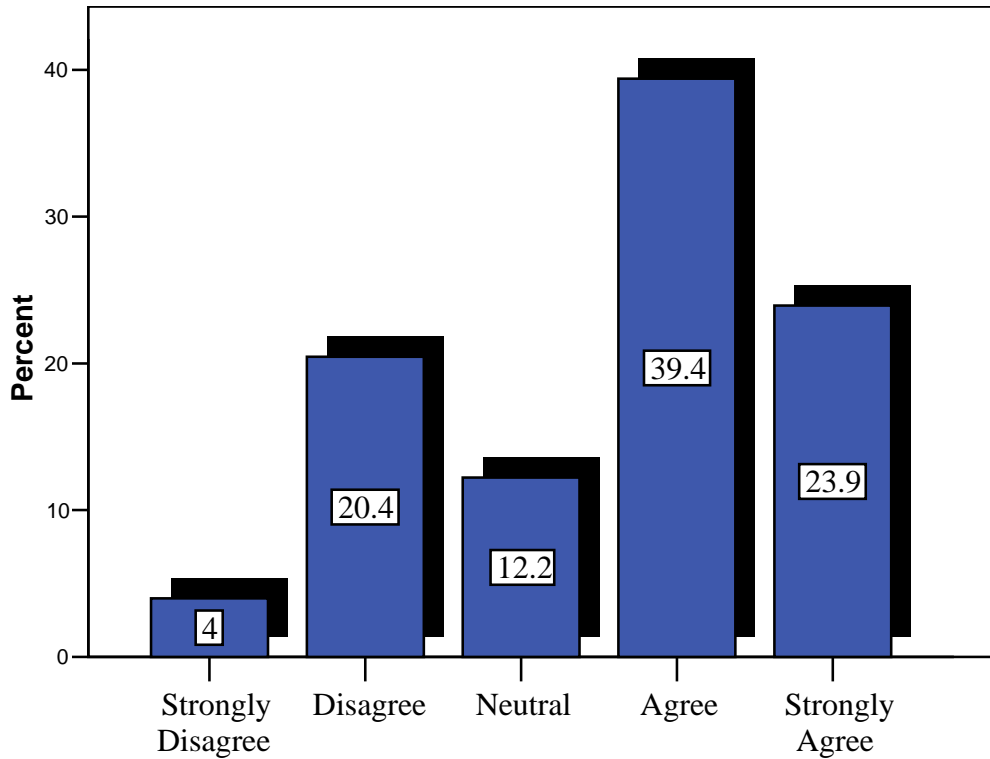


Figure 4.56 Conflict between technology and cultural habits

- Lack of computer literacy among citizens.

Table 4.62 and Figure 4.57 below show that (23.4%) of respondents strongly agree, (41.4%) agree, (14.2%) neutral, (15.7%) disagree, and (5.2%) strongly disagree. The mean score was 3.62 with Std. Deviation 1.156. The majority of respondents (64.8%) falls between strongly agree or agree, which indicates that lack of computer

literacy among citizens is considered one of the obstacles facing the implementation of e-government in educational institutions.

Table 4.62 Lack of computer literacy among citizens

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	21	5.2	5.2	5.2
	Disagree	63	15.7	15.7	20.9
	Neutral	57	14.2	14.2	35.2
	Agree	166	41.4	41.4	76.6
	Strongly Agree	94	23.4	23.4	100.0
	Total	401	100.0	100.0	

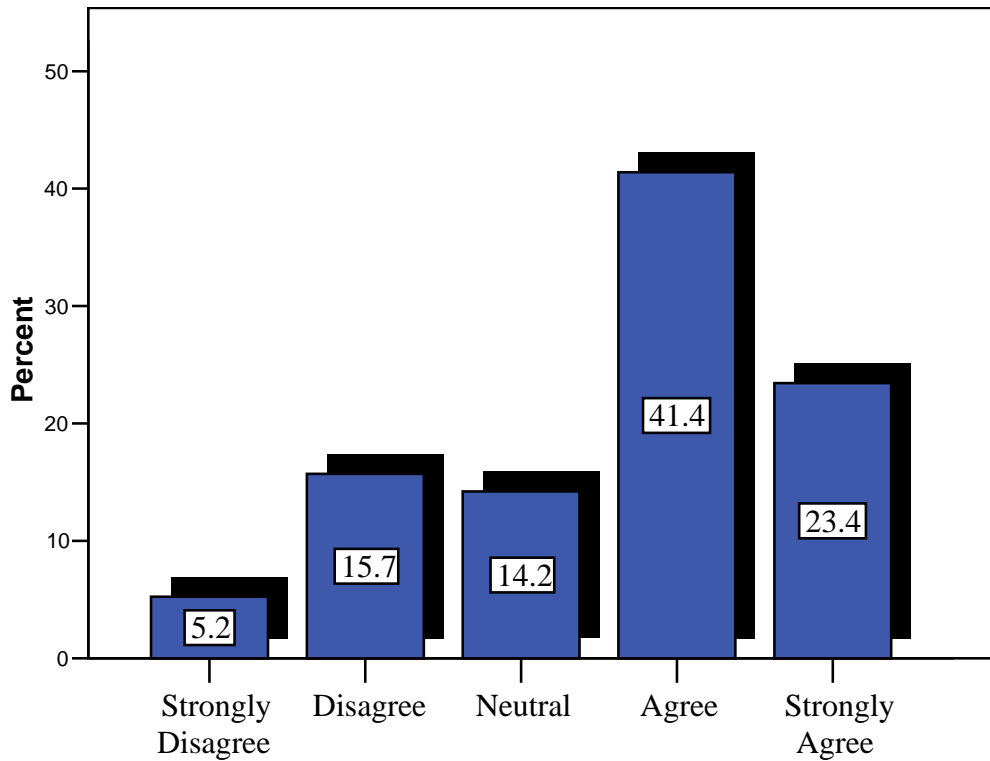


Figure 4.57 Lack of computer literacy among citizens

- Fear of change

Table 4.63 and Figure 4.58 show that (20.1%) of respondents strongly disagree, (27.6%) disagree compared with (16.9%) strongly agree and (20.6%) agree as well as (14.7%) neutral. The mean score was 2.87 with Std. Deviation 1.397. About (37.5%) of

respondents are between agree or strongly agree but (47.7%) disagree or strongly disagree. In fact, there is no clear conclusion about the fear of change as an obstacle.

Table 4.63 Fear of change

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	81	20.1	20.1	20.1
	Disagree	111	27.6	27.6	47.8
	Neutral	59	14.7	14.7	62.4
	Agree	83	20.6	20.6	83.1
	Strongly Agree	68	16.9	16.9	100.0
	Total	402	100.0	100.0	

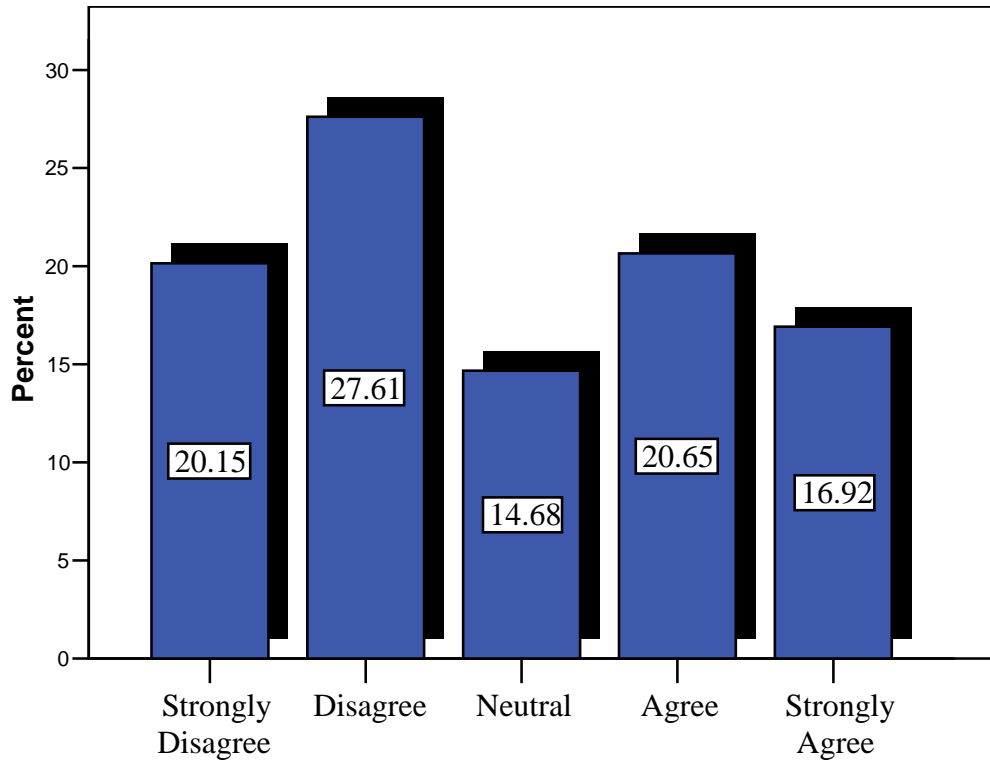


Figure 4.58 Fear of change

- Technology usage conflicts with religious tenets.

Table 4.64 and Figure 4.59 below show that (21%) of respondents strongly agree, (39.1%) agree, (12.1%) neutral, (21.5%) disagree, and (5.9%) strongly disagree. The mean score was 3.47 with Std. Deviation 1.221. The majority of respondents (60.1%) fall between strongly agree or agree which indicates that conflict between

technology usage and religious tenets is considered one of the obstacles facing the implementation of e-government in educational institutions.

Table 4.64 Technology usage conflicts with religious tenets

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	24	5.9	5.9	6.2
	Disagree	87	21.5	21.5	27.7
	Neutral	49	12.1	12.1	39.9
	Agree	158	39.1	39.1	79.0
	Strongly Agree	85	21.0	21.0	100.0
	Total	404	100.0	100.0	

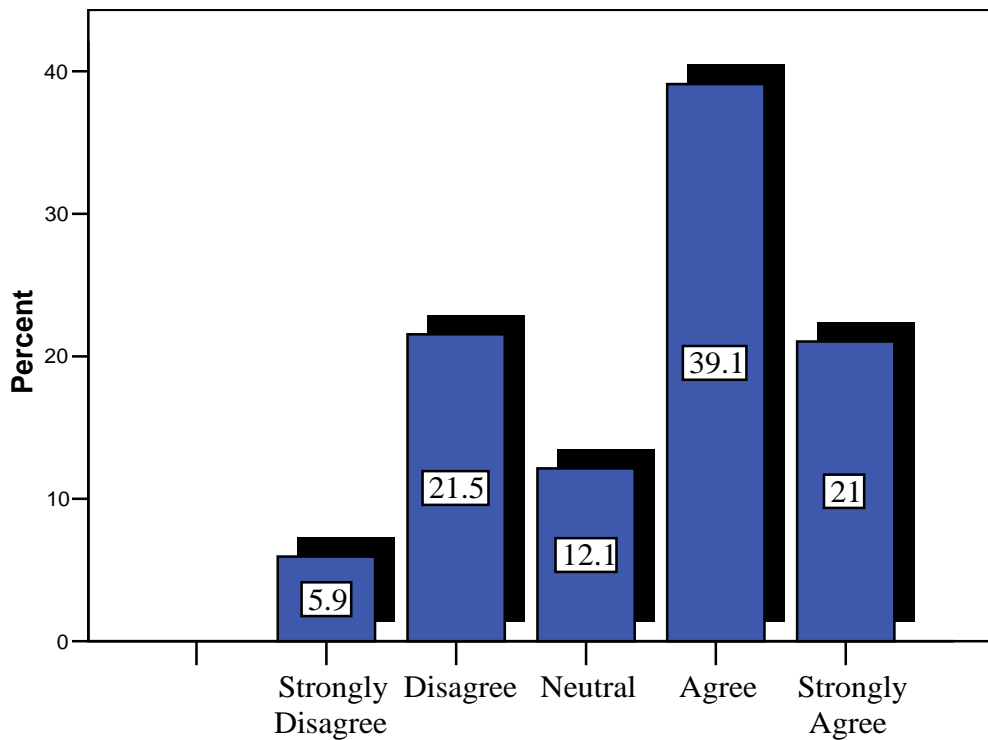


Figure 4.59 Conflict between technology and religious tenets

- Lack of Internet access among various sections of population.

Table 4.65 and Figure 4.60 show that (28.9%) of respondents strongly agree, (47.3%) agree, (11.4%) neutral, (10%) disagree, and (2.5%) strongly disagree. The mean score was 3.90 with Std. Deviation 1.009. The majority of respondents (76.2%) falls between strongly agree or agree, which indicates that lack of Internet access among

various sections of population is considered one of the obstacles facing the implementation of e-government in educational institutions.

Table 4.65 Lack of Internet access among people

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	10	2.5	2.5	2.5
	Disagree	40	10.0	10.0	12.4
	Neutral	46	11.4	11.4	23.9
	Agree	190	47.3	47.3	71.1
	Strongly Agree	116	28.9	28.9	100.0
	Total	402	100.0	100.0	

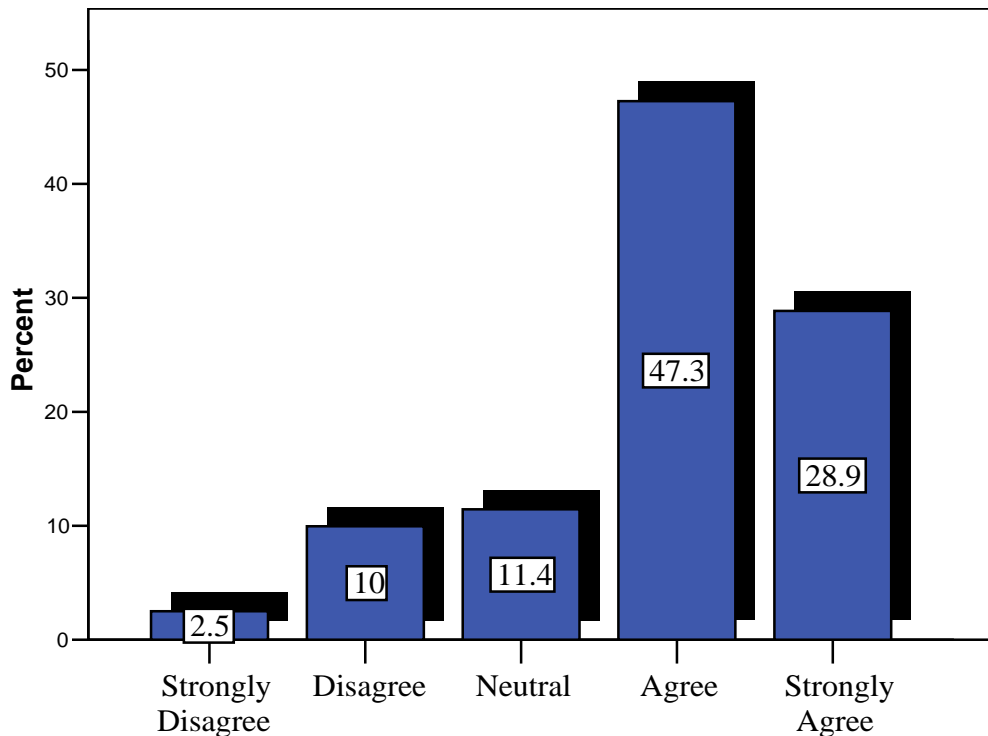


Figure 4.60 Lack of Internet access among people

- Lack of necessary skills for e-government applications.

Table 4.66 and Figure 4.61 below show that (32.2%) of respondents strongly agree, (34.2%) agree, (7%) neutral, (21.7%) disagree, and (5%) strongly disagree. The mean score was 3.67 with Std. Deviation 1.266. The majority of respondents (66.4%) falls between strongly agree or agree, which indicates that lack of necessary skills for e-

government applications is considered one of the obstacles that facing the implementation of e-government in educational institutions.

Table 4.66 Lack of necessary skills for e-government applications

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	20	5.0	5.0	5.0
	Disagree	87	21.7	21.7	26.7
	Neutral	28	7.0	7.0	33.7
	Agree	137	34.2	34.2	67.8
	Strongly Agree	129	32.2	32.2	100.0
	Total	401	100.0	100.0	

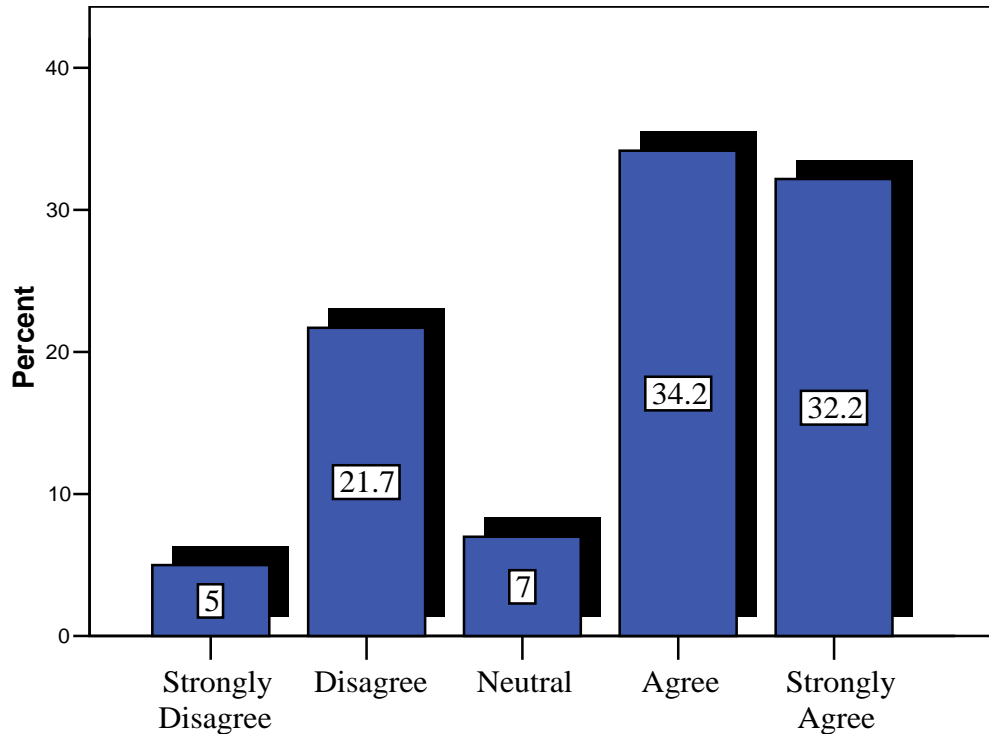


Figure 4.61 Lack of necessary skills for e-government applications

- Dependence of Internet usage on the English language.

Table 4.67 and Figure 4.62 below show that (30.2%) of respondents strongly agree, (35.2%) agree, (14.7%) neutral, (17%) disagree, and (3%) strongly disagree. The mean score was 3.73 with Std. Deviation 1.151. The majority of respondents (65.4%) falls between strongly agree or agree, which indicates the above variable is considered

one of the obstacles that facing the implementation of e-government in educational institutions.

Table 4.67 Internet usage and English language

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	12	3.0	3.0	3.0
	Disagree	68	17.0	17.0	20.0
	Neutral	59	14.7	14.7	34.7
	Agree	141	35.2	35.2	69.8
	Strongly Agree	121	30.2	30.2	100.0
	Total	401	100.0	100.0	

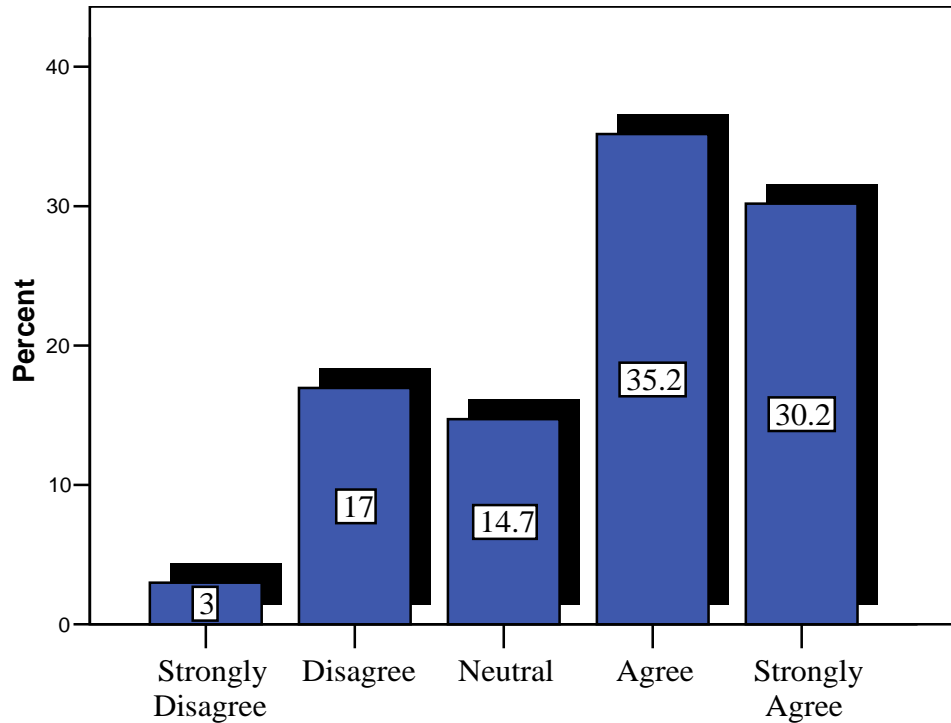


Figure 4.62 Internet and English language

- Low level of citizen income.

Table 4.68 and Figure 4.63 below show that (20.1%) of respondents strongly agree, (37.2%) agree, (20.1%) neutral, (19.1%) disagree, and (3.5%) strongly disagree. The mean score was 3.51 with Std. Deviation 1.116. Over half of the respondents (57.3%) are between agree or strongly agree that low level of citizen income is

considered one of the obstacles that facing the implementation of e-government in educational institutions.

Table 4.68 Low level of citizen income

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	14	3.5	3.5	3.5
	Disagree	77	19.1	19.1	22.6
	Neutral	81	20.1	20.1	42.7
	Agree	150	37.2	37.2	79.9
	Strongly Agree	81	20.1	20.1	100.0
	Total	403	100.0	100.0	

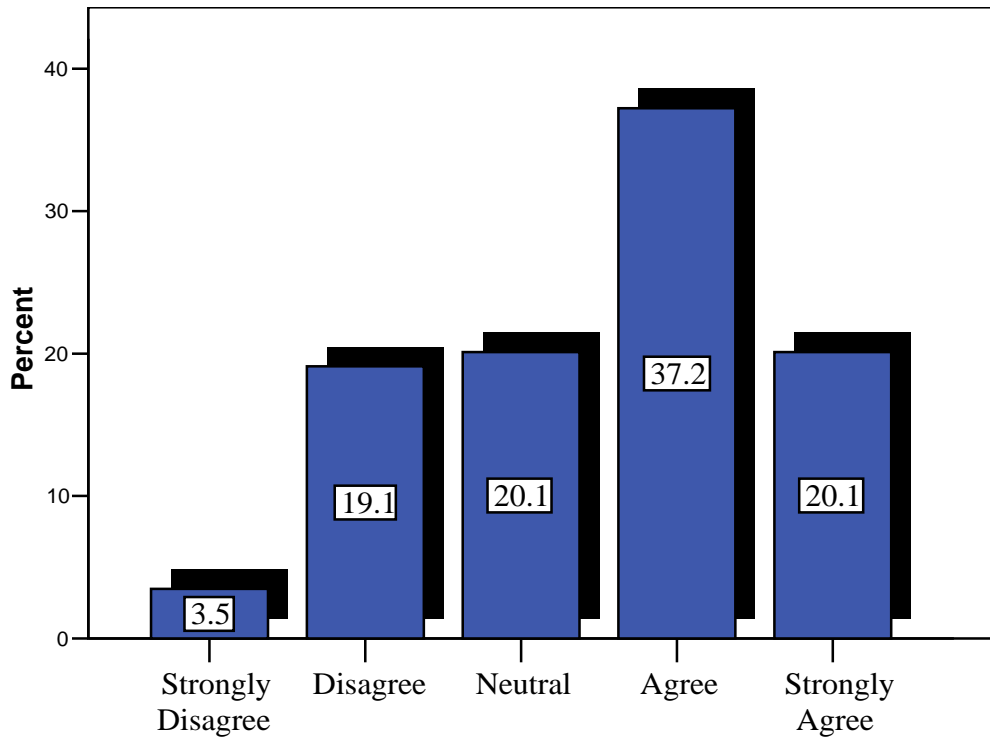


Figure 4.63 Low level of income

- Uncertainties about the benefits of the new technology usage.

Table 4.69 and Figure 4.64 below show that (46%) of respondents strongly agree and (32.9%) agree, (8.4%) neutral, (10.4%) disagree, and (2.2%) strongly disagree. The mean score was 4.10 with Std. Deviation 1.074. The majority of respondents (78.9%)

fall between strongly agree or agree to the above statement as one of the obstacles that facing the implementation of e-government in educational institutions.

Table 4.69 Uncertainties about technology benefits

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	9	2.2	2.2	2.2
	Disagree	42	10.4	10.4	12.6
	Neutral	34	8.4	8.4	21.0
	Agree	133	32.9	32.9	54.0
	Strongly Agree	186	46.0	46.0	100.0
	Total	404	100.0	100.0	

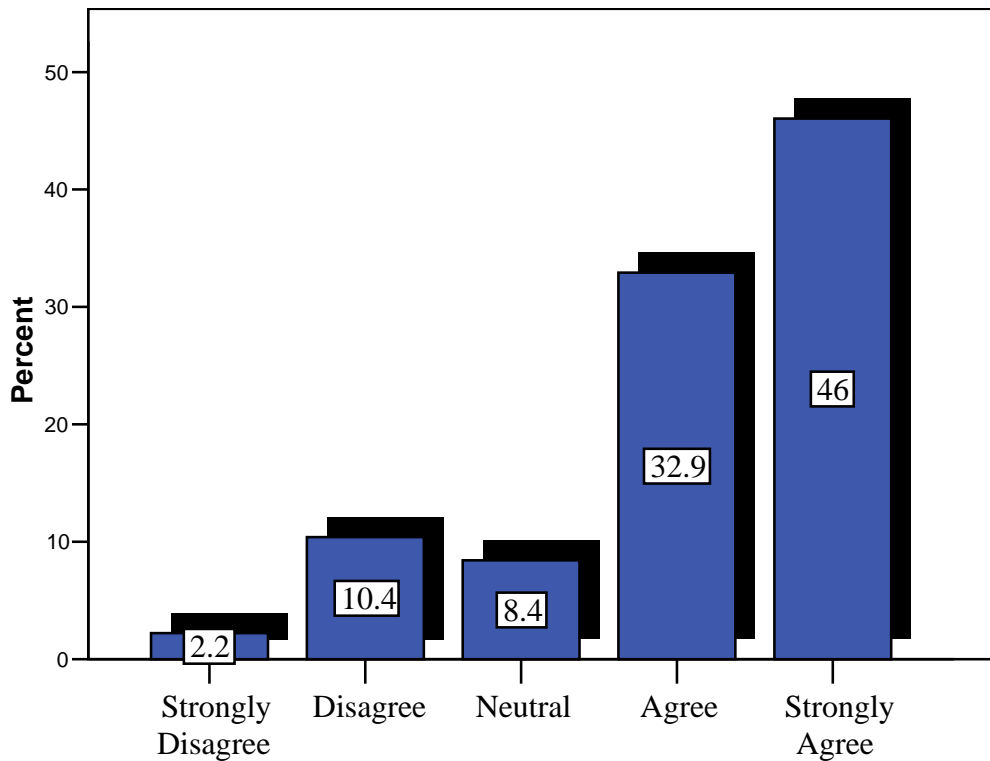


Figure 4.64 Uncertainties about technology benefits

Generally, as shown in Table 4.70 below, uncertainties about the benefits of the new technology usage represent the major obstacle relating to the social systems while fear of new technology is the least. The least four items may not be considered as real obstacles. The mean score of social obstacle was 3.53 with Std. Deviation .706. This

means participants agree that there are social obstacles preventing or influence e-government implementation in educational institutions in Saudi Arabia.

Table 4.70 Comparison of Social Obstacles

Variables	N	Mean	Std. Deviation
Uncertainties about technology benefits	404	4.10	1.074
Low levels of literacy among citizens	403	3.97	1.060
Lack of Internet access among population	402	3.90	1.009
Internet and English language	401	3.73	1.151
Lack of necessary skills for e-government application	401	3.67	1.266
Lack of computer literacy among citizens	401	3.62	1.156
Conflict technology with cultural habits	401	3.59	1.172
Lack of awareness about e-government advantages	403	3.52	1.286
Low level of citizen income	403	3.51	1.116
Conflict between technology and religious tenets	404	3.47	1.221
Lack of trust in e-dealings	402	3.24	1.292
Fear of change	402	2.87	1.397
Fear of new technology	402	2.77	1.310
SOCIAL OBSTACLES	404	3.53	.71

4.4 Comparison of Obstacles

Table 4.71 shows the categorize obstacles which ranked from highest to lowest mean. It shows that all factors are important, but the educational and organizational obstacles represent the major obstacle. The social obstacle followed by technological obstacle is the least compared to other factors.

Table 4.71 Comparison of Obstacles

OBSTACLES	MEAN	Std. Deviation	NO
Educational	4.08	.736	1
Organizational	4.04	.635	2
Political	3.99	.785	3
Financial	3.75	.857	4
Social	3.53	.706	5
Technological	3.51	.685	6

The researcher chose 46 items as obstacles and challenges prevent or influence the implementation of e-government in educational institutions. The variables are equal 3.50 or above are considered real obstacles. The result of this study shows 37 as obstacles and challenges facing educational institutions to implement e-government. They are ranked from highest to lowest in Table 4.73. Table 4.72 below shows the other 9 items are not considered real obstacle.

Table 4.72 Items are not obstacles

OBSTACLES	MEAN	Std. Deviation	NO
Technology usage conflicts with religious tenets	3.47	1.221	1
Limited postal services	3.39	1.179	2
High-priced services of telecommunications	3.24	1.201	3
Lack of trust in e-dealings	3.24	1.292	4
Lack of e-signature option	3.21	1.268	5
Fear of change	2.87	1.397	6
Insufficient maintenance of e-devices	2.86	1.314	7
Inadequate phone lines	2.79	1.295	8
Fear of new technology	2.77	1.310	9

Table 4.73 Obstacles and challenges facing educational institutions

OBSTACLES	MEAN	Std. D	NO
Staff resistance to change	4.22	.956	1
Weakness of telecommunication infrastructure	4.21	.959	2
Lack of appropriate laws for e-usage	4.16	.874	3
Lack of strategic planning	4.15	.877	4
Lack of clear vision about e-government project	4.14	.861	5
Weak educational systems	4.14	.854	6
Lack of advisory committees for e-government projects	4.13	.921	7
Lack of reengineering of operations	4.11	.977	8
Uncertainties about technology benefits and advantages	4.10	1.074	9
Insufficient programs to train staff on e-government applications	4.09	.947	10
Limited of financial spending on IT	4.07	1.019	11
Lack of programs to promote e-government benefits	4.06	.908	12
Inadequacy of qualified personnel for e-government applications	4.06	1.059	13
Formal educational curricula failure to the IT demands	3.98	.978	14
Lack of support from upper management	3.98	.963	15
Lack of cooperation between public and private sector in IT	3.97	.942	16
Low levels of literacy among citizens	3.97	1.060	17
Inadequate individual legal rights	3.96	1.000	18
Weak current administrative systems	3.93	.966	19
High cost of IT	3.91	1.038	20
Lack of Internet access among people	3.90	1.009	21
Complexity of current administrative procedures	3.87	.951	22
Lack of political leadership support	3.81	1.056	23
Lack of central authority at the country level for e-government applications	3.80	.857	24
Computer usage is not widely spread among people	3.78	1.105	25
Little collaboration among governmental agencies	3.74	1.091	26
Weak IT infrastructure	3.74	1.115	27
Lack of e- payment option	3.73	1.173	28
Dependence of the Internet usage on the English language	3.73	1.151	29
Lack of necessary skills for e-government applications	3.67	1.266	30
Insufficient network security	3.65	1.140	31
Lack of computer literacy among citizens	3.62	1.156	32
Inadequate software programs to implement e-government	3.60	1.041	33
Technology usage conflicts with cultural habits	3.59	1.172	34
Difficulties in keeping up with and rapid changes of technology	3.54	1.206	35
Lack of society's awareness about e-government advantages	3.52	1.286	36
Low level of citizen income	3.51	1.116	37

4.5 Testing for the Equality of Groups Means

This section examines how differences (status, gender, institution, and academic major) might influence on respondents' perceptions toward current obstacles of e-government implementation in educational institutions. The statistical tests are provided for descriptive purpose only.

Research Question 7

- What differences are there between groups (faculty members and students, males and females, respondents from different institutions, and respondents from different academic majors) in their responses?

4.5.1 Faculty Members and Students

As illustrated in Tables 4.74 and 4.75, a t-test did not reveal significant differences in faculty members and students with respect to their total scores on responses related to political obstacles ($t=0.11$, $df=396$, $p=0.91$). As illustrated in Tables 4.74 and 4.75, a t-test did not reveal significant differences in faculty members and students with respect to their total scores on responses related to educational obstacles ($t= 1.77$, $df=391$, $p=0.077$). Moreover, as illustrated in Tables 4.74 and 4.75, a t-test did not reveal significant differences in faculty members and students with respect to their total scores on responses related to financial obstacles ($t = 0.622$, $df=387$, $p=0.535$).

As illustrated in Tables 4.74 and 4.75, a t-test did not reveal significant differences in faculty members and students with respect to their total scores on responses related to technological obstacles ($t=0.677$, $df=383$, $p=0.499$). As illustrated in Tables 4.74 and 4.75, a t-test did not reveal significant differences in faculty members and students with respect to their total scores on responses related to organizational obstacles

($t=0.239$, $df=380$, $p=0.811$). Furthermore, as illustrated in Tables 4.74 and 4.75, a t-test did not reveal significant differences in faculty members and students with respect to their total scores on responses related to social obstacles ($t=1.799$, $df=377$, $p=0.073$).

Table 4.74 Comparison between Faculty Members' and Students' Perception

			N	Mean	Std. Deviation
Total Political Obstacle Scores	Faculty and Students	Student	<i>298</i>	<i>3.99</i>	<i>.763</i>
		Faculty	<i>100</i>	<i>3.98</i>	<i>.853</i>
Total Educational Obstacle Scores	Faculty and Students	Student	<i>293</i>	<i>4.07</i>	<i>.755</i>
		Faculty	<i>100</i>	<i>4.22</i>	<i>.690</i>
Total Financial Obstacle Scores	Faculty and Students	Student	<i>291</i>	<i>3.77</i>	<i>.827</i>
		Faculty	<i>98</i>	<i>3.70</i>	<i>.944</i>
Total Technological Obstacle Scores	Faculty and Students	Student	<i>287</i>	<i>3.54</i>	<i>.672</i>
		Faculty	<i>98</i>	<i>3.60</i>	<i>.905</i>
Total Organizational Obstacle Scores	Faculty and Students	Student	<i>283</i>	<i>4.08</i>	<i>.628</i>
		Faculty	<i>99</i>	<i>4.10</i>	<i>.898</i>
Total Social Obstacle Scores	Faculty and Students	Student	<i>281</i>	<i>3.64</i>	<i>.699</i>
		Faculty	<i>98</i>	<i>3.49</i>	<i>.692</i>

Table 4.75 Difference between Faculty's and Students' Perception

		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
Total Political Obstacle Scores	Equal variances assumed	.605	.437	.109	396	.913
	Equal variances not assumed			.103	155.642	.918
Total Educational Obstacle Scores	Equal variances assumed	.266	.606	-1.772	391	.077
	Equal variances not assumed			-1.852	185.964	.066
Total Financial Obstacle Scores	Equal variances assumed	3.545	.060	.622	387	.535
	Equal variances not assumed			.582	150.214	.561
Total Technological Obstacle Scores	Equal variances assumed	2.686	.102	-.677	383	.499
	Equal variances not assumed			-.587	135.335	.558
Total Organizational Obstacle Scores	Equal variances assumed	4.112	.043	-.239	380	.811
	Equal variances not assumed			-.202	133.037	.840
Total Social Obstacle Scores	Equal variances assumed	.020	.887	1.799	377	.073
	Equal variances not assumed			1.808	170.850	.072

4.5.2 Gender

As illustrated in Tables 4.76 and 4.77, a t-test did not reveal significant differences in males and females with respect to their total scores on responses related to political obstacles ($t=0.335$, $df=393$, $p=0.738$). Furthermore, and as illustrated in Tables 4.76 and 4.77, a t-test did not reveal significant differences in males and females with respect to their total scores on responses related to educational obstacles ($t=1.93$, $df=388$, $p=0.05$). As illustrated in Tables 4.76 and 4.77, a t-test did not reveal significant differences in males and females with respect to their total scores on responses related to financial obstacles ($t=0.29$, $df=384$, $p=0.76$). Furthermore, and as illustrated in Tables 4.76 and 4.77, a t-test did not reveal significant differences in males and females with

respect to their total scores on responses related to technological obstacles ($t=1.11$, $df=380$, $p=0.26$). As illustrated in Tables 4.76 and 4.77, a t-test did not reveal significant differences in males and females with respect to their total scores on responses related to organizational obstacles ($t=1.9$, $df=377$, $p=0.05$). Moreover, as illustrated in Tables 4.76 and 4.77, a t-test did not reveal significant differences in males and females with respect to their total scores on responses related to social obstacles ($t=1.03$, $df=374$, $p=0.3$).

Table 4.76 Comparison between Males' and Females' Perception

			N	Mean	Std. Deviation
Total Political Obstacle Scores	Male and Female	Male	<i>320</i>	<i>3.99</i>	<i>.800</i>
		Female	<i>75</i>	<i>3.96</i>	<i>.725</i>
Total Educational Obstacle Scores	Male and Female	Male	<i>314</i>	<i>4.14</i>	<i>.734</i>
		Female	<i>76</i>	<i>3.96</i>	<i>.756</i>
Total Financial Obstacle Scores	Male and Female	Male	<i>313</i>	<i>3.75</i>	<i>.879</i>
		Female	<i>73</i>	<i>3.78</i>	<i>.768</i>
Total Technological Obstacle Scores	Male and Female	Male	<i>312</i>	<i>3.58</i>	<i>.773</i>
		Female	<i>70</i>	<i>3.47</i>	<i>.557</i>
Total Organizational Obstacle Scores	Male and Female	Male	<i>306</i>	<i>4.12</i>	<i>.725</i>
		Female	<i>73</i>	<i>3.95</i>	<i>.621</i>
Total Social Obstacle Scores	Male and Female	Male	<i>302</i>	<i>3.58</i>	<i>.705</i>
		Female	<i>74</i>	<i>3.68</i>	<i>.643</i>

Table 4.77 Difference between Males' and Females' Perception

		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
Total Political Obstacle Scores	Equal variances assumed	.499	.481	.335	393	.738
	Equal variances not assumed			.356	119.974	.723
Total Educational Obstacle Scores	Equal variances assumed	.000	.993	1.937	388	.053
	Equal variances not assumed			1.902	111.701	.060
Total Financial Obstacle Scores	Equal variances assumed	2.081	.150	-.297	384	.766
	Equal variances not assumed			-.323	120.095	.747
Total Technological Obstacle Scores	Equal variances assumed	4.290	.039	1.112	380	.267
	Equal variances not assumed			1.363	135.830	.175
Total Organizational Obstacle Scores	Equal variances assumed	1.150	.284	1.909	377	.057
	Equal variances not assumed			2.099	123.399	.038
Total Social Obstacle Scores	Equal variances assumed	2.084	.150	-1.033	374	.302
	Equal variances not assumed			-1.092	119.705	.277

4.5.3 Institutions

As illustrated in Tables 4.78, ANOVA did not reveal significant differences in participants from different institutions with respect to their total scores on responses related to political obstacles ($f=0.96$, $df=387$, $p=0.38$). Also, as illustrated in Tables 4.78, ANOVA did not reveal significant differences in participants from different institutions with respect to their total scores on responses related to educational obstacles ($f=2.13$, $df=382$, $p=0.12$). As illustrated in Tables 4.78, ANOVA did not reveal significant differences in participants from different institutions with respect to their total scores on responses related to financial obstacles ($f=1.3$, $df=379$, $p=0.28$). Furthermore, as illustrated in Tables 4.78, ANOVA did not reveal significant differences in participants

from different institutions with respect to their total scores on responses related to technological obstacles ($f=1.52$, $df=375$, $p=0.22$). As illustrated in Tables 4.78, ANOVA did not reveal significant differences in participants from different institutions with respect to their total scores on responses related to organizational obstacles ($f=2.12$, $df=371$, $p=0.12$). Moreover, as illustrated in Tables 4.78, ANOVA did not reveal significant differences in participants from different institutions with respect to their total scores on responses related to social obstacles ($f=2.22$, $df=368$, $p=0.11$).

Table 4.78 Comparison Perception from Different Institutions

		Sum of Squares	df	Mean Square	F	Sig.
Total Political Obstacle Scores	Between Groups	<i>1.189</i>	<i>2</i>	<i>.594</i>	<i>.963</i>	<i>.382</i>
	Within Groups	<i>238.719</i>	<i>387</i>	<i>.617</i>		
	Total	<i>239.908</i>	<i>389</i>			
Total Educational Obstacle Scores	Between Groups	<i>2.349</i>	<i>2</i>	<i>1.175</i>	<i>2.138</i>	<i>.119</i>
	Within Groups	<i>209.900</i>	<i>382</i>	<i>.549</i>		
	Total	<i>212.249</i>	<i>384</i>			
Total Financial Obstacle Scores	Between Groups	<i>1.918</i>	<i>2</i>	<i>.959</i>	<i>1.296</i>	<i>.275</i>
	Within Groups	<i>280.451</i>	<i>379</i>	<i>.740</i>		
	Total	<i>282.369</i>	<i>381</i>			
Total Technological Obstacle Scores	Between Groups	<i>1.668</i>	<i>2</i>	<i>.834</i>	<i>1.521</i>	<i>.220</i>
	Within Groups	<i>205.665</i>	<i>375</i>	<i>.548</i>		
	Total	<i>207.333</i>	<i>377</i>			
Total Organizational Obstacle Scores	Between Groups	<i>2.125</i>	<i>2</i>	<i>1.062</i>	<i>2.125</i>	<i>.121</i>
	Within Groups	<i>185.469</i>	<i>371</i>	<i>.500</i>		
	Total	<i>187.594</i>	<i>373</i>			
Total Social Obstacle Scores	Between Groups	<i>2.161</i>	<i>2</i>	<i>1.081</i>	<i>2.219</i>	<i>.110</i>
	Within Groups	<i>179.192</i>	<i>368</i>	<i>.487</i>		
	Total	<i>181.353</i>	<i>370</i>			

4.5.4 Academic majors

As illustrated in Tables 4.79 and 4.80, a t-test did not reveal significant differences in participants from different academic majors with respect to their total scores on responses related to political obstacles ($t=0.13$, $df=333$, $p=0.9$). Furthermore, as illustrated in Tables 4.79 and 4.80, a t-test did not reveal significant differences in participants from different academic majors with respect to their total scores on responses related to educational obstacles ($t=1.7$, $df=329$, $p=0.94$).

However, as illustrated in Tables 4.79 and 4.80, a t-test revealed significant differences in participants from different academic majors with respect to their total scores on responses related to financial obstacles ($t=2.34$, $df=325$, $p=0.02$). Public administration ($M=3.90$, $SD=.846$), and computer ($M=3.68$, $SD=.847$). Respondents who specialized in public administration are more concerned about financial obstacles than others.

As illustrated in Tables 4.79 and 4.80, a t-test did not reveal significant differences in participants from different academic majors with respect to their total scores on responses related to technological obstacles ($t=0.38$, $df=321$, $p=0.7$). Moreover, as illustrated in Tables 4.79 and 4.80, a t-test did not reveal significant differences in participants from different academic majors with respect to their total scores on responses related to organizational obstacles ($t=0.93$, $df=319$, $p=0.34$).

As illustrated in Tables 4.79 and 4.80, a t-test did not reveal significant differences in participants from different academic majors with respect to their total scores on responses related to social obstacles ($t=0.43$, $df=315$, $p=0.7$).

Table 4.79 Comparison Perception from Different Academic Major

			N	Mean	Std. Deviation
Total Political Obstacle Scores	Academic Major	Public Administration	<i>130</i>	<i>3.99</i>	<i>.762</i>
		Computer	<i>205</i>	<i>3.98</i>	<i>.773</i>
Total Educational Obstacle Scores	Academic Major	Public Administration	<i>129</i>	<i>4.18</i>	<i>.701</i>
		Computer	<i>202</i>	<i>4.04</i>	<i>.752</i>
Total Financial Obstacle Scores	Academic Major	Public Administration	<i>125</i>	<i>3.90</i>	<i>.846</i>
		Computer	<i>202</i>	<i>3.68</i>	<i>.847</i>
Total Technological Obstacle Scores	Academic Major	Public Administration	<i>125</i>	<i>3.58</i>	<i>.709</i>
		Computer	<i>198</i>	<i>3.55</i>	<i>.790</i>
Total Organizational Obstacle Scores	Academic Major	Public Administration	<i>123</i>	<i>4.11</i>	<i>.643</i>
		Computer	<i>198</i>	<i>4.04</i>	<i>.776</i>
Total Social Obstacle Scores	Academic Major	Public Administration	<i>121</i>	<i>3.59</i>	<i>.727</i>
		Computer	<i>196</i>	<i>3.62</i>	<i>.687</i>

Table 4.80 Difference between Academic Majors

		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
Total Political Obstacle Scores	Equal variances assumed	.013	.908	.137	333	.891
	Equal variances not assumed			.138	277.46	.891
Total Educational Obstacle Scores	Equal variances assumed	.011	.916	1.680	329	.094
	Equal variances not assumed			1.706	286.69	.089
Total Financial Obstacle Scores	Equal variances assumed	1.993	.159	2.344	325	.020
	Equal variances not assumed			2.344	262.90	.020
Total Technological Obstacle Scores	Equal variances assumed	.118	.731	.386	321	.700
	Equal variances not assumed			.395	284.52	.693
Total Organizational Obstacle Scores	Equal variances assumed	.105	.746	.939	319	.349
	Equal variances not assumed			.981	293.87	.328
Total Social Obstacle Scores	Equal variances assumed	1.154	.284	-.439	315	.661
	Equal variances not assumed			-.434	243.44	.665

4.6 Additional Obstacles

To give participants the opportunity to add additional obstacles, both surveys (faculty members and students) included an open-ended question to list any additional obstacles. The following research question related to the additional obstacles.

Research Question 8

- Are there any additional obstacles facing the implementing e-government in educational institutions as perceived by faculty members and students?

Few faculty members and students mentioned obstacles to e-government implementation, but most of the added obstacles were already mentioned in the questionnaire or very closely related to the obstacles in the survey. Consequently, the

obstacles that were already listed in the questionnaire have been excluded. Table 4.81 shows the new obstacles mentioned by faculty members and students, and their frequency.

Table 4.81

	Additional Obstacles	Frequency
1	Keeping the dally routine	3
2	Absence of teaching e-government in universities or colleges	6
3	People don't understand e-government meaning	8
4	Difficulty of some services via Internet	2
5	Overlapping authorities between KACST and organization of telecommunication and information	
6	Organizational structure in governmental departments	2
7	Lack of clear laws for punishing hackers	
8	Teaching computer is inappropriate in public schools	3
9	Geography factor and difficulty of telecommunications in remount areas	
10	Employees fear of missing their powers	3
11	Bad bureaucracy in government agencies	3
12	Computer departments are not efficiency	
13	Development departments are not effectiveness	
14	Lack of financial motives for workers in IT departments	
15	People fear to pay via Internet	
16	Lack of field research	
18	Lack role of information media to explain e-government importance	

CHAPTER V: SUMMARY, DISCUSSION, CONCLUSION AND RECOMMENDATIONS

Clover & Balsley (1984) pointed out that the basis of any research study is to identify a problem; collect and analyze data report; draw conclusion from the findings; and then make recommendations based upon the results. This chapter reviews the purpose of this study and the procedures employed to collect and analyze data. A synopsis of the study's findings and conclusions are then presented. The final section of this chapter includes discussion, recommendations for practice, and recommendations for further study.

The purpose of this study was to examine faculty members' and students' perceptions toward the obstacles of e-government implementation in educational institutions in Saudi Arabia and to determine which obstacles are more critical. Findings and results of this research will help decision makers in Saudi Arabia. Descriptive statistics were chosen as the most appropriate way to analyze the questionnaire data. Frequency and percentage were conducted for each variable, and mean and standard deviations for all Likert-type scale variables were calculated. This study involved two surveys, one for faculty members and one for students, with each survey consisting of four parts. Part I collected demographic information about the participants. Part II of the survey included yes-no questions that were designed to collect additional information about the spreading of PCs and Internet among respondents as well as their knowledge and willingness to promote e-government implementation. Part III contained 46 statements describing participants' perceptions about e-government obstacles in educational institutions. All 46 variables (for faculty members and students) were

measured by Likert scale. Responses were ordered as follows: 1= (strongly disagree), 2 = (disagree), 3 = (neutral), 4= (agree), 5 = (strongly agree).

The 46 variables of the survey (part III) were grouped into six categories (political, educational, financial, technological, organizational, and social obstacles). In Part IV, respondents were invited to list any additional items that they considered obstacles to the implementation of e-government. Testing for the equality of groups' means were conducted using t- test or Analyses of variance (ANOVA). The level of significance is 0.05 for all tests for the equality of groups' means. The final sample is 406 (77.62%) of faculty members and students who specialize in public administration and computer majors, from (IPA), (KSU), and (IMBSIU). The Statistical Package for Social Sciences (SPSS) version 12.0 was used to accomplish the statistical analysis.

5.1 Summary of Findings

5.1.1 Demographic Characteristics

The final sample is 406 faculty members and students who are specialized in public administration and computer. The greatest proportion of respondents (75.1%) was students while (24.9%) were faculty members. Out of 406 respondents who participated in the study, (80.9%) were males and (19.1%) were females. About (71.9%) of students were between the ages of 20-25 years, which is the largest category. There were few students (8.2%) below 20 or over 35 years of age. About (46%) of faculty members were aged 25-30 and 31-35 years, which representing the largest category. About 84 % of faculty respondents were between the age of 25 and 45. There were few faculty members (16%) below 25 or over 46 years of age. About (48.4%) of faculty members and students have less than 5 years of experience with technology. The majority of faculty members

and students (83%) have less than 11 years of experience with technology. The result of respondents' experience with technology is logical, since the use of these tools is quite new in Saudi Arabia. The results, therefore, show how people learn and involved with technology by time. The majority of participants who are specialized in computers (62%), while (38%) of them specialized in public administration.

About (46%) of student participants have diplomas. The majority (50.3%) of them hold a bachelor's degree while few students (3.7%) have a master's degree. About (26.3%) of faculty participants hold bachelor's degrees (43.4%) of them hold master's degrees while (5.1%) hold higher diplomas. About (25.3%) of faculty participants hold doctoral degrees. The largest number of participants was from IMBSIU (42.2%). There were (31.2%) participants from the IPA while (26.6%) were from KSU. About (43.5%) of students had less than 1000 SR per month. Nineteen percent of them had 1,001-2,000 SR. About (11.9%) of them had 2,001-3,000 while (5.1%) had 3,001-4,000. About 20.4% of them had more than 4000 SR per month. Seven percent of faculty members had 5,000 SR per month or less. About (51.2%) of them had 5,001-10,000. About (39.6%) of them had 10,000-15,000 SR per moth, while (2.3%) had 20,001 or more. About (90.7%) of faculty members were between 5000 and 15000 SR per month. There were few faculty members (9.4%) under 5000 or over 15000.

5.1.2 Yes/No Questions

Ninety six percent of faculty members have computers while only (4%) of faculty members do not have computers in their offices. About (93.9%) of faculty members have Internet service in their offices while only (6.1%) of faculty members do not. About (89.9%) of participants have easy accesses to the Internet, but (10.1%) of

them do not have it. Also, about (96.3%) of participants prefer to put e-government in place while only (3.8%) of them do not. Furthermore, this study shows that (94.3%) of respondents have personal computers at home, while (5.7%) of participants do not. In addition, about (85.6%) of respondents have Internet service at home while (14.4%) of respondents do not.

5.1.3 Results of the Research Questions

In this section, the results were summarized and presented below based on the research questions that were being investigated in this study as follows:

Research Question 1: To what extent are current governmental (legislation and regulations) policies perceived as obstacles to the implementation of e-government in educational institutions by faculty members and students?

This research question sought to find out those obstacles related to political issues that prevent or influence the implementation of e-government in educational institutions. These statements were analyzed individually first and then as a group to answer the research question.

- Inadequate individual legal rights

The mean score for the above statement was 3.96 with Std. Deviation 1.000. The majority of respondents (70.7%) fall between strongly agree or agree which indicates that inadequate individual legal rights is considered one of the obstacles to the implementation of e-government in educational institutions.

- Lack of political leadership support.

The mean score was 3.81 with Std. Deviation 1.056. The majority of respondents (64.8%) falls between strongly agree or agree which indicates that lack of political

leadership support is considered one of the obstacles to the implementation of e-government in educational institutions.

- Lack of appropriate laws for e-usage.

The mean score was 4.16 with Std. Deviation .874. The majority of respondents (79.2%) falls between strongly agree or agree which indicates that the lack of appropriate laws for e-usage is considered one of the obstacles to the implementation of e-government in educational institutions.

Generally, lack of appropriate laws for e-usage represents (M=4.16) the major obstacle relating to the policy (legislation and regulation) systems while lack of political leadership support is the least (M=3.80). However all items are considered as important obstacles. The research question was answered depending on the three statements as a group. The mean score of political obstacle was 3.99 with Std. Deviation .785. The outcome indicated that there are political obstacles prevent or influence the implementation of e-government in educational institutions in Saudi Arabia perceived by faculty members and students.

Research Question 2: To what extent are current financial systems perceived as the obstacles to the implementation of e-government in educational institutions by faculty members and students?

This research question sought to find out those obstacles related to financial systems that prevent or influence the implementation of e-government in educational institutions. These statements were analyzed individually first and then as a group to answer the research question.

- Limited of financial spending on IT.

The mean score for the above statement was 4.07 with Std. Deviation 1.019. The majority of respondents (74.7%) fall between strongly agree or agree which indicated that limited of financial spending is considered one of those obstacles prevent the implementation of e-government in educational institutions.

- High cost of IT.

The mean score was 3.91 with Std. Deviation 1.038. The majority of respondents (69.9%) falls between strongly agree or agree which indicated that the high cost of IT is considered one of the obstacles to the implementation of e-government in educational institutions.

- High-priced services of telecommunications.

The mean score was 3.24 with Std. Deviation 1.201. The respondents don't have clear idea about the above statement. Thus, they are not sure regarding the high-priced of telecommunications as one of those obstacles prevent the implementation of e-government in educational institutions.

Generally, the limited of financial spending on IT represents (M=4.08) the major obstacle relating to the financial issues while high-priced services of telecommunications, is the least (M=3.24), which may not be considered as a real obstacle. The research question was answered depending on these three statements as a group. The mean score of financial obstacle was 3.75 with Std. Deviation .857. The outcome indicated that there are financial obstacles that prevent or influence the implementation of e-government in educational institutions.

Research Question 3: To what extent are current technological systems perceived as obstacles to the implementation of e-government in educational institutions by faculty members and students?

This research question sought to find those obstacles related to technological systems that prevent or influence the implementation of e-government in educational institutions. These statements were analyzed individually and then as a group to answer the research question.

- Inadequate software programs to implement e-government.

The mean score for the above statement was 3.60 with Std. Deviation 1.041. Over half of the respondents (52.3%) are between agree or strongly agree, which indicates that inadequate software programs to implement e-government is considered one of the obstacles to the implementation of e-government in educational institutions.

- Insufficient maintenance of e-devices.

The mean score was 2.86 with Std. Deviation 1.314. Over half of the respondents (52.7%) are between disagree or strongly disagree, which indicated that the above variable is not considered an obstacle to implementing e-government in educational institutions.

- Lack of e-signature option.

The mean score was 3.21 with Std. Deviation 1.268. However, there is no majority agreeing or disagreeing to this statement as one of the obstacles to the implementation of e-government in educational institutions. Respondents did not express their opinions clearly.

- Computer usage is not widely spread among people.

The mean score was 3.78 with Std. Deviation 1.105. The majority of respondents (67.3%) fall between strongly agree or agree which indicated the above statement is considered one of the obstacles to the implementation of e-government in educational institutions.

- Limited postal services.

The mean score was 3.39 with Std. Deviation 1.179. Over half of the respondents (53%) are between agree or strongly agree. Generally, they agree that limited postal service is one of the obstacles implementing e-government in educational institutions.

- Weak IT infrastructure.

The mean score was 3.74 with Std. Deviation 1.115. The majority of respondents (63.2%) fall between strongly agree or agree, which indicated that weak IT infrastructure is considered one of the obstacles to the implementation of e-government in educational institutions.

- Lack of e-payment option.

The mean score was 3.73 with Std. Deviation 1.173. The majority of respondents (64.3%) fall between strongly agree or agree, which indicated that the above statement is considered one of the obstacles to the implementation of e-government in educational institutions.

- Inadequate phone lines.

The mean score was 2.79 with Std. Deviation 1.295. Over half of the respondents (53.3%) are between disagree or strongly disagree to the above statement as

one of those obstacles preventing the implementation of e-government in educational institutions.

- Difficulties in keeping up with current technological advancements and rapid changes.

The mean score was 3.54 with Std. Deviation 1.206. The majority of respondents (60.5%) falls between strongly agree or agree to the above statement as one of the obstacles to the implementation of e-government in educational institutions.

- Insufficient network security.

The mean score was 3.65 with Std. Deviation 1.140. The majority of respondents (58.7%) falls between strongly agree or agree which indicated that insufficient network security is considered one of the obstacles to the implementation of e-government in educational institutions.

- Weakness of telecommunication infrastructure.

The mean score was 4.21 with Std. Deviation .959. The greatest number of respondents (82.7%) falls between strongly agree or agree, which indicated that the weakness of telecommunication infrastructure is considered one of the obstacles to the implementation of e-government in educational institutions.

Generally, the weakness of the telecommunication infrastructure represents (M=4.21) the major obstacle relating to the technological systems while phone lines (M=2.86) is the least. The variables have less than (3.5) they may not be considered real obstacles. The research question was answered by the eleven variables below as a group. The mean score of technological obstacle was 3.51 with Std. Deviation .685. The

outcome indicated that there are technological obstacles to the implementation of e-government in educational institutions perceived by faculty members and students.

Research Question 4: To what extent are current educational systems perceived as obstacles to the implementation of e-government in educational institutions by faculty members and students?

This research question sought to find those obstacles related to educational and training systems which prevent or influence the implementation of e-government in educational institutions. These statements were analyzed individually first and then as a group to answer the research question.

- Insufficient programs, seminars or workshops to train staff on e-government applications.

The mean score was 4.09 with Std. Deviation .947. The greatest number of respondents (81.1%) falls between strongly agree or agree, which indicates the above statement is considered one of the obstacles to the implementation of e-government in educational institutions.

- Weak educational systems.

The mean score was 4.14 with Std. Deviation .854. The majority of respondents (78.9%) falls between strongly agree or agree, which indicates that weak educational systems is considered one of the obstacles to the implementation of e-government in educational institutions.

- Formal educational curricula failure to the IT era demands.

The mean score was 3.98 with Std. Deviation .978. The majority of respondents (73.6%) falls between strongly agree or agree, which indicates that the above statement

is considered one of the obstacles to the implementation of e-government in educational institutions.

Generally, weak educational systems represent (M=4.14) the major obstacle relating to the educational systems while formal educational curricula failure to the IT era demands is the least (M=3.98). However, all items are considered as major obstacles. The research question was answered depending on these three statements as a group. The mean score of educational obstacle was 4.08 with Std. Deviation .736. The outcome indicated that there are educational obstacles that prevent or influence the implementation of e-government in educational institutions.

Research Question 5: To what extent are current organizational systems perceived as the obstacles to the implementation of e-government in educational institutions by faculty members and students?

This research question sought to find those obstacles related to organizational (management) systems which prevent or influence the implementation of e-government in educational institutions. These statements were analyzed individually and then as a group to answer the research question.

- Lack of programs to promote e-government benefits and advantages.

The mean score was 4.06 with Std. Deviation .908. The majority of respondents (74.7%) falls between strongly agree or agree, which indicated that the above statement is considered one of the obstacles to the implementation of e-government in educational institutions.

- Lack of cooperation between public and private sector in IT.

The mean score was 3.97 with Std. Deviation .942. The majority of respondents (70.8%) falls between strongly agree or agree, which indicated that lack of cooperation between public and private sector in IT is considered one of the obstacles to the implementation of e-government in educational institutions.

- Lack of advisory committees or task forces to implement e-government projects.

The mean score was 4.13 with Std. Deviation .921. The majority of respondents (77.5%) falls between strongly agree or agree which, indicated that above statement is considered one of the obstacles to the implementation of e-government in educational institutions.

- Complexity of current administrative procedures.

The mean score was 3.87 with Std. Deviation .951. The majority of respondents (66.9%) falls between strongly agree or agree, which indicated that the complexity of current administrative procedures is considered one of the obstacles to the implementation of e-government in educational institutions.

- Lack of support from upper management.

The mean score was 3.98 with Std. Deviation .963. The majority of respondents (67.9%) falls between strongly agree or agree, which indicates that the lack of support from upper management is considered one of the obstacles to the implementation of e-government in educational institutions.

- Lack of strategic planning.

The mean score was 4.15 with Std. Deviation .877. The majority of respondents (68.9%) falls between strongly agree or agree, which indicated that the lack of strategic planning is considered one of the obstacles to the implementation of e-government in educational institutions.

- Little collaboration among governmental agencies.

The mean score was 3.74 with Std. Deviation 1.091. The majority of respondents (64.2%) falls between strongly agree or agree, which indicates that above statement is considered one of the obstacles to the implementation of e-government in educational institutions.

- Weak current administrative systems.

The mean score was 3.93 with Std. Deviation .966. The majority of respondents (70.1%) fall between strongly agree or agree, which indicates that weak current administrative systems is considered one of the obstacles to the implementation of e-government in educational institutions.

- Lack of reengineering of procedures and operations.

The mean score was 4.11 with Std. Deviation .977. The majority of respondents (74.7%) falls between strongly agree or agree, which indicates that the above statement is considered one of the obstacles to the implementation of e-government in educational institutions.

- Lack of central authority at the country level for e-government applications.

The mean score was 3.80 with Std. Deviation .857. Over half of the respondents (58.8%) falls between agree or strongly agree to the above statement as one of those

obstacles prevent or influence the implementation of e-government in educational institutions.

- Lack of clear vision about e-government project.

The mean score was 4.14 with Std. Deviation .861. The greatest number of respondents (82.6%) falls between strongly agree or agree, which indicates the above statement is considered one of the obstacles to the implementation of e-government in educational institutions.

- Inadequacy of qualified personnel for e-government applications.

The mean score was 4.06 with Std. Deviation 1.059. The majority of respondents (76.5%) falls between strongly agree or agree, which indicates that the above statement is considered one of the obstacles to the implementation of e-government in educational institutions.

- Staff resistance to change

The mean score was 4.22 with Std. Deviation .956. The greatest number of respondents (84.4%) falls between strongly agree or agree, which indicates that staff resistance to change is considered one of the obstacles to the implementation of e-government in educational institutions.

Generally, staff resistance to change represents ($M=4.22$) the major obstacle relating to the organizational obstacles while little collaboration among governmental agencies is the least ($M=3.74$). However, all variables are considered as major obstacles relating to organizational issues. The research question was answered depending on these thirteen statements as a group. The mean score of organizational obstacle was 4.04

with Std. Deviation .635. The outcome indicated that there are organizational obstacles that prevent the implementation of e-government in educational institutions.

Research Question 6: To what extent are current social systems perceived as obstacles to the implementation of e-government in educational institutions by faculty members and students?

This research question sought to find those obstacles related to social systems that prevent or influence the implementation of e-government in educational institutions. These statements were analyzed individually and then as a group to answer the research question.

- Lack of society's awareness about e-government advantages and benefits.

The mean score was 3.52 with Std. Deviation 1.286. Over half of the respondents (58.3%) are between agree or strongly agree to this above statement as one of the obstacles to the implementation of e-government in educational institutions.

- Fear of new technology

The mean score was 2.77 with Std. Deviation 1.310. Over half of the respondents (53.2%) are between disagree or strongly disagree, which indicated that fear of new technology is not considered one of the obstacles to the implementation of e-government in educational institutions.

- Low levels of literacy among citizens

The mean score was 3.97 with Std. Deviation 1.060. The majority of respondents (78.9%) fall between strongly agree or agree, which indicates that low levels of literacy among citizens is considered one of those obstacles that prevent or influence the implementation of e-government in educational institutions.

- Lack of trust in e-dealings

The mean score was 3.24 with Std. Deviation 1.292. No clear conclusion can be derived from the respondents' perceptions to the above statement as one of the obstacles to the implementation of e-government in educational institutions.

- Technology usage conflicts with cultural habits

The mean score was 3.59 with Std. Deviation 1.172. The majority of respondents (63.3%) fall between strongly agree or agree, which indicates that the above statement is considered one of the obstacles to the implementation of e-government in educational institutions.

- Lack of computer literacy among citizens

The mean score was 3.62 with Std. Deviation 1.156. The majority of respondents (64.8%) falls between strongly agree or agree, which indicates that the lack of computer literacy among citizens is considered one of the obstacles to the implementation of e-government in educational institutions.

- Fear of change

The mean score was 2.87 with Std. Deviation 1.397. About (37.5%) of respondents are between agree or strongly agree, but (47.7%) are disagree or strongly disagree. In fact, no clear conclusion can be obtained about the above statement as one of those obstacles preventing or influencing e-government implementation in educational institutions.

- Technology usage conflicts with religious tenets

The mean score was 3.47 with Std. Deviation 1.221. The majority of respondents (60.1%) falls between strongly agree or agree, which indicates that the above statement is

considered one of the obstacles to the implementation of e-government in educational institutions.

- Lack of Internet access among various sections of population

The mean score was 3.90 with Std. Deviation 1.009. The majority of respondents (76.2%) falls between strongly agree or agree, which indicates that lack of Internet access among various sections of population is considered one of those obstacles that prevent or influence the implementation of e-government in educational institutions.

- Lack of necessary skills for e-government applications

The mean score was 3.67 with Std. Deviation 1.266. The majority of respondents (66.4%) falls between strongly agree or agree, which indicated that the above statement is considered one of the obstacles to the implementation of e-government in educational institutions.

- Dependence of Internet usage on the English language

The mean score was 3.73 with Std. Deviation 1.151. The majority of respondents (65.4%) falls between strongly agree or agree, which indicates that the above statement is considered one of the obstacles preventing or influencing the implementation of e-government in educational institutions.

- Low level of citizen income

The mean score was 3.51 with Std. Deviation 1.116. Over half of the respondents (57.3%) are between agree or strongly agree that a low level of citizen income is considered one of the obstacles that prevent or influence the implementation of e-government in educational institutions.

- Uncertainties about the benefits of the new technology usage

The mean score was 4.10 with Std. Deviation 1.074. The majority of respondents (78.9%) fall between strongly agree or agree, which indicates the above statement is considered one of the obstacles to the implementation of e-government in educational institutions.

Generally, the uncertainty about the benefits of the new technology usage, represents (M=4.10) the major obstacle relating to the social systems while fear of new technology (M=2.77) is the least. The research question was answered depending on these thirteen statements as a group. The mean score of social obstacle was 3.53 with Std. Deviation .706. The outcome indicated that there are social obstacles prevent or influence the implementation of e-government in educational institutions.

5.2 Comparison of Obstacles and Challenges

The result of this study showed that the biggest challenge facing educational institutions in Saudi Arabia is in fact the educational obstacle and then the lowest is the technological obstacle compared to other factors. The obstacles ranked below from the highest to the lowest mean as follows. Educational obstacle (M= 4.08), organizational obstacle (M= 4.04), political obstacle (M=3.99), financial obstacle (M=3.75), social obstacle (M=3.53), and technological obstacle (M=3.51). However, all factors are important, but the educational obstacle represents the most important factor followed by the organizational obstacle while the technological obstacle is the least. Educational institutions specifically face the following obstacles ranked from highest to lowest: staff resistance to change, weakness of telecommunication infrastructure, lack of reengineering of procedures and operations, lack of appropriate laws for e-usage, lack of strategic

planning, no clear vision about e-government project, weak educational systems, lack of advisory committees or task forces to implement e-government projects, uncertainties about the benefits of the new technology usage, insufficient programs, seminars or workshops to train staff on e-government applications, limited financial spending on IT, complexity of current administrative procedures, lack of programs to promote e-government benefits and advantages, inadequacy of qualified personnel for e-government applications, formal educational curricula failure to the IT era demands, lack of support from upper management, lack of cooperation between public and private sector in IT, low levels of literacy among citizens, inadequate individual legal rights, weak current administrative systems, high cost of IT, lack of Internet access among various sections of population, lack of political leadership support, no central authority at the country level for e-government applications, computer usage is not widely spread among people, little collaboration among governmental agencies, weak IT infrastructure, no e-payment option, dependence of the Internet usage on the English language, lack of necessary skills for e-government applications, insufficient network security, lack of computer literacy among citizens, inadequate software programs to implement e-government, technology usage conflicts with cultural habits, difficulties in keeping up with current technological advancements and rapid changes, lack of society's awareness about e-government advantages and benefits, and low level of citizen income.

5.3 Testing for the Equality of Groups Means

The t-test for independent samples or one way (ANOVA) employed to compare the mean scores of the different groups (faculty members and students, males and females, different groups from Institutions, and different academic major groups) to see if

there are differences among the perceptions of participants toward obstacles that prevent the implementation of e-government in educational institutions regarding political, educational, financial, technological, organizational and social obstacles.

Research Question 7: What differences are there between groups (faculty members and students, males and females, different groups from institutions, and different academic major groups) in their responses?

A t-test did not reveal significant differences in students and faculty members with respect to their total scores on responses related to political, educational, financial, technological, organizational, and social obstacles. Also, ANOVA did not reveal significant differences in males and females with respect to their total scores on responses related to political, educational, financial, technological, organizational, and social obstacles. Furthermore, a t-test did not reveal significant differences in participants from different institutions with respect to their total scores on responses related to political, educational, financial, technological, organizational, and social obstacles. A t-test did not reveal significant differences in participants from different academic majors with respect to their total scores on responses related to political, educational, technological, organizational, and social obstacles.

However, a t-test revealed significant differences in participants from different academic majors with respect to their total scores on responses related to financial obstacles ($t=2.34$, $df=325$, $p=0.02$). Public administration ($M=3.90$, $SD=.846$) and computer ($M=3.68$, $SD=.847$). Respondents specialized in public administration major are more concerned about financial obstacles than others.

5.4 Additional Obstacles

Research Question 8: Are there any additional obstacles or challenges to implementing e-government in educational institutions as perceived by faculty members and students?

Some faculty members and students mentioned some obstacles preventing the implementation of e-government, but most of the added obstacles were already mentioned in the questionnaire or very closely related to the obstacles that were stated in the survey. Consequently, those obstacles already listed in the questionnaire have been excluded. Please refer to Table 4.81 to see the new obstacles that were added by participants and their frequency.

5.5 Discussion and Conclusions

This study shows that (96%) of faculty members have computers with (93.9%) of the same having Internet service in their offices. This is considered a positive result in a developing country such as Saudi Arabia since the recentness of new technology applications is in the infancy phase. This indicates that educational institutions have plans to implement e-government. Furthermore, the study shows that nearly (89.9%) of participants (faculty members and students) have easy accesses to the Internet. These results may clarify and support the other results of this study which show that the technological obstacle is the least, comparing it to the other obstacles. Also, the study shows that (96.3%) of participants prefer putting e-government in place. This result indicates that the majority of respondents desire to apply e-government despite the fact that the concept of e-government is still in its early stages in Saudi Arabia. In fact, this result supports the final findings which reveal that the social obstacle is before the least one. These positive attitudes of all participants may be due to the participants'

recognition of e-government benefits, especially those who are from the IPA, since it is one of those governmental organizations adopting e-government applications, such as online admission and other e-services. This most likely affected respondent perceptions because they have already seen e-government advantages and benefits.

The study shows that there are some obstacles and challenges preventing or influencing e-government implementation in educational institutions. They are educational, organizational, political, financial, social, and technological obstacles, ranked from highest to lowest. Furthermore, this study shows, that educational institutions specifically face the following obstacles, ranked also from highest to lowest: staff resistance to change, weakness of telecommunication infrastructure, lack of reengineering of procedures and operations, lack of appropriate laws for e-usage, lack of strategic planning, lack of clear vision about e-government projects, weak educational systems, lack of advisory committees or task forces to implement e-government projects, uncertainties about the benefits of the new technology usage, insufficient programs, seminars or workshops to train staff on e-government applications, limited financial spending on IT, complexity of current administrative procedures, lack of programs to promote e-government benefits and advantages, inadequacy of qualified personnel for e-government applications, formal educational curricula failure to respond to the IT era demands, lack of support from upper management, lack of cooperation between public and private sector in IT, low levels of literacy among citizens, inadequate individual legal rights, weak current administrative systems, high cost of IT, lack of Internet access among various sections of population, lack of political leadership support, lack of central authority at the country level for e-government applications, a low level of computer

usage among the people, little collaboration among governmental agencies, weak IT infrastructure, lack of e-payment option, dependence of the Internet usage on the English language, lack of necessary skills for e-government applications, insufficient network security, lack of computer literacy among citizens, inadequate software programs for e-government applications, technology usage conflicts with cultural habits, difficulties in keeping up with current technological advancements and rapid changes, lack of society's awareness about e-government advantages and benefits, and low level of citizen income.

The results of this study show that there were no statistically significant differences between students and faculty members, males and females, and different groups from different institutions regarding all obstacles. Also, a t-test did not reveal significant differences in participants from different academic majors with respect to their total scores on responses related to political, organizational, educational, social, and technological obstacles. However, one noteworthy difference was found among respondents from different academic majors (public administration and computer) regarding financial obstacles.

The results show that the major obstacles that face educational institutions are educational and organizational obstacles rather than technological issues. The results also show that educational institutions face important issues such as staff resistance to change, complexity of current procedures, lack of support from upper management, and weak current administrative systems. These results are supported by many various studies. Hornby (1992) and Clegg (1997) stated that one cause of failure is ignoring the administrative and human aspects during development programs. Also, Long (1987) pointed out that (10%) of project failure occurs because of technical reasons, but (90%)

occurs due to management and human influence. Feng (2003) pointed out that the difficulties connected with new technology application were not primarily technical, but human and organizational issues. Also, he stated that the main barriers to the implementation of e-government are not technical, but the cultural implications of new technologies (p.50-51). Also, it supported the Feng (2003) study, which revealed that one of the main obstacles toward maximizing the potential offered by e-government was the need for change in individual attitudes and organizational culture (p. 59). Also, this result is supported Abu Mgiyed's (2004) study which revealed that public institutions face a lack of administrative aspects because they are not currently matched with e-government demands. The results also show that lack of strategic planning is considered a real barrier. This agrees with some previous studies which found that governmental organizations face troubles in administrative aspects such as strategic planning (Al-Aizam, 2001, & Al-Awalemh, 2002). These results also support Shouaeeb's (1997) study which revealed that there are some administrative obstacles facing government agencies regarding technology usage such as lack of future planning, central authority, and unsupported upper management.

The results of this study show that educational institutions face obstacles such as weak educational systems, formal educational curricula failure to respond to the IT era demands, limited financial spending on IT, lack of computer literacy among citizens, lack of Internet access among various sections of the population and Internet usage dependence on the English language. These results confirm other findings showing that a lack of financial resources, living in remote areas, disabilities, and lack of education and language skills are among the main reasons for people being unable to get involved in

technology usage (UNPAN, 2004). Also, the study shows that programs, seminars or workshops are not insufficient to train staff on e-government applications and inadequacy of qualified personnel for e-government applications. This result supports the Alharbi (1999) study which revealed that there are obstacles regarding personnel because of the lack of training and motivation. The literature indicates that lack of education is the most serious barrier to further expansion of e-government and ICTs for development initiatives (UNPAN, 2004).

Furthermore, the result shows that limited financial spending on IT represents an important issue as well as the high cost of IT and the low level of citizen income. This result coincided with some literature revealing that the cost of technology requirements and the cost of training are always seen as a major barrier inhibiting agencies from using IT. Also, literature indicates that the most serious and significant barrier to the implementation of e-government is a lack of money because e-government implementation is an expensive project. The results support various studies indicating that lack of financial resources is seen as an obstacle to e-government implementation by 57.1% of city and county governments (ICMA, 2002). Another study revealed 70% of respondents citing funding as the greatest obstacle to moving county government services to the Internet (NACO, 2000), especially when those projects require large sums of money. Moreover, it supported Feng's (2003) result, which states that a major obstacle to e-government is the lack of finance for capital investment in new technology (p, 59). Teeter & Hart (2003) conducted a study showing that 44% of senior government employees considered lack of financial resources the main barrier (2003, p. 24). The results also support the Carvin et al., (2004) study, which states that the dilemma of

funding often remains the most significant barrier to e-government implementation, even when a government entity has a plan for effective and accessible e-government (p. 9). Furthermore, this study agrees with the Goings, Young, & Hendry (2003) study, which identified funding and staffing as the greatest obstacles (70% and 60% agreement respectively) to e-government implementation. The findings of this study support the Moon (2002) study, which reveals that the lack of technical, personnel, and financial capacities are seen as significant obstacles to the development of e-government in many municipalities (p. 431). Despite these studies showing that the financial issue is a major obstacle in order to spread e-application, it may not be a big issue in Saudi Arabia since the country is rich and it allocates a big budget for technological application.

The study shows that lack of appropriate laws for e-usage and inadequate individual legal rights face educational institutions. This result supports Alshareef's (2003) study, which revealed that governmental organizations face a lack of legislation and laws regarding IT applications. In addition, the results support the OECD (2003) study which identifies four main obstacles to the implementation of e-government including legislation and regulation, budget, technical and digital barriers. Also, it supports the Abu Mgayid (2004) study, which revealed that a lack of laws and legislation are considered one of e-government's implementation obstacles. In fact, this is really significant problem since most laws are old and not suited to e-government applications. The findings show that educational institutions face a lack of society's awareness about e-government advantages and uncertainties about the benefits of the new technology usage. This result supports studies conducted by Alshareef (2003) and Abu Mqayeh (2004), which revealed that a lack of society's awareness about e-government is a critical

difficulty. Also, Al-Zumaia (2001) pointed out that a lack of knowledge and experience with technology is a potential barrier that is especially relevant to Saudi Arabia.

Also, the study shows that educational institutions face a weakness in the telecommunication infrastructure as well as weakness of IT infrastructure. This result coincides with studies conducted by Alharbi (1999); Alshareef (2003) and Shweab (1997), which revealed that there are some technical and technological obstacles preventing new technology applications in organizational agencies. Furthermore, the literatures indicate that the lack of infrastructure is the most serious barrier to further expansion of e-government and ICTs for development initiatives (UNPAN, 2004).

5.6 Recommendations for Practice

Simply adding computers or modems will not improve e-government development. Educational institutions should have a comprehensive plan to utilize e-government applications to better serve citizens, including all factors and aspects such as organizational, educational, financial, legislative, technological, social and environmental factors in order for e-government projects to succeed. Therefore, the transformation to e-government application must be primed with comprehensive strategic planning. However, the results of this study show the main obstacles facing the implementation of e-government in educational institutions are educational and organizational issues. Thus, it is more important to focus on these two major barriers which may lead to other factors. Educational issues may lead to the most of the other problems, especially organizational and social issues, since knowledge of e-government applications is still frequently absent from many higher and public education platforms. Therefore, it is recommended that improvement and development of the educational systems must accompany the

advancement occurring around the world. The possible applications of e-government should be gradually incorporated into the national curricula, from primary school to higher education. In addition, experts of curricula should integrate new technology applications and the culture of technology into public education strategies. Furthermore, educational systems should develop essential skills to enable users to take advantage of new ICTs, including the English language and training in technology usage. Moreover, government needs to educate the upcoming ranks of government leaders, managers and administrators in planning and managing ICTs and effective delivery of public information and services (UNPAN, 2004). Also, culture is an important factor in the adoption of a new technology (Bagchi & Cerveny, 2000) because the development of e-government requires fundamental changes in organizational behavior and culture (Feng, 2003) since culture is the primary driver of strategic organizational change (DeLisi, 1990). The results of this study showed that staff resistance to change is a major issue. In fact, the speed and quality of e-government implementation depends on the level of resistance to change and the level of official involvement in setting policies and practices (Roadmap for E-G, 2002). Government officials without administrative knowledge, understanding of a technology's features, and the type of work it can do, feel threatened and fear losing their jobs, while remaining wedded to existing policies and methods (Cohen & Emicke, 2002). The first step in addressing the issue of resistance to change is to understand the reasons behind it, thus, identifying the most likely sources of it, and devising a plan to overcome the resistance and dry up its sources (ESCWA, 2003). Thus, all workers in government need to be taught about new technology and trained in how to use it. They also need to know clearly what is expected in order to handle the changes

(Cohen & Emicke, 2002, & Hawick V, 2002). Resistance to change can be decreased by actively marketing plans, explaining why serious change is required and what benefits it will bring as well as integrating staff input into the initiative and including it decision making (Rogers, 1995). This can decrease resistance in direct proportion to the degree in which these factors are involved, and may also further increase commitment to change (Rue, Leslie, Byars & Lloyd 1983, & PSU, 2000). In fact, improving working relationships and cooperation among governmental agencies and departments is essential to success in e-government application (Hackney & Jones, 2002 & Akbulut, 2002). Since most laws are old and not suitable for e-government applications, legislator should enact laws and regulations regarding e-dealings. In addition, operations and procedures in educational institutions need to be reorganized as a part of e-government development programs.

Universities should take an active role in educating people in regard of e-government implementation, so they should offer workshops, training programs, seminars and conferences to raise social awareness of e-government development projects. Initially, educational institutions should execute a massive campaign to raise and promote awareness of e-government services and other new e-services, as well as benefits and advantages of e-government applications. Moreover, educational institutions need to establish teams in each institution to be in charge of e-government applications, and give them vital authority. The IPA should play an active role in training governmental employees on e-government applications, offer consultations, and perform research in this regard as well. Decision makers in educational institutions should identify and allocate enough funding for e-government development projects.

5.7 Future recommendations

The outcome of this research indicates that it is important to conduct deep research into obstacles facing e-government implementation. Since this research was limited to students and faculty members in three educational institutions in Riyadh , future studies might be conducted with a mixed method (a combination of qualitative and quantitative methods) with more participants from different groups such as students, instructors, staff, administrators and technicians in order to bring more diversity in terms of affiliations and experiences. In addition, it is recommended to focus on organizational and educational barriers since most of this study's participants emphasized its importance in their responses to surveys questions. More research is needed to better understand the relationship among different factors. Also, comparative research should be done between obstacles and personal characteristics.

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APPENDIX A

Faculty Members Survey

Dear/ Faculty Member,

I am a doctoral student in the Educational Theory and Practice Department at West Virginia University. As part of my doctoral program, I am conducting a study on perceptions of faculty and students toward the obstacles of implementing electronic government in educational institutions in Saudi Arabia.

Your response is important in assessing e-government obstacles in educational institutions. I recognize that there are many demands on your time. It is my hope that this research will provide useful and meaningful results that can be helpful in meeting today's challenges of e-government in educational institutions. I would greatly appreciate it if you would take just a few minutes of your time to complete the questionnaire. Please follow the instructions, and make sure that you do not write your name anywhere on the survey.

I would like to let you know that your participation in this survey is completely voluntary, and that you don't have to respond to every item. The information that I collect during the study will only be used to fulfill the dissertation requirements, and all responses provided on this survey will remain confidential.

If you have any questions or concerns about this questionnaire or the study, please do not hesitate to contact me at my phone number (304)692-9293, or through my email address at salharbi@mix.wvu.edu.

Thank you very much in advance for taking the time to answer the questions in this survey.

Sincerely,
Salah Alharbi

Part III: Perceived Obstacles to E-government Implementations

Please read each statement carefully, and check (√) the response that best expresses your perception about e-government obstacles as explained in the following statements. Please, if you do not know you should check "neutral".

1= strongly disagree: if you strongly disagree that the statement is considered an obstacle of e-government.

2= disagree: if you disagree that the statement is considered an obstacle of e-government.

3= neutral: if you don't agree or disagree about that the statement.

4= agree: if you agree that the statement is considered an obstacle of e-government.

5= strongly agree: if you strongly agree that the statement is considered an obstacle of e-government.

	Obstacles	1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree
A	Are the following items considered political (legislative and regulatory) obstacles to the implementation of e-government in educational institutions?					
1	Inadequate individual legal rights					
2	Lack of political leadership support					
3	Lack of appropriate laws for e-usage					
B	Are the following items considered educational and training obstacles to the implementation of e-government in educational institutions?					
4	Insufficient programs, seminars or workshops to train staff on e-government applications					
5	Weak educational systems					
6	Formal educational curricula failure to respond to the of the IT era demands					
C	Are the following items considered financial obstacles to the implementation of e-government in educational institutions?					
7	Limited of financial spending on IT					
8	High of IT					
9	High-priced services of telecommunications					

Obstacles		1	Strongly Disagree	2	Disagree	3	Neutral	4	Agree	5	Strongly Agree
D	Are the following items considered technological (infrastructure) obstacles to the implementation of e-government in educational institutions?										
10	Inadequate software programs to implement e-government										
11	Insufficient maintenance of e-devices										
12	Lack of e-signature option										
13	Computer usage is not widely spread among people										
14	Limited postal services										
15	Weak IT infrastructure										
16	Lack of e-payment option										
17	Inadequate phone lines										
18	Difficulties in keeping up with current technological advancements and rapid changes										
19	Insufficient network security										
20	Weakness of telecommunication infrastructure										
E	Are the following items considered organizational obstacles to the implementation of e-government in educational institutions?										
21	Lack of programs to promote e-government benefits and advantages										
22	Lack of cooperation between public and private sector in IT										
23	Lack of advisory committees or task forces to implement e-government projects										
24	Complexity of current administrative procedures										
25	Lack of support from upper management										
26	Lack of strategic planning										
27	Little collaboration among governmental agencies										
28	Weak current administrative systems										
29	Lack of reengineering of procedures and operations										
30	Lack of central authority at the country level for e-government applications										
31	Lack of clear vision about e-government project										
32	Inadequacy of qualified personnel for e-government applications										
33	Staff resistance to change										

	Obstacles	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
		1	2	3	4	5
F	Are the following items considered social obstacles to the implementation of e-government in educational institutions?					
34	Lack of society's awareness about e-government advantages and benefits					
35	Fear of new technology					
36	Low levels of literacy among citizens					
37	Lack of trust in e-dealings					
38	Technology usage conflicts with cultural habits					
39	Lack of computer literacy among citizens					
40	Fear of change					
41	Technology usage conflicts with religious tenets					
42	Lack of Internet access among various sections of population					
43	Lack of necessary skills for e-government applications					
44	Dependence of Internet usage on the English language					
45	Low level of citizen income					
46	Uncertainties about the benefits of the use of new technology					
	Part IV: Additional Obstacles Please list any other items that you do/did consider to be an obstacle to implement e-government that was not mentioned in the above statements.					
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THANK YOU!!

APPENDIX B

Students Survey

Dear/ Student,

I am a doctoral student at Educational Theory and Practice Department at West Virginia University. As part of my doctoral program, I am conducting a study on perceptions of faculty and students toward obstacles to implement electronic government in educational institutions in Saudi Arabia.

You are invited to participate in this survey because you are one of the few individuals who have knowledge about this particular topic, so your response is important in assessing e-government obstacles in educational institutions. I recognize that there are many demands on your time. It is my hope that this research will provide useful and meaningful results that can be helpful in meeting today's challenges of e-government in educational institutions. I would greatly appreciate it if you would take just a few minutes of your time to complete the questionnaire. Please follow the instructions, but make sure that you do not write your name anywhere on the survey.

I would like to let you know that your participation in this survey is completely voluntary, and you don't have to respond to every item. Your academic status will not be affected if you choose not to participate. The information that I collect during the study will only be used to fulfill the dissertation requirements, and all responses provided on this survey will remain confidential.

If you have any questions or concerns about this questionnaire or the study, please do not hesitate to contact me at my phone (304)692-9293, or through my email address at salharbi@mix.wvu.edu.

Thank you very much in advance for taking the time to answer the questions in the survey.

Sincerely,
Salah Alharbi

Students' Questionnaire

Part I: Personal Information: please place a check (√) in the appropriate box that describes you.

1. Gender: Male Female

2. Age:

Less than 20 20-25 26-30 31-35 36-40 41- Above

3. Education Level: Diploma's degree Bachelor's degree Master's degree

4. Academic Major: Public administration Computer

5. Institution: IPA KSU IMBSIU

6. Length of Technological Experience:

Less than 5 5-10 11-15 16-20 21- and more

7. Monthly Income: Less than SR 1,000 1,001-2,000 SR

2,001-3,000 SR 3,001-4,000 RS 4,001 SR or more

Part II: Please check yes or no depends on your condition

Yes No

8. Would you prefer to put e-government in place?

9. Do you have knowledge about e-government?

10. Do you have a personal computer at home?

11. Do you have Internet services at home?

12. Do you have easy access to the Internet?

Part III: Perceived Obstacles to E-government Implementations

Please read each statement carefully, and check (√) the response that best expresses your perception about e-government obstacles as explained in the following statements. Please, if you do not know you should check "neutral".

1= strongly disagree: if you strongly disagree that the statement is considered an obstacle of e-government.

2= disagree: if you disagree that the statement is considered an obstacle of e-government.

3= neutral: if you don't agree or disagree about that statement.

4= agree: if you agree that the statement is considered an obstacle of e-government.

5= strongly agree: if you strongly agree that the statement is considered an obstacle of e-government.

	Obstacles	1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree
A	Are the following items considered political (legislative and regulatory) obstacles to the implementation of e-government in educational institutions?					
1	Inadequate individual legal rights					
2	Lack of political leadership support					
3	Lack of appropriate laws for electronic usage					
B	Are the following items considered educational and training obstacles to the implementation of e-government in educational institutions?					
4	Insufficient programs, seminars or workshops to train staff on e-government applications					
5	Weak educational systems					
6	Formal educational curricula failure to respond to the of the IT era demands					
C	Are the following items considered financial obstacles to the implementation of e-government in educational institutions?					
7	Limited of financial spending on IT					
8	High of IT					
9	High-priced services of telecommunications					

Obstacles		1 Strongly Disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree
D	Are the following items considered technological (infrastructure) obstacles to the implementation of e-government in educational institutions?					
10	Inadequate software programs to implement e-government					
11	Insufficient maintenance of e-devices					
12	Lack of e-signature option					
13	Computer usage is not widely spread among people					
14	Limited postal services					
15	Weak IT infrastructure					
16	Lack of e-payment option					
17	Inadequate phone lines					
18	Difficulties in keeping up with current technological advancements and rapid changes					
19	Insufficient network security					
20	Weakness of telecommunication infrastructure					
E	Are the following items considered organizational obstacles to the implementation of e-government in educational institutions?					
21	Lack of programs to promote e-government benefits and advantages					
22	Lack of cooperation between public and private sector in IT					
23	Lack of advisory committees or task forces to implement e-government projects					
24	Complexity of current administrative procedures					
25	Lack of support from upper management					
26	Lack of strategic planning					
27	Little collaboration among governmental agencies					
28	Weak current administrative systems					
29	Lack of reengineering of procedures and operations					
30	Lack of central authority at the country level for e-government applications					
31	Lack of clear vision about e-government project					
32	Inadequacy of qualified personnel for e-government applications					
33	Staff resistance to change					

	Obstacles	Strongly Disagree				
		1	2	3	4	5
		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
F	Are the following items considered social obstacles to the implementation of e-government in educational institutions?					
34	Lack of society's awareness about e-government advantages and benefits					
35	Fear of new technology					
36	Low levels of literacy among citizens					
37	Lack of trust in e-dealings					
38	Technology usage conflicts with cultural habits					
39	Lack of computer literacy among citizens					
40	Fear of change					
41	Technology usage conflicts with religious tenets					
42	Lack of Internet access among various sections of population					
43	Lack of necessary skills for e-government applications					
44	Dependence of Internet usage on the English language					
45	Low level of citizen income					
46	Uncertainties about the benefits of the use of new technology					
	Part IV: Additional Obstacles Please list any other items that you do/did consider to be an obstacle to implement e-government that was not mentioned in the above statements.					
1						
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THANK YOU!!