OBSTACLES TO APPLYING E-MANAGEMENT IN LIBYA

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OBSTACLES TO APPLYING E-MANAGEMENT IN LIBYA

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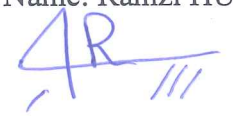
Signature: 

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ABSTRACT

Obstacles to Applying E-Management in Libya

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E-management can eliminate the obstacles faced by traditional management by the use of information and communication technologies (ICT). ICT is widely used by government, public and private institutions in order to facilitate the life of people. The current study uses a survey research method in order to obtain opinions of the participants on obstacles of applying e-management in Libya. An online survey was presented to 120 participants to get self-reported quantitative data. Descriptive statistics were used to evaluate the perceptions of the participants on the obstacles of e-management. The overall driver assessment shows that e-management project in Libya is possible to fail at current time. The mean of responses on the strategy assessment is 3.18, suggesting that there is not enough strategy to apply this assessment at current time. The overall management assessment showed that the mean value was 3.34, which is less than 5. This result was expected due to the lack of successful management in governmental institutions. The analysis of the design assessment showed that it was close to the failure. In spite of the overall competencies assessment, the existence of one factor seems to succeed where it has a mean value of 5.28. This factor is the education of information and communication technology by system managers, developers, operators and users. The overall assessment of this section has a mean value of 4.81. The overall technology assessment has a mean value of 3.61, which is less than 5 and indicate that the technology assessment would fail if applied at current time. The final assessment of our study is the other assessments which have a mean value less than 5.

This assessment has a one statement in which mean value of the assessment is greater than 5. This statement is about perseverance by implementers where the mean value of responses is 5.02.

Keywords: E-management, ICT, E-government, E-administration.

ÖZ

Libya'da E-Yönetim Uygulanmasının Önündeki Engeller

HUSSIN, Ramzi
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E-Yönetim bilgi ve iletişim teknolojilerinin (BİT) kullanılması vasıtasıyla geleneksel yönetimin uygulanması sırasında karşılaşılan engelleri ortadan kaldırabilir. BİT insanların yaşamını kolaylaştırmak için hükümet, kamu ve özel kuruluşlar tarafından yaygın olarak kullanılmaktadır. Mevcut çalışmada katılımcıların Libya'da e-yönetim uygulanmasının önündeki engeller hakkındaki fikirlerini almak için anket araştırması yöntemi kullanılmıştır. Katılımcılardan elde edilen nicel verilerin toplanması amacıyla 120 katılımcıya çevrimiçi anket sunulmuştur. Katılımcıların e-yönetimin zorluklarına ilişkin algılarını değerlendirmek için tanımlayıcı istatistikler kullanılmıştır. Genel değerlendirme Libya'daki e-yönetim projesinin şu an için başarısız olabileceğini göstermektedir. Strateji değerlendirmesine verilen cevapların ortalaması 3.18 olup, bu sonuç değerlendirmenin şu anda uygulamak için yeterli strateji olmadığını göstermektedir. Genel yönetim değerlendirmesi ortalama değerin 3.34 olduğunu yani bu değerin 5'ten düşük olduğunu göstermiştir. Bu sonuç devlet kurumlarında başarılı yönetimin olmayışı nedeniyle beklenmektedir. Tasarım değerlendirmesinin analizi de başarısızlığa yakın olunduğunu göstermiştir. Genel yeterlilik değerlendirmesine rağmen, 5.28 ortalama değere sahip olan bir faktörün varlığı başarılı olduğu görünmektedir. Bu faktör sistem yöneticileri, geliştiriciler, operatörler ve kullanıcılar tarafından alınan bilgi ve iletişim teknolojileri eğitimidir.

Bu bölümün genel değerlendirmesi 4.81'lik bir ortalama değere sahiptir. Genel teknoloji değerlendirmesi 3.61 ortalama değere sahip olup, bu değer 5'ten düşüktür ve teknoloji değerlendirmesinin şuanda uygulanması durumunda başarısız olacağını göstermektedir. Çalışmamızın son değerlendirmesi, ortalama değeri 5'ten küçük olan diğer değerlendirmelerdir. Bu değerlendirmede ortalama değerin 5'ten büyük olduğu yalnızca bir ifadeye sahiptir. Bu ifade uygulayıcıların azmine ilişkin bir ifade olup, verilen cevapların ortalama değeri 5.02'dir.

Anahtar Sözcükler: E-yönetim, BİT, E-devlet, E-idare.

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CHAPTER ONE

INTRODUCTION

In the digital world, electronic management is considered an important result of information technology. Systems, tools, hardware and software are examples of internet techniques on internet and in the new knowledge economy. Electronic techniques with less than one decade are still in the continuous development phase. Nevertheless, their effect on composition and functions of electronic management are huge and comprehensive because they completely changed each of theoretical and practical theories of electronic management through the systems, tools and new models in the creation of fortune and achieve the added value.

The electronic management term is always used as an alternative to each of electronic business and electronic commerce and other similar concepts and activities in the digital world [1]:-

- Electronic business age is less than one decade where it is introduced by IBM in 1997 through its effort to distinguish between the automatic electronic activities and electronic business activities. Electronic business is regarded as comprehensive and flexible framework to distribute the value of functions by connecting system with operations and implement the basic activities of business [1].

- Electronic management is considered as the concept, system and functional composition which completely depend in its operation on internet network to achieve predetermined goals.

In the highlight of expanding the internet and information technology systems, there are three changes appeared in the technology modes through the past years including:

- The quantitative development in information technology in terms of data size and transmission speed.
- Communication and continuous of computerization.
- The wide use of digital information and multimedia that led to the emergence of virtual reality and multi-dimensional information.

It is well known that knowledge management emerged at the mid-1990s and includes basically a broad concept of the theories and practices in organizational fields in addition to the management and information technology sciences with a mix between the needs and requirements of this era in order to raise performance and efficiency in business and human resources and to create advantages of competitiveness. Therefore, its essence lies in the continuous processes of technical developments and work evaluations and the possibility of employing them technically to accomplish business, thereby saving time, effort and money; guaranteeing a strategy that leads to results, and realizing latest technical developments to implement or apply them easily and simply. In this context, a United Nations report [2] about the development of the knowledge society stated that the ability to reap the benefits from the information and knowledge revolution and the creativity of the communication and information technology lies in the ability to follow policies and strategies in order to create environments to reach a level of civilizational and social progress. Moreover, this ability lies in the provision of information, data distribution with the help of information technology and the application of the initiatives of e-management. These are considered to be the initial steps to achieve the knowledge society [2].

Generally, it can be said that information and communication technologies (ICTs) change work styles of administration. E-management is a change from traditional work to informational applications, including computer networks in order to connect organizational units with each other to facilitate information and data acquisition to aid decision making and to provide services to the beneficiaries at minimal cost in the timeliest manner. More precisely, e-management is a comprehensive digital system which aims to transfer traditional administrational work to the electronic world by depending on strong informational systems. This results in many benefits, such as speed in accomplishing tasks and help in decision making by means of the

permanent provision of information at the hands of decision makers. Moreover, it leads to reductions in administrative costs, an increase in performance and it transcends any geographical and time barriers. More precisely, electronic management can lead to reforms in administrative work in society, the development of work procedures, keeping pace with developments in addition to overcoming any daily work problems with the existing information infrastructure that is strong and mutually compatible, as clarified previously [3].

1.1 Problem of the Study

The Libyan Government spends time, effort and money on supporting ministries and governmental institutions with physical equipment and training employees. In addition, it endeavors to establish policies and plans to distribute electronic management among different administrative levels. However, the Libyan Government faces many challenges, including [4]:

- Failure to update large databases and health facilities especially in the light of the rapid developments which occur in Libyan institutions in all fields;
- The lack of hardware used for their databases;
- Employees' lack of efficiency in using computer programs such as MS Excel, SPSS and MS Access;
- The lack of the trained staff in the field of information technology; and
- The lack of the potential resources to finance these projects.

1.2 Significance of the Study

The significance of the current study is outlined below. First of all, there is paucity of research pertaining to e-management in Libyan institutions. There is a need to identify any obstacles during application of e-management. The potential benefits for managers of institutions to employ the best approaches to apply e-management in their institutions and departments should be also considered. The results of this study including lessons learned may contribute other studies which as planning to apply e-management in Libya. Moreover, there is a possibility of assisting researchers in

the field of information technology and e-management in Libya; and finally, this study may be beneficial for decision makers of the Libyan Government on development of policies.

1.3 Goal of the Study

Our study aims to identify the obstacles and challenges encountered during the application of electronic management in Libyan institutions through the following specific sub-goals:

- Determine the awareness towards of e-management project in Libya.
- Determine the status of e-management projects; if available.
- Identify how people perceive the availability of e-management vision and strategy?
- Identify how people perceive to the project management of e-management at their institutions.
- Identify how people perceive projects at their institutions.
- Identify how people perceive the availability of human resources.
- Identify how people perceive the adequacy of technology.

1.4 Research Questions

The study aims to answer the following main question:

What are the obstacles of applying e-management in Libya?

The above question is divided into the following sub questions:

- What are the awareness of e-management?
- What are the status of e-management projects?
- How people perceive the availability of e-management vision and strategy?
- How do people perceive project management of e-management?
- How do people perceive the project management at their institutions?
- How do people perceive the design of projects at their institutions?
- How do people perceive the availability of human resources?
- How do people perceive the adequacy of technology?

CHAPTER TWO

E-MANAGEMENT

2.1 What is E-management?

Electronic business, or electronic commerce, is the management of doing business on the Internet. This includes the selling of goods and services. In addition, it provides technical support or the support of agents across the Internet [5]. *Electronic business* is a term mainly used beside *electronic commerce*, but it consists of services in addition to the selling of goods. Moreover, electronic business is the application of Information and Communication Technology (ICT) to support all business activities. Commerce represents the exchange of products and services between companies, groups and individuals and it can be considered to be one of the basic activities of any commercial enterprise. On the other hand, electronic management means the electronic management of all business issues [6]. Electronic management is crucial in order to guarantee the provision of applications of electronic business to agents [7]. The implementation of electronic management is associated with every employee in a company, and thus, we must consider the human factor as being the most significant factor in affecting electronic management. Electronic management has many benefits, such as removing any barriers through the provision of connection between separated computer devices on the Internet as well as computing the systems and communications which lead to providing new abilities to send images and voices [6].

Electronic management can guarantee the best use of resources, increase efficiency and provide support to senior management in the planning and management of human and financial resources [8].

Moreover, it can play a great role in managing electronic commerce, obtaining a number of benefits such as reduced costs, enhancing product quality, accessing new agents or suppliers, creating new selling methods and providing current products and services.

2.2 The Concept of E-Management and Its Dimensions

Electronic management includes administrative processes that depend on the potential of the Internet and business networks in planning and directing institutional resources in order to achieve institutional goals [9]. It focuses on comprehensiveness, automation and artificial intelligence through the use of rapid development to achieve an institutional vision [10]. It is considered an umbrella term for many electronic business models, including many tools to exchange information and for collaboration between different parties in the supply chain. Moreover, it includes the operations that guarantee compatibility between administrational functions and information technology management and the ability to provide services, security and good performance for the success of electronic management [11]. From the previous explanation, it is clear that electronic management depends on a mix of information and communication technology to perform every institutional process to enhance performance and promote the compatibility of competitiveness.

2.3 The Difference between E-Management, E–Government and E-Governance

2.3.1 E-Management

For instance, in Vancouver [12] the city works with representatives of each sector. This representative is responsible for collecting the information and requirements from the sector population. This is done through a specific document which must be filled in and sent to the city hall where it will be processed by management. In Vancouver, representatives are given a card with which they are enabled to determine themselves and finish a document on the Internet. The development of each demand is followed during the process and employees own all of the available information and can focus on the analysis phase and respond to any demands.

The elected officials use this information as current indicators of local life and this information is used in the formulation of suitable decisions. In this formulation,

called e-management, the citizen is considered a consumer to rights in the form of general, effective and personal services. This is compatible with the idea of "government for the people" and strategies that enhance citizen satisfaction. Information and Communication Technology (ICT) allows a renewal of public administrations, such as governmental renewal with quicker and more effective bureaucracies, digital access to government information, promoted information initiatives (to establish databanks of social information), tax filing, payment processing, and so on. Tools offered by ICTs are primarily electronic processes and databanks. With the growth of Customer Relationship Management in the private sector, we can foresee the need to develop Citizen Relationship Management in the public sector [13].

2.3.2 E-Government

A city would want to consult a committee of people regularly regarding different subjects in order to address the life in that local society. This may increase the awareness of the needs of the population and their desires, thereby allowing local officials to implement any appropriate action. Without the ability to determine their identity across the Internet, such committee members would be given a set of questions which can be consulted. If the experiment succeeds, the project will be expanded to include the entire city population.

The city expects a system for general and regular consultation, such as the Swiss Voting System. This management style, known as e-government, reflects the vision of negative employees who respond to their duties. According to the need to determine the size of solutions and to compare them, this people's government depends on making regular consultations in order to enhance the acceptance of officials from this perspective. Electronic voting is considered to be the most significant tool because it facilitates communication between people, with their opinions, and government, thereby preserving the consultation feature. Using the same method as Chadwick and May [12], they consider this method to be a "pull" system wherein a government pursues predefined information. This limits citizens' ability to offer solutions and advantages in a "technical democracy" [13].

Finally, we came to the most important question: what is the differences between e-management and e-government? The differences between e-management and e-government are shown in Table 1 [14].

Table 1: Difference between e-management and e-government

E-management	E-government
— Automate administrative work within departments	— Most of the business and governmental services are transferred to electronic space
— Adoption of systems and programs for finance, personnel affairs, marketing, agents' services and others.	— Adoption services across internet gates and receive financial fess electronically.
— Automate business procedures and daily skills (workflow and business processes)	— Based on e-management in automating internal work on ministries

2.3.3 E-Governance

A city works in collaboration with "Place Publique," which is a place for discussion for an entire city population and it is located in the headquarters of a city. The editorial committee consists of local representatives, organizations and citizens and this location can be used to facilitate the raising the suggestions and initiatives of the citizen. If there is a subject or project which can generate more interest in society, it can be submitted for general consultation.

A city may enter into a dynamic movement in which e-governance can feed e-government and policies can be submitted through the main indicators developed by e-management. For this situation, known as e-governance, the citizen is considered an effective factor in a local democracy. Citizens participate in a

decision-making process with the goal to enable the local population to express their opinions which can be collected and merged in a final decision [15]. The distinction between government and judge is considered to be an important matter when management is under pressure to make decisions while the government applies pressure as to how decisions are to be implemented [16].

The “pull” system changes to a “push” system where information arises from the grass-roots level. In the e-governance model, the connection between citizens and government becomes necessary. “The participating model comprises a gratitude that knowledge is broad, conditional and variable – that it arises through interaction” [12]. The traditional citizen is no longer unfamiliar with the general policy by the local elected. Currently, the citizen is considered to be a source of ideas and initiatives that provide the exchanged richness. The e-governance model delivers the launch of ideas about the ability of the knowledge management of the local government.

In order to complete this step, it seems that the city which enables the interaction of these three modes to manage the local citizenship is a city which takes into consideration the citizen in its diversity and complexity. Simultaneously, the citizen may be a customer for general services and a secret agent who obeys the general policy as well as an effective representative participating in the decision-making process.

2.4 Benefits of E-Management

E-management delivers many great benefits if it is applied correctly in any organization. These benefits can be summarized as follows [17]:

Eliminate the organizational gap between senior management and workers in the lower echelons;

Remove divisions between managers who make decisions, executive workers and consolidators, who provide consultations and recommendations;

Re-representation of the roles and functions which make the management the decision maker that transforms into consultative management by providing

recommendations and consultations that help in removing the barriers or manage tasks to provide solutions to problems;

Ensure that Total Quality Management (TQM) remains in its modern concept (according to the definition of quality in the Oxford Dictionary: high degrees of quality or value). The specialized American institution has determined quality to be the accomplishment of correct jobs in a timely manner. E-management ensures the importance of fulfilling any work requirements on time when required.

- Facilitate procedures, reduce costs and provide high quality;
- Reduce the termination time of administrative processes;
- Provide accuracy and logic in any achieved processes;
- Facilitate communication between the management and institutions and other institutions which are inside or outside of the country; and
- Decrease the use of paper for notifications, which can positively affect the business of any institution leading to the resolution of the problem of keeping documentation of transactions safe.

2.5 Elements of E-Management

Rawash (2010) [18] stated that electronic management includes many components and elements, including the technological, social, cultural, political and psychological components. Salmi (2008) [19], on the other hand, indicated that the implementation of any electronic judgment requires many elements, which include devices and equipment, different types of programs, communication, information systems and human resources. In general, we see that electronic management includes computer hardware, programs and networks, communication and knowledge networks, as briefly explained below [20]:

- **Computer Hardware:** Due to the development of computer programs and continuous increase in the number of devices in institutions, it is better to realize the last results which reached by decision makers in order to achieve two significant goals:

a) Offer current development and maintenance costs; and

b) Provide suitable computer hardware for any developed software and programs.

- **Software and Networks:** This software denotes to the used programs to operate the computers systems and get benefit from their different abilities while networks are the links that extend across the communication channels of internet and external networks that represent the institutions value and electronic management.

  Knowledge Makers: This element is considered the most important element in the electronic management system for leaders, managers and digital analyzers of knowledge resources and intellectual capital in the institution. The knowledge makers are responsible on the strategic collaboration management from one hand and change the prevailed way of thinking to reach into the knowledge culture from another hand. According to the following, it can be said that electronic management is a management where its elements practice the programs, devices, networks and knowledge makers. While its functions including electronic planning and electronic leadership in accordance with the requirements of remaining updated and efficiently and effectively using information technology [21].

2.6 Functions of E-Management

Electronic management is an organizational and functional system in order to exchange and divide its effect with internal and external environments. Therefore, it is possible to assign non-electronic management functions within tools and techniques of modern information technology where it is highly affected on the management context in its natural figure. At the following steps, we will explain the reflected changes in electronic management functions [22]:

- Movement from independent computerized data into the network systems. Information technology systems became an electronic fabric which associate carefully with production, marketing, accounting, financing, human resources and development and research centers.

- Movement from non-electronic management into smart electronic management where the last one is able to deal with information resources which produce smart elements such as databases and software which provide valuable information.

- Movement from gradual processing into the immediate processing and this is considered a real revolution as compared with old systems. It costumes the varying nature of performing business that requires unceasing updating.

- Work through agent computing that associate by a network. There are number of important rules to organize interactions between agents and servers which can be summarized as follow:

- When receiving the demand from a client, server must ensure from the correctness and legality of demand.

- Server may introduce service for many users and user can ask service from multiple servers.

- In spite of the type of processor, server must be reliable and ease to be used.

Processors are changed with the change of central structures to the flexible environmental structures. One of the results from the applications of electronic management is the emergence of core change in the processors environments. Though the application of electronic management, processors are changed from the central function into the flexible structures and team work instead of individual. This is associated with extensive use of modern technologies and communication to create global strategic units.

Movement from partial concept into the competitiveness concept where the first one was pioneered for some time and associate with non-electronic competition in management. The last one is appeared based on the organizational specialties with the five competition units which called PORTER and the competition strategic power in the markets.

These important technological changes are contributed in creating new curriculum of electronic management which differ from the previous curriculum. This is changed from the context of non-electronic functions.

2.7 Steps of Implementing an E-Management System

Any type of electronic management execution must pass through the following steps and neglecting any of these steps may lead into future problems in a company [23]:

Documentation of all operations: All internal and external operations must be documented. Procedures to be applied must be described in detail. It is also required to define performance measures and indicators for each operation.

Definition of requirements: Requirements include the expectations of small and medium companies. The detailed performance indicators should be also defined. This allows a comparison to check which requirements are not achieved by the system. The necessities will designate where and how any data is offered, such as in a computer application, on the Internet, by email, etc.

Selection of provider: There are always two main options where the first one is purchasing the program tool which fulfill the requirements and the second one is the communication with another company to develop a software tool specialized to those requirements. The decision here must be taken according to more additional factors in addition to costs as follow:

- *How many requirements can be met by using the off the shelf products?* Most of those products fulfill some requirements but they may not fulfill by a number of basic requirements which disqualify them.
- *What customer support is offered by the provider and what are the service terms?* It is required to train the whole employees of the company and it must deal with those sides carefully especially if the system will be implemented and specialized by another company.
- Whether or not, there are selections to progress and implement the system in numerous phases for a malleable depreciation program.

Purchasing Period: Depending on the complexity of electronic management, there is a period of testing the new system. At this development period, if the “off the shelf” products are purchased, it should be purchased in a custom configuration (if possible) with training documents. A prolonged support agreement is beneficial. If

the e-management tools are developed by another company, it is better to preserve a close relationship with the development team. For a successful final product, intermediate product documents may be verified through the development cycle. Thus, the adjustment process can be performed earlier.

Testing Period: The goal of the testing period is checking the reliability of the indicators provided by electronic systems. This stage must be finished when all of employees are familiar with the new system. The company went through the whole possible cases comprising end of the year backups and reports. After all requirements were successfully tested, electronic management solution should be reformed if there are any inconsistencies.

Future improvements and maintenance: During the usage of electronic management era new chances will be opened, and there will be some point when the electronic management system should be advanced. Therefore, the execution process will be continual with the same phases with the alteration that this time supplier choice can be the same as before in order to guarantee the stability and less costs and effort.

The previous mentioned phases or steps are considered a general explanation for the implementation of electronic management. For an already established small and medium-sized companies, it is easier to state the targets and requirements of the electronic management system. However, the implementation without main time costs and construction deferments can be a challenge depending on the size and complexity of the small and medium-sized companies. In terms of a new Small and medium-sized companies, it will be easier to apply the electronic management system from scrape, but outlining a precise set of requirements, signs and operations can be challenging without some management proficiency. Programs cultured from other related companies may contribute in the help of avoiding disasters which may happen in future: if incorrect requirements have been defined, the electronic management system will be slow down the growth of specific company.

Internet is frequently the meeting point and the platform of interaction for the electronic management system and special provisions must be taken in order to avoid

data losses and to guard the private information. Moreover, the depraved persuasive for the Internet environment including hackers, attacks, etc., it can be a safe place if some security 1412 requirements are taken into consideration. Those characteristics must not be ignored when describing the requirements of electronic management system.

2.8 Barriers in the Application of E-Management

Seresht et al. studied the barriers and challenges to the application of e-management in Iran [24]. They indicated that e-management is an umbrella name for several e-business modules. Their methodology was based on interviews and a questionnaire. The research population was from a number of public organizations with a sample of 200 experts, scholars and managers form 45 public organizations. The researchers addressed the following barriers which have an impact on e-management implementation in Iran:

- **Managerial Factors:** These factors consist the technological awareness of managers and lack of knowledge and experience with computers. As well as, it includes lack of knowledge in terms of information technology characteristics, support and lack of commitment from senior managers and short life cycle of management.
- **Humanistic Factors:** These factors consist of existing of specialists in information technology at institutions and lack of interest of employees and lack of motivation to apply the new techniques. They also include the lack of suitable training of employees to resist change.
- **Cultural-Social Factors:** These factors consist of undeveloped culture for suitable application of information technology and lack of experience for users and authorities with information technology performance.
- **Organizational-Structural Factors:** These factors consist of the lack of communication points in organizations and lack of financial resources to supply software and devices and lack of financial ability to apply information technology.

- **Technical-Technological Factors:** These factors consist of lack of efficient software facilities, lack of appropriate bandwidth for the Internet and the existing of problems in network and communication and difficulties in applying information technology.
- **Environmental Factors:** These factors consist of lack of rules and facilities in the country and lack of clarity in policies making in the field of IT and lack of organizing between different units and departments in industries and organizations.

2.9 Obstacles of E-Management in Libya

Currently, information and communication technology is entered in each business. Its main function was to install the administrative job and take the correct decisions according to the accurate of available information. Communicates are developed according to the use of new techniques in business where their main task is protecting the accuracy and privacy of information. At the current time, our world is characterized by the development and creativity where information technology and networks became the most important weapon in each field. Also, internet and its applications are spread widely and communications are implemented across the email instead of traditional mail. Even in economic and commercial deals, internet is opened the way in front of electronic commerce in many countries. These operations are organized by rules and laws which lead to high gap between the developed and developing countries.

Unfortunately, our Arab world, and especially Libya, experiences this gap according to the great deficit in administration, which does not keep pace with the rapid developments that occur around the world. Therefore, most Arab societies, and especially Libya, have resorted to adopting the idea of e-management in order to follow the developed world. It is not possible to imagine that the process of implementing this idea is easy due to the prevailing customs in Libya, including its bureaucratic management and lack of transparency, which directly collides with the basic concept of the e-management model. The application of e-management, e-government, e-commerce, e-learning and e-elections depend on the culture of the user dealing with administration.

The development of e-management has configured a basic axis to Libyan strategies, including the acceleration in the use of information and communication technology (ICT) in general management by using new technologies and promoting them for the use of specific levels in general management. The application of this axis leads to obtaining a root change to the organizational styles and the work of the general management as well as motivating simplification and serving the citizen in a more suitable manner, especially through the use of different Internet services. The center of these strategies translates into a clear strategy to develop many electronic services in the general management to serve people and institutions. However, there are many obstacles of applying e-management in the Arab world in general and in Libya specifically, where a number of researchers state that e-management will terminate bureaucracies. The termination of a bureaucracy from the government will create another type of bureaucracy called electronic bureaucracy. This new bureaucracy is still better than the current bureaucracy and it is more transparent and faster than traditional paper work. A number of obstacles encountered by e-management in Libya specifically and in the Arab world in general include the following:

- The lack of suitable legislations;
- The lack of availability of suitable communications;
- Obstacles to the Internet spreading (lack of suitable infrastructure) and the English language;
- Lack of employees' awareness by experiences associate with electronic management.
- Cancel the responsibilities and the lack of organization;
- The lack of transparency and the influence of special interests; and
- Fear of change.

These obstacles can be overcome if we have suitable environments which include the planning and preparation of suitable staff and distribution of cultural computing among people and paying attention to electronic security which preserves the rights

and privacy of employees. In addition, employees are trained on how to provide services quickly. However, there are negatives appear through the application of electronic management in the developing countries such as Libya. The application of electronic management in developing countries such as Libya needs into continuous audits in order to guarantee the continuity of providing services in best form and optimal use of time, money and effort. Alternatives or emergence plans must be taken into consideration in cases of failure of electronic management for specific reasons. The failure cases include electronic spy increased dependency and management paralysis [25].

2.10 E-Management in Different Countries

Electronic management is considered a basic cornerstone in the general structure of electronic government in which information and communication technology represents a significant key for updating the public sector. In the highlight of a complex environment, we can find the electronic management itself is invited in order to facilitate the procedures which lead to the success of this project by using technical tools.

Thus, we find that some countries have succeeded in applying this concept and it is considered a great challenge which requires the provision of the abilities of specialized staff in the field of information technology. A number of countries have succeeded in applying this concept in which the experiment of Qatar is considered a pioneer that launched electronic government for the first time in 2003, followed by a strategic plan of comprehensive e-government being applied. Moreover, the electronic gateway was launched in 2008 and started its new version in 2010 to provide perpetual accessibility to all governmental services and any information which is needed to every person living in Qatar. The great challenge to the implementation of this project is the provision of the abilities of specialized staff in information technology. In the same vein, we find that Morocco has progressed in the application of electronic management where it occupies the rank number of 38 in the report of electronic governments and a ranking of 17 in electronic participation. It is the first country in terms of using the Internet network in Africa.

In light of global experiences, we find that the United States has clear superiority in terms of electronic management in all agencies and infrastructures. The United States has enacted two laws which impose the use of electronic management, namely the law of disposal of paper work and a transparency law to distribute information associated with the place of the information to the people and to the private sector via the Internet [26].

Moreover, the government of the Kingdom of Bahrain spent high efforts in electronic management in which most transactions are implemented through the Internet and through electronic gateways. Furthermore, most of the Gulf Countries have contributed to creating electronic management according to their openness to the Western World and keeping pace with the development occurring in the Western World [25].

It is assumed that electronic management in the Arab World is an option that must be taken so that these countries can keep pace with any technological development around the world and prepare people to deal with the modern technology which has become the culture of many communities.

2.11 Related Studies

Hossein et al. [26] presented a scientific paper which discussed the challenges and barriers of e-management in Iran, in which they stated that the success of e-business would be much higher for those organizations that consume their time and resources to address the area of e-management. E-management would be critical for ensuring that e-business applications are available to customers. The aim of the paper was to review and analyze the barriers to e-management in Iran. The research was conducted using descriptive and survey methods. The findings of the paper show that among the 25 factors, six main factors were classified, namely managerial, humanistic, cultural-social, organizational-structural, technical, technological and environmental factors. According to this study, the main factors preventing the implementation of e-management in Iran were the cultural, environmental and organizational factors.

Farah and Farhi (2015) [27] presented an article that was an analysis of various dimensions of electronic business (e-business), and the reality of the needs of e-business in the Arab world as well as the obstacles which the Arab countries in general face in e-business. The study concludes that e-business in Arab countries is currently facing the challenges of political, legal, economic and social obstacles which prevent the spread of e-business in many Arab countries. The study provides suggestions and recommendations with the aim of improving e-business requirements in the Arab countries in order for institutions to take advantage of e-business.

Asogwa (2012) [28] offers a research about the challenge of managing electronic records in developing countries. The author mentioned that managing electronic records is new for most of archivists and employees in modern sub-Saharan Africa. The author stated that electronic management has changed the conventional mode of record keeping and carried with it some restrictions which through the records managers have to struggle if they are to continue appropriate in the information society. The research aims to examine the background of these issues in addition to the strategies for electronic records management in Africa.

In this study, a related nonfiction on archives development in Africa, electronic records, information technology, and records management have been studied and the author had collected much perception in the electronic records management in a digital environment. The study results showed that the most problems of electronic records management in Africa are managerial and the technically persuaded contest and profits of managing hybrid records in Africa can only be recognized if the suitable infrastructures, practical legislature and controlling outlines, satisfactory economics, and competent information and communication technology personnel were existed. Furthermore, the research emphasized the probable problems and suggested strategies which information professionals and shareholders in developing countries may embrace for successful application of electronic records management.

Iwhiwhu (2010) [29] presents a paper about electronic records management in Africa. At this paper, Iwhiwhu explained that poor records management are produced serious impairments in many aspects of the public sector. This causes negative

effects on prompt payments and employment practices. The overhauling of government functions and organizational structures, the establishment of financial management and the general legal and regulatory framework. In the absence of a cultural records management, observing and assessment, quality control, and verification cannot continue as well-kept records deliver the basis for all these, which also engender the rule of law and accountability. They are the base upon the nation may construct programs for good government, reduce poverty, reasonable justice, financial accountability and enforceable civil rights. The author stated that it is commanding, thus, for the officials of government to approve good record keeping observes since this will support active, transparent and accountable government. Available and consistent records display the choices were made, the actions were taken, the people who are complicated and wholly existing rights and duties. African countries are encountered number of challenges in the process of managing records especially electronic records. These border on technology oldness, incompetently skilled personnel, policy preparation and implementation, etc. These elements have led to the structure, content and context of records being changed extensively. According to Iwhiwhu, embracing incorporated electronic information systems in government and organizations' transactions, electronic records management policy formulation and implementation, beginning more training openings for records managers and archivists, emerging meta-data for locating records, etc. will go a long way in sufficiently managing electronic records in African countries.

CHAPTER THREE

MATERIALS AND METHODS

3.1 Design of the Study

The current study uses a survey research method in order to obtain opinions of the participants on obstacles of applying e-management in Libya. An online survey was presented to participants to get self-reported quantitative data. Descriptive statistics were used to evaluate the perceptions of the participants on the obstacles of e-management. This study provides a referential framework for electronic management in Libya as well as in most of the developing countries in the Middle East. It offers the main solutions to the obstacles to the application of electronic management through a comprehensive questionnaire which includes all of the fields of interest in this type of study and makes comprehensive assessments that can be the main tool for actual studies in this regard and a starting point for deeper details.

3.2 Participants

The participants in this study are employees at different governmental and private Libyan institutions at which most of whom hold important positions. Many of them are colleagues of the researcher in his workplace. The participants were contacted and informed about their participation in this survey by email, by phone and on Facebook as the researcher published the questionnaire on many Facebook groups related to governmental institutions. We received 127 responses and from which we extracted 120 that were valid where we received 7 uncompleted answers and they have been neglected. Before answering the questionnaire questions, the participants would read our instructions prior to answering the survey questions, as shown in Appendix A in which we provided important details about the study.

We clarified that the anonymity of the participants would be maintained after participation so that they would be able to express their opinions freely and honestly. The demographic variables of gender and age are shown in Table 2 and Table 3 respectively.

Table 2: Gender of the survey sample

	Frequency	**Percent**
Male	96.0	80.0
Female	24	20.0
Total	120	100.0

Table 3: Age category of the survey sample

	Frequency	**Percent**
Under 30	19	15.8
30-39	52	43.3
40-50	38	31.7
Over 50	11	9.2
Total	120	100.0

Table 2 shows that of those who participated in our survey, males at approximately 80% outnumbered females whose participation was recorded at approximately 20%. Also, the mean value is 1.2 while standard deviation is 0.4. We can see from the values of mean and stranded deviation that the values in the data set are close to the means as the values of mean and standard deviation are close from each other. Moreover, in terms of age category, we find that the largest percentage of those who participated in our survey was the 30-39 year's age group whose percentage was recorded at 43.3% followed by the 40-50 years age group with a percentage of 31.7% whereas the mean value is 2.34 and standard deviation is 0.85. It is clear from the values of mean and stranded deviation that the values in the data set are close to the means as the values of mean and standard deviation are close from each other.

3.3 Data Collection and Instruments

As mentioned earlier, our survey (Appendix A) occurred on the Internet via Google Forms and the participants were accessed using different tools, including email, Facebook and phone calls. The number of factors which existed in our survey are Demographic Information, Awareness of Electronic Management, Assessment of Drive for Change, Strategy Assessment, Management Assessment, Design Assessment, Competencies Assessment, Technology Assessment and Other Assessment. The survey items have been derived from Shin et al. (2008), Hossan et al (2006), Torki et al (2006). The instrument of our survey used two Likert scale types namely 5-point and 10-point scales for measuring awareness and perception respectively. The period consumed by this questionnaire was more than two weeks from 28 June 2018 until mid-July. 2018 Our questionnaire included many sections the first of which included information about awareness of electronic management in addition to demographic information which included a gender and age category of the participants.

The second section was the driver assessment the aim of which was to collect data on how participants perceived the drive for change and achievement of electronic management goals. The driver assessment section included one question and under it there were three statements with the responses to these question statements extending from 0 (does not exist) to 10 (strongly exist).

The next section was the strategy section the aim of which was to collect data on how participants perceived the availability of electronic management vision and strategy in electronic management in the institutions of the participants. The strategy section included one question under which there were four statements the answers to which extended from 0 (no strategy) to 10 (strategy).

The next important section was the management assessment the aims of which was to collect data on the perception of project management and change management of the e-management project as well as commitment of the key players to the entire process. The management assessment section included three questions each one of

which having many statements ranging from 0 (very poor) to 10 (very good). The answer of the final question statements ranged from 0 (very much) to 10 (very little).

The other assessment section was the design section which aimed to collect data on participants' perception of how effective and realistic the project design of the e-management project had been. The design section included one question which consisted of many statements the answers to which extended from 0 (very ineffective and unrealistic) to 10 (very effective and realistic).

The next important section was the competencies assessment section the aim of which was to collect data on the perception of how adequate the technological infrastructure aspects for the electronic management project had been. This section consisted of one question with many statements the responses to which ranged between 0 (completely absent) and 10 (completely adequate).

The technology assessment section consisted of one question with many statements. The aim here was to collect data on the perception of how adequate the aspects of the technological infrastructure for the electronic management project had been. This section included one question with many statements the answers to which ranged from 0 (wholly inadequate) to 10 (completely adequate).

The final assessment aimed to collect data on the perception of the availability of other factors likely to cause electronic management to fail or succeed. This assessment section included three questions. The first question included many statements the answers to which ranged from 0 (strongly yes) to 10 (strongly no).

The other section under this section aimed to clarify responsibility to promote electronic management initiatives by selecting one option from multiple choice selections, while the final question in this section aimed to record the participants' opinions and perception about electronic management projects which they know at their institutions by describing those projects if they are existed in their workplace.

CHAPTER FOUR

RESULTS AND ANALYSIS

The main purpose of this study is to gain knowledge about the obstacles to applying electronic management in Libya by means of a questionnaire. This chapter includes an analysis of the questionnaire in detail and reaches into results in order to be a reference and framework for any real study in the field of electronic management in Libya and to determine its obstacles and requirements. The analysis consists of two parts, the first of which includes demographic information about the sample of our study. The second part includes the answers from the study sample to the obstacles of electronic management in Libya, where we have many fields with each one of them processing different aspects of these subjects, as explained in the following steps.

4.1 Results and Analysis

4.1.1 Demographic Information

- **Demographic Information**

The first part of our survey includes the demographic information of the participants and awareness of electronic management, including one question (Q1). The functional position of each participant is shown in Table 4.

Table 4: Functional position of the survey sample

	Frequency	Valid percent
ICT Head	14	11.7
ICT Project Manager	8	6.7
ICT Staff	27	22.5
Other	71	59.2
Total	120	100.0

As shown in Table 4, the study sample working in the ICT sector amounted to more than 40% and approximately 60% of our survey worked in other sectors and they would be dealing with the ICT sector in one way or another. This means that our survey has been accessed with a large sample who work in different fields in Libya.

4.1.2 Awareness of Electronic Management

- The following statements are questions about the awareness of e-management projects in Libya (Q4).

This section includes many fields about the awareness of electronic management in Libya and the answers to these questions are shown in Figures 1, 2, 3 and 4. The responses were made by selecting from a list of options ranging from *totally agree*, *agree*, *neutral*, *disagree* and *totally disagree*.

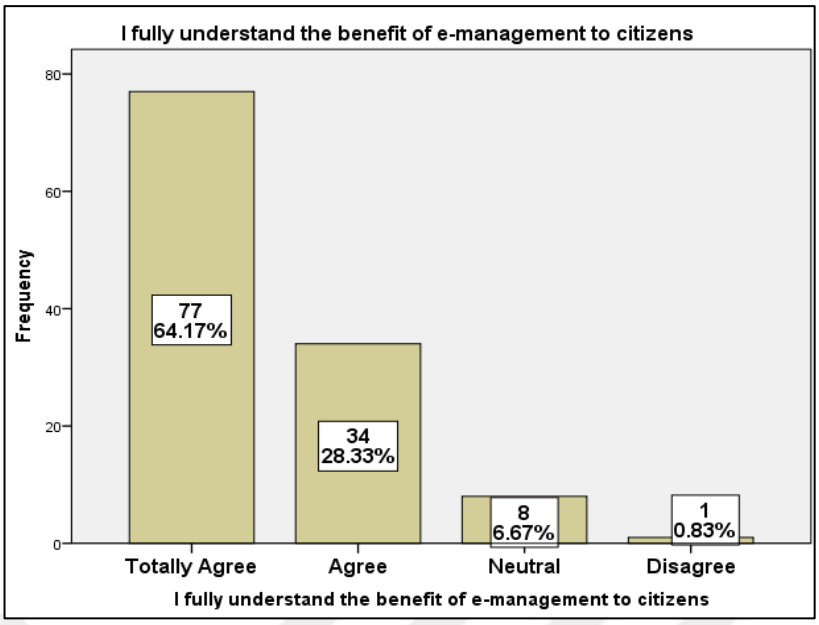

Figure 1: Frequencies of answers to the question, "I fully understand the benefits of e-management to citizens."

Figure 1 shows that the largest percentage of the participants, numbering more than 94% of the participants who totally agree and agree on understanding the benefits of electronic management that must be provided to citizens.

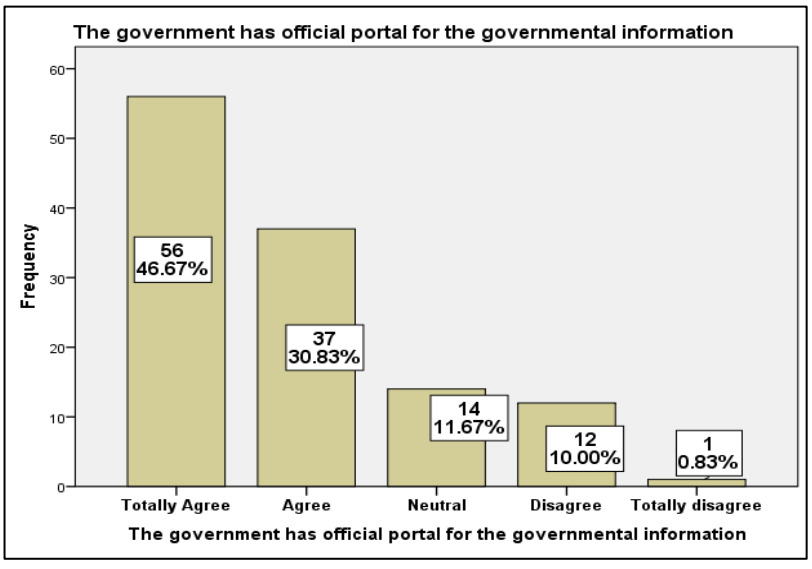

Figure 2: Frequencies of answers to the question, "The government has an official portal for governmental information."

In terms of the official portal owned by the government, there is a great percentage of participants (at 77%) who stated they agree and totally agree that the government has an official portal for governmental information and about 11% are disagree and totally disagree.

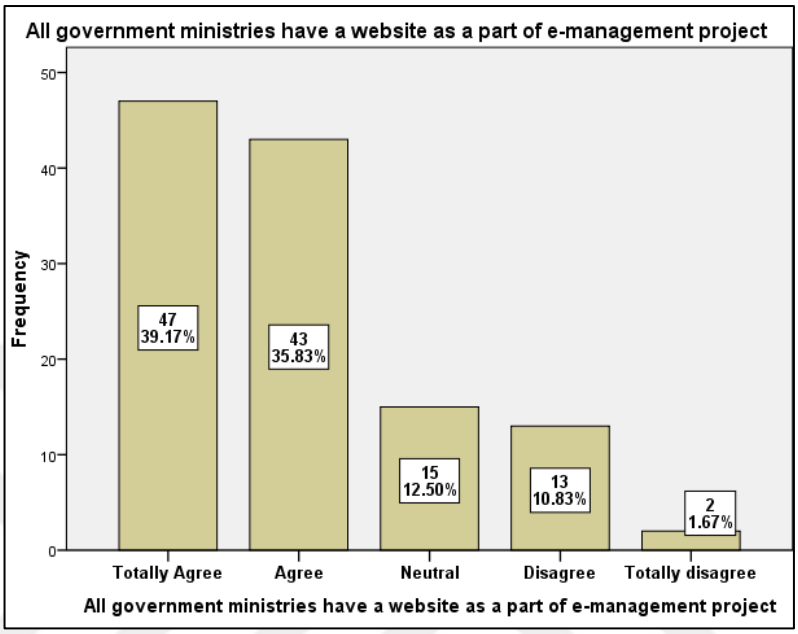

Figure 3: Frequencies of answers to the question, "All government ministries have a website as a part of the electronic management project."

It is clear from Figure 3, that we have 75% of participants completely agreeing and agreeing that all of the governmental ministries have an official website as a part of the electronic management project. This refers to the fact that the government has some vision about the benefit of this type of project and their features.

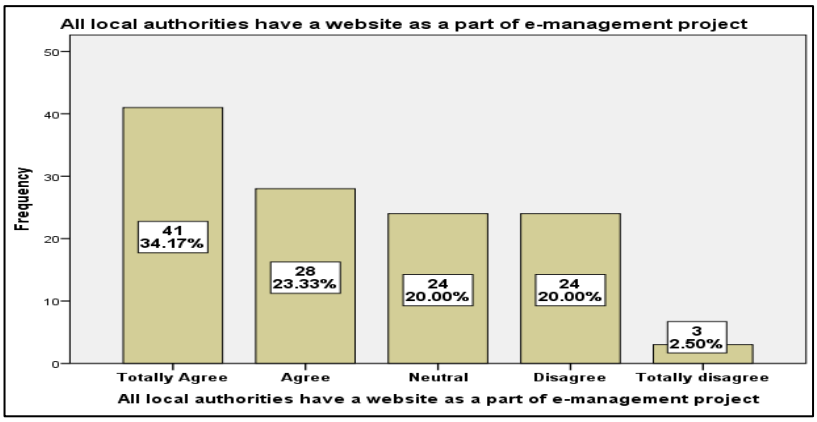

Figure 4: Frequencies of answers to the question, "All local authorities have a website as a part of the e-management project."

Figure 4 shows that the opinions of the participants are varied and inconsistent where 57% of the participants completely agree and agree that the local authorities have a website as a part of the electronic management project, 20% are neutral and 20% disagree about this feature.

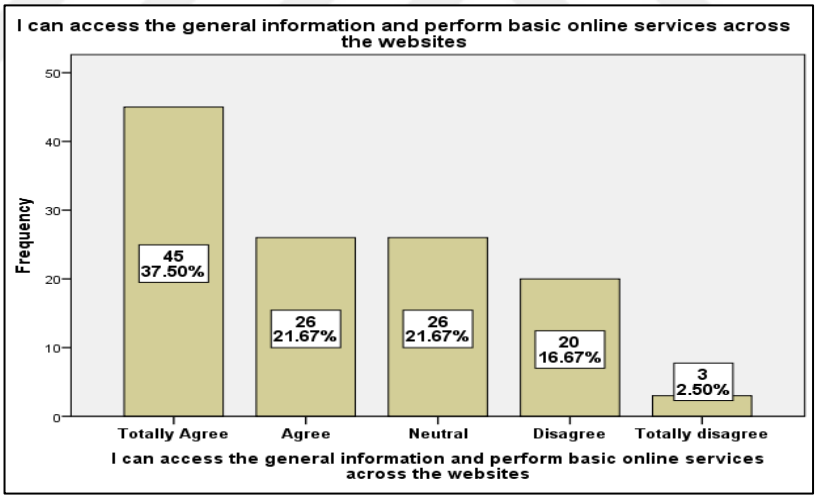

Figure 5: Frequencies of answers to the question, "I can access the general information and perform basic online services."

The above question explained in Figure 5 shows that 59% of the participants completely agree and agree that they can access general information and perform basic online services across websites. The other participants at lower percentages

state that they disagree and totally disagree about performing this feature accurately and completely. This result refers that in general the public information can be accessed and online services can be used by a large percentage of the participants.

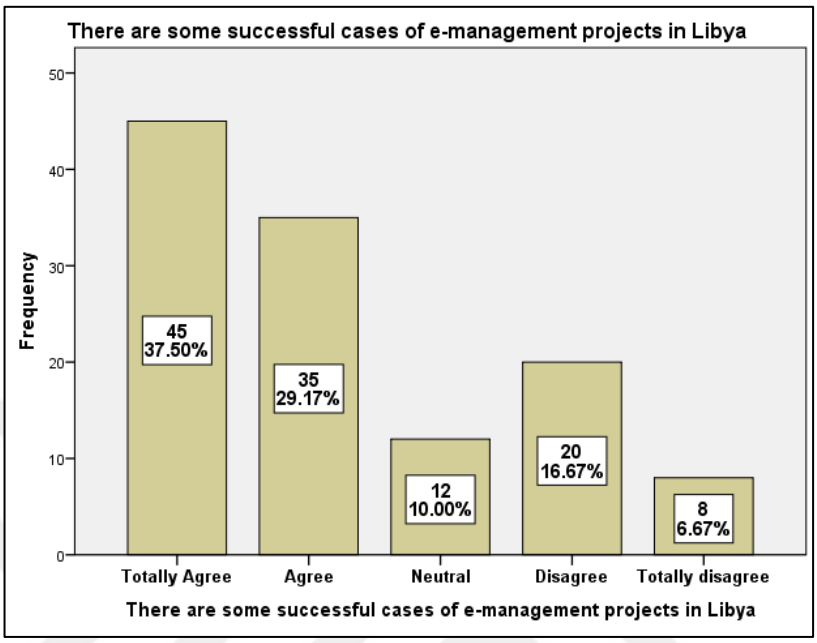

Figure 6: Frequencies of answers to the question, "There are successful cases of electronic management projects in Libya."

It is clear from the results of Figure 6 that the largest percentage of the participants (at 66%) stated that they are totally agree and agree with the existing successful electronic management projects in Libya. The other participants' answers varied between disagree and totally disagree with percentage of 25%. The previous graphs can be summarized by Table 5.

Table 5: Summarizes awareness towards e-management projects in Libya

Awareness towards e-management projects in Libya	Totally agree	Agree	Neutral	Disagree	Totally disagrees
I fully understand the benefits of e-management to citizens	64.17%	28.33%	6.67%	0.83%	0%
The government has an official portal for governmental information	46.67%	30.83%	11.67%	10%	0.83%
All government ministries have a website as a part of the electronic management project	37.17%	35.83%	12.50%	10.83%	1.67%
All local authorities have a website as a part of the e-management project	34.17%	23.33%	20%	20%	2.5%
I can access the general information and perform basic online services	37.50%	21.67%	21.67%	16.7%	2.50%
There are successful cases of electronic management projects in Libya	37.50%	29.17%	10%	16.67%	6.67%

Are you aware of any e-management project initiatives by the Libyan government? (Q5)

Figure 7 shows that we have approximately 39% of the participants agreeing that they aware of electronic management projects and 30% being neutral as stated by the participants of the survey. The result indicates that there are project initiatives in Libyan government concern the concept of electronic management.

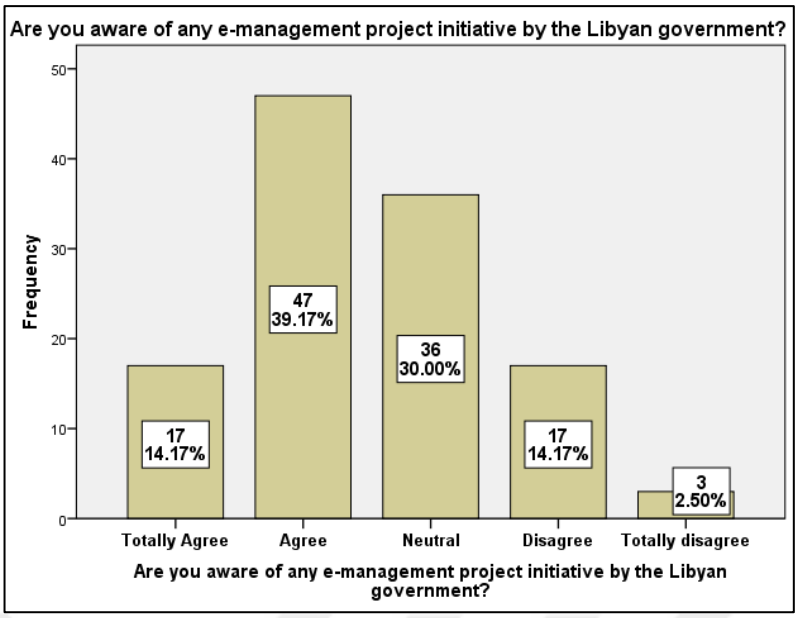

Figure 7: Frequencies of answers to the question, "Awareness of electronic management projects."

Q6: Write down any e-management projects you may know about or manage in your institution (e.g. LAN/WAN installation, website development, computerization, Internet and email, IFMIS, HR system, etc.).

This question aims to have participants record in writing any project related to electronic management which was performed in any organization in Libya. We obtained more than 105 answers, but we did not receive answers from every participant. Nevertheless, these answers indicate the electronic management projects that have been performed by the institutions of the participants. The answers pertained to the development of websites by many participants, human resources management projects by high numbers of participants, installing LAN and WAN networks by a number of participants. Moreover, we received answers pertaining to the development of systems in some companies through which data are entered electronically by specialized employees in different branches of the company. Furthermore, there exist projects to create electronic websites which serve the educational process in universities and different educational institutions in Libya and answers on creating and developing a national number in order to facilitate citizens' procedures in all of the country's institutions. Finally, we have answers to create

comprehensive platforms to calculate the financial and acquisitional aspects of materials in an electronic manner.

In addition to the answers summarized above, we received other answers which appear similar to the projects listed above in terms of their ideas and work. Therefore, we do not mention them so as not to repeat the same answers.

Q7: What is the status of this e-management project in your institution? Choose the appropriate statuses of the project named in the previous question.

The purpose of this question is to evaluate the status of the electronic management projects mentioned above in terms of their implementation. The answers to this question are of three types, as shown in Figure 8.

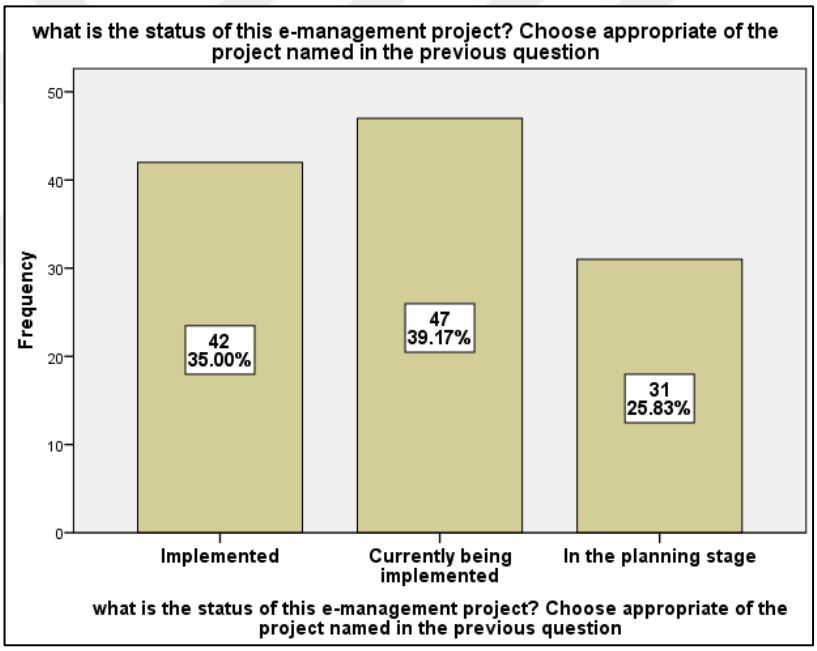

Figure 8: Frequencies of answers to the question, "Status of the projects mentioned in Q6."

As shown in Figure 8, we have 39% of the participants stating that the project was currently implemented, and 35% of them stated the project was implemented, and finally we have 25% of them stating that a project was in the planning stage.

4.1.3 Assessment of Drive for Change

This section in our survey aims to collect information on how the drive for change and achievement of electronic management goals is perceived. It includes a number of questions to process this step carefully. It must be mentioned that the evaluation criteria of this step ranges from 0 to 10 to measure driver assessment existence.

Q8: The following statements are questions on how you perceive the drive for change from government, aid donors and citizens as well as achievement goals from key officials in the e-management project in your institution.

This question comprises three sections:

- Strong drive (recognition and interest) for change from outside e-management
- Strong drive from key government officials for reform and achieving e-management goals
- Availability of laws and regulations to e-management projects

The answers to the sections above are summarized in Figures 9, 10 and 11, respectively.

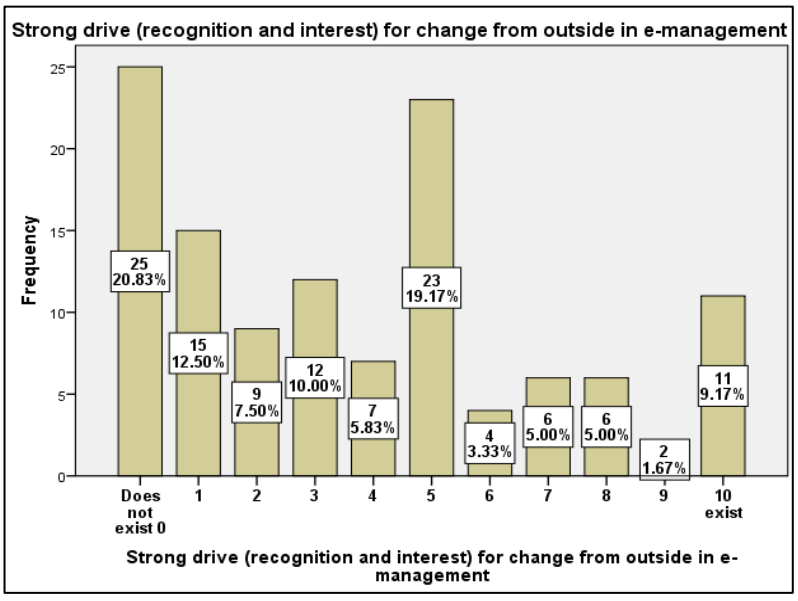

Figure 9: Frequencies of answers to the question, "Strong drive for change from outside electronic management."

Figure 9 shows the explanation of the participants about the drive for change from outside electronic management where we have more than 20% of the participants stating that this drive does not exist completely. We also have 19% of the participants stating that the drive existed at 5 out of 10, and finally, 9% of the participants stated that the drive existed at 10 out of 10. As well as, the mean and standard deviation for this drive is 3.78 and 3.19 respectively. These data suggest that there is not a strong drive for change from government, aid donors and citizens as in the e-management projects in the institutions of the participants.

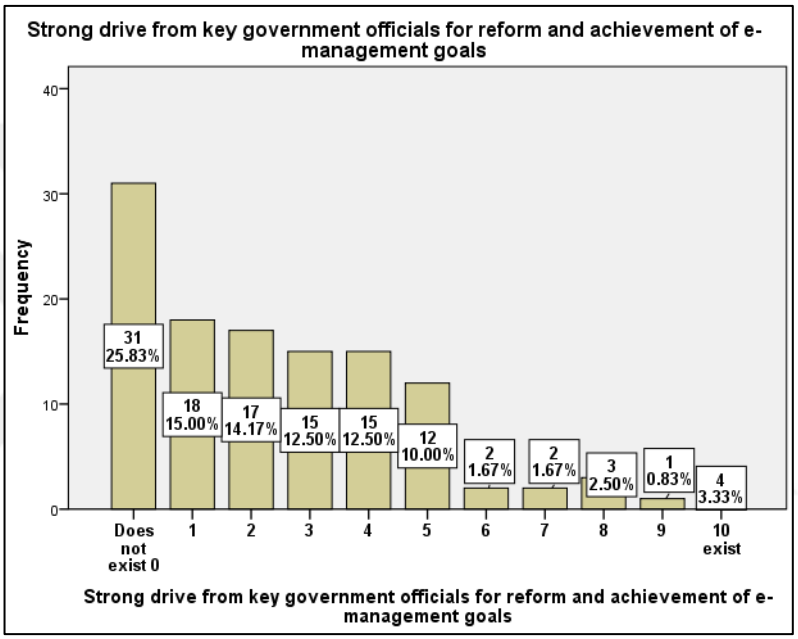

Figure 10: Frequencies of answers to the question, "Strong drive from key government officials for reform and achievement of electronic management goals."

Figure 10 shows the drive from key government officials for reform and achievement of electronic management goals where we have more than 25% of the participants stating that the procedure does not exist and 10 clarifying that the procedure exists at 5 out of 10 and the other percentage extending from 0 to 5 with close percentages. Also, the mean for this drive is 2.63 and the standard deviation is 2.54. These data suggest that there is not a strong drive from key government officials for reform and achievement of e-management goals.

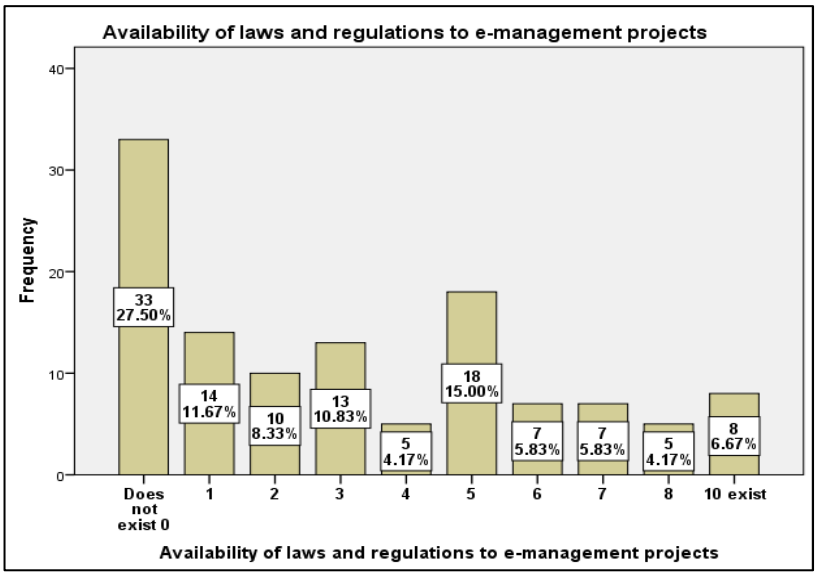

Figure 11: Frequencies of answers to the question, "Availability of laws and regulations to electronic management projects."

It is clear from Figure 11 that there are no laws or regulations for electronic management projects. We have more than 27% of participants mentioning that these laws and regulations do not exist according to their point of view. Finally, we extracted the mean and the standard deviation where the mean value is 3.28 and standard deviation is 3.07. The obtained data suggest that there are not enough laws or regulations for electronic management projects. The higher scores especially scores from 5 to five indicates that there is successful drive for change from government, aid donors and citizens as well as achievement goals from key officials in the e-management project in participants institution. Assessment drive for change towards e-management is summarized in Table 6.

Table 6: Summarizes Assessment of Drive for Change

Perceive the drive for change from government, aid donors and citizens	Does not exist 0	1	2	3	4	5	6	7	8	9	10 Exist
Strong drive (recognition and interest) for change from outside e-management	20.83 %	12.50 %	7.50 %	10 %	5.83 %	19.17%	3.33%	5 %	5 %	1.67%	9.17 %
Strong drive from key government officials for reform and achieving e-management goals.	25.83 %	15 %	14.17%	12.50%	12.50%	10%	1.67%	1.67 %	2.5 %	0.83%	3.33 %
Availability of laws and regulations to e-management projects.	27.50 %	11.67 %	8.33 %	10.83%	4.17 %	15%	5.83%	5.83 %	4.17 %	0%	6.67 %

4.1.4 Strategy Assessment

In this section, we collected data on how participants perceive the availability of electronic management vision and strategy of electronic management in the respective institutions of the participants.

It must be mentioned that the evaluation criteria of this step ranges from 0 to 10 to measure the driver assessment.

Q9: The following statements are questions on how you perceive the availability of government vision and strategies in the e-management projects in your institution.

This question extends to four questions and assessments which aim to perceive the availability of government vision and strategies in electronic management projects. These questions are as follows:

- There are national ICT policies;
- There is an e-management or ICT master plan;
- There is an ICT strategic plan; and
- Stakeholders participate in e-management strategy development processes.

The answer to these questions extend to multiple choice from 0 to 10, where 0 represents the lack of any strategy and 10 refers to the availability of strategy and the answers between them refer to the ratio of the available strategy. These answers are shown in Figures 12, 13, 14 and 15.

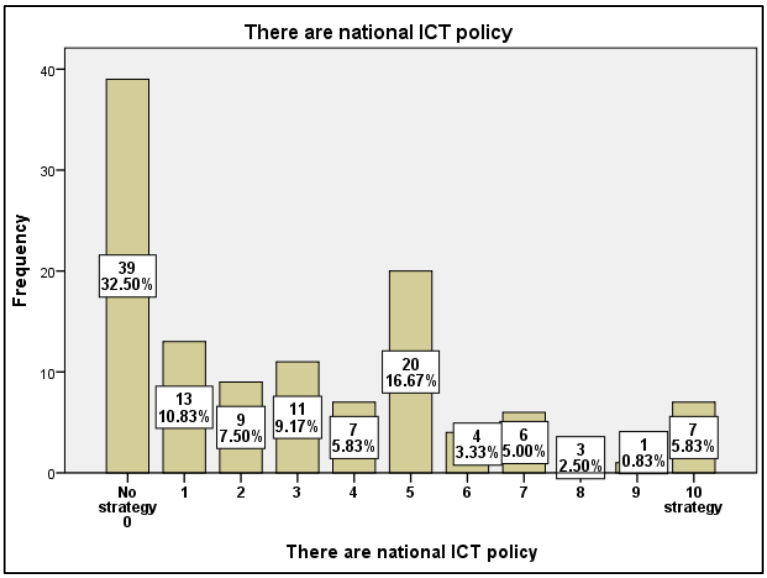

Figure 12: Frequencies of answers to the question, "There are national ICT policies."

Figure 12 shows that more than 30% of the participants clarified that there was no strategy at all in terms of the national ICT policy related to electronic management in their institutions. In contrast, we have about 16% of the participants in our survey having stated that this national ICT policy strategy exists in their respective institutions and its ratio is 5 out of 10. The mean and standard deviation value for the nationality and ICT policy is 3.01 and 3.02, respectively. The data proposes that there is not enough strategy at all in terms of the national ICT policy related to e-management.

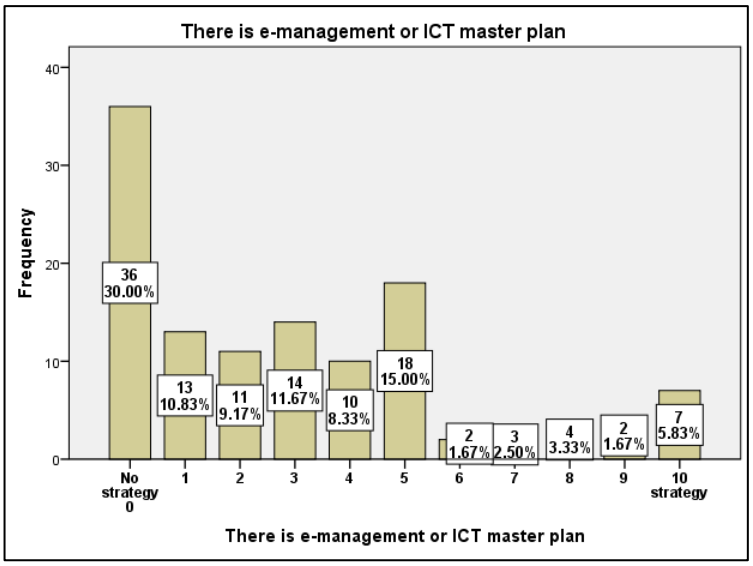

Figure 13: Frequencies of answers to the question, "There is electronic management or an ICT master plan."

In terms of the strategy related to the electronic management or ICT master plan, we have 30% of the participants clarifying that this strategy does not exist at all in their institutions, while approximately 15% stated that this strategy exists and its ratio is 5 out of 10. Moreover, the mean and standard deviation for the electronic management or an ICT master plan is 3 and 2.97 respectively. These obtained data suggest that there is a lack of strategy at all in their institutions.

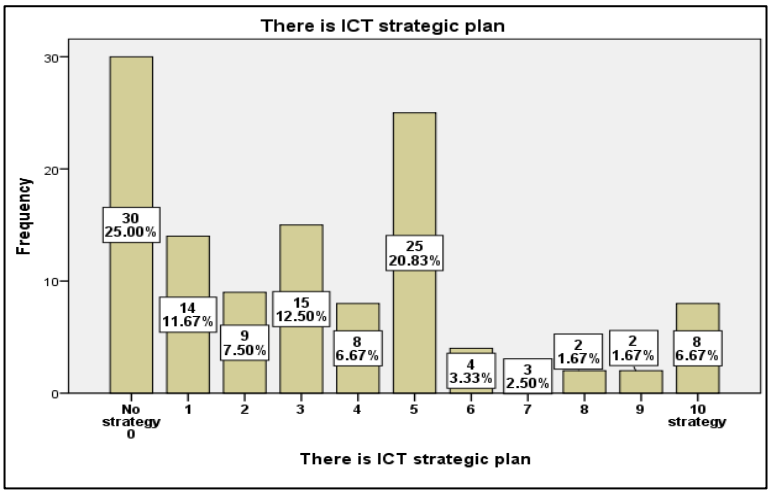

Figure 14: Frequencies of answers to the question, "There is an ICT strategic plan."

Figure 14 summarizes the existence of an ICT master plan related to electronic management in the participants' respective institutions. More than 20% of the participants stated that this strategic master plan exists in their institutions at a rate of 5 out of 10 while the largest percentage at 25% clarified that this strategic master plan does not exist in their respective institutions according. Furthermore, we extracted the mean and standard deviation for this section and it was 3.28 and 2.94 respectively. These data that there is somehow strategic master plan exists in their respective institutions according.

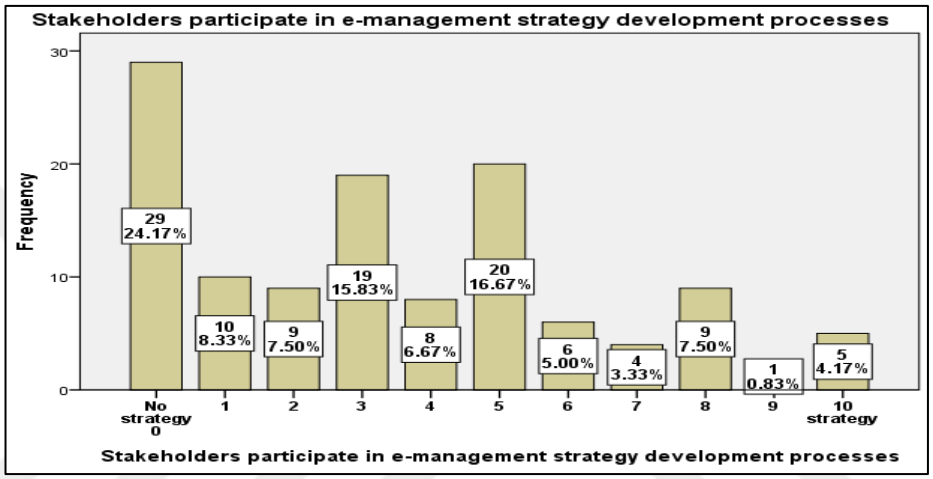

Figure 15: Frequencies of answers to the question, "Stakeholders participate in the electronic management strategy development processes."

Figure 15 shows the largest percentage of our participants at approximately 24% clarifying that they did not participate at all in the electronic management strategy development process and the following percentage at nearly 17% stated at a rate of 5 out of 10 that the strategy exists. As well as, the mean value for stakeholders participate in the electronic management strategy development processes is 3.43 and standard deviation is 2.89. These data suggest that there is moderate participation at all in the electronic management strategy development process. At this section, if the mean value is equal or larger than five, it indicates that there is a vision and strategies in the e-management projects in participant's institution. The availability of government vision and strategies in the e-management projects in participants institution is shown in Table 7.

Table 7: Clarifies the availability of government vision and strategies in the e-management projects in participants institutions

The availability of government vision and strategies	No strategy 0’	1	2	3	4	5	6	7	8	9	‘10’ strategy
There are national ICT policies	32.50%	10.83%	7.50%	9.17%	5.83%	16.67%	3.33%	5%	2.5%	0.83%	5.83%
There is an e-management or ICT master plan	30%	10.83%	9.17%	11.67%	8.33%	15%	1.67%	2.50%	3.33%	1.67%	5.83%
There is an ICT strategic plan.	25%	11.67%	7.50%	12.50%	6.67%	20.83%	3.33%	2.50%	1.67%	1.67%	6.67%
Stakeholders participate in e-management strategy development processes.	24.17%	8.33%	7.50%	15.83%	6.67%	16.67%	5%	3.33%	7.50%	0.83%	4.17%

4.1.5 Management Assessment

This section presents data on the perception of project management and change management of the electronic management project as well as the commitment of key players to the entire process. This section is divided into three main questions each of

which is divided into multiple branches which fix specific sides starting from Question 10 and ending with Question 12.

Q10: The following statements are questions on how well you perceive the project management for the e-management project in your institution.

This section consists of six statements and aims to determine the perception of the project management for electronic management in the institutions of the participants.

- There is a champion (steering individual or group) to implement e-management projects.
- There is consideration of risk in the project.
- There is good monitoring and control of the system.
- There is good organization of resources (including staff).
- There is good management of partnership with private and other public agencies.
- There is effective procurement of project materials.

The answers to this section are shown in Figures 16, 17, 18, 19, 20 and 21 according to the points of view of the participants. The nature of the answers varies from very poor (which refers to the lack of good perception for the project management of electronic management) to very good (referring to the perfect perception of electronic management procurement).

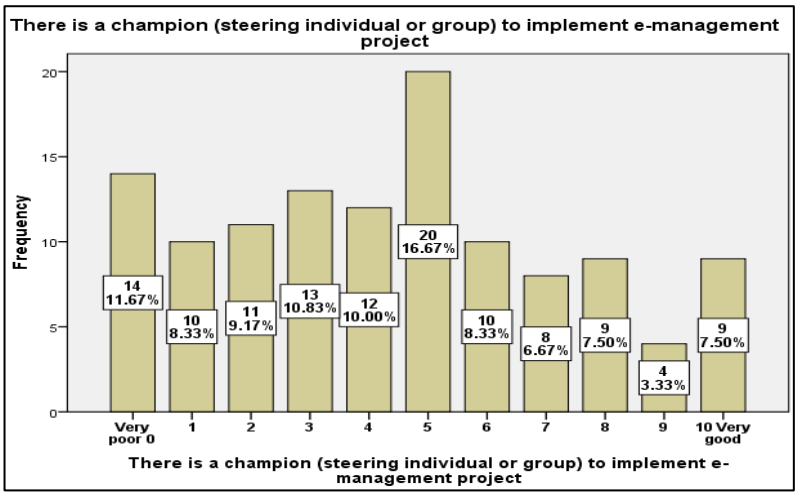

Figure 16: Frequencies of answers to the question, "There is a steering individual or group to implement the electronic management project."

As shown in Figure 16, more the 16% of the participants stated that there was a steering individual or group to implement the electronic management in their institution at a rate of 5 out of 10. However, the other percentage amounted to 11%, clarifying the lack of a steering individual or group to implement the electronic management project. Finally, the mean and standard deviation value for individual or group to implement the electronic management project is 4.44 and 2.96 respectively. The obtained data suggest that there is a steering individual or group to implement the electronic management in their institution.

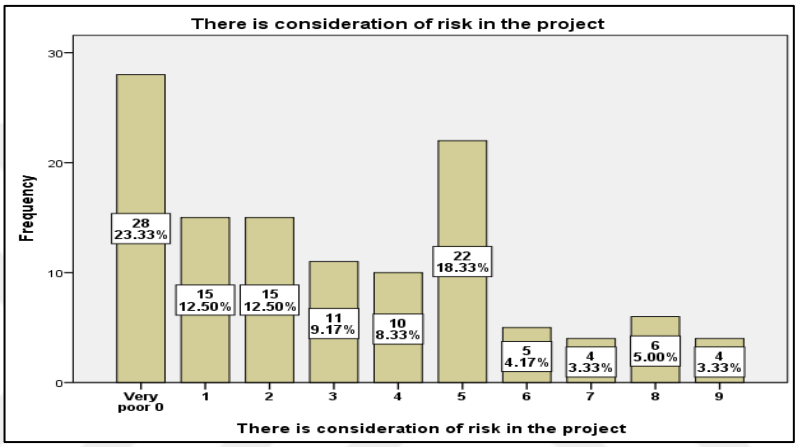

Figure 17: Frequencies of answers to the question, "There is consideration of risk in the project."

Figure 17 shows that the largest percentage of the participants amounted to approximately 23% stating that there is very poor consideration of risk in the project, while the other group stated that there is a risk amounting to 5 out of 10 in the project according to the point of view of participants. While the mean and standard deviation are 3.08 and 2.64, respectively. The obtained data suggest that there exist poor consideration of risk in the projects.

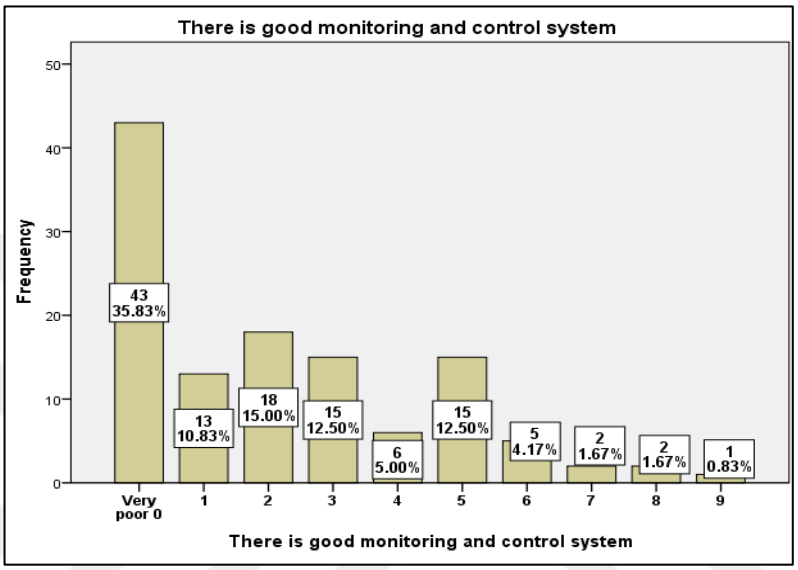

Figure 18: Frequencies of answers to the question, "There is a good monitoring and control system."

It is clear from Figure 18 that the largest percentage of the participants stated that there was a very poor monitoring and control system with a zero ratio for the electronic management monitoring and control system, whereas another group at 12% clarified that the monitoring and control system was good at a rate of 5 out of 10 for electronic management according to the point of view of participants. As well as, the mean and standard deviation for a good monitoring and control system is 2.18 and 2.25 respectively. These data suggest that is a very poor monitoring and control system for the electronic management.

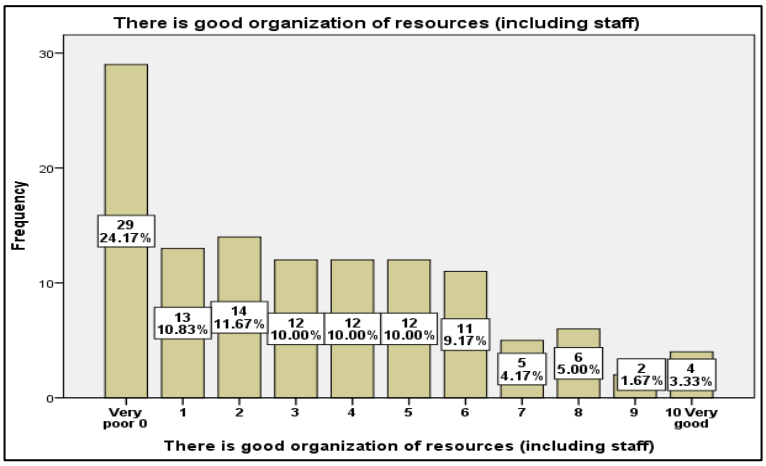

Figure 19: Frequencies of answers to the question, "There is good organization of resources (including staff)."

The answers for the section of good organization of resources including staff is shown in Figure 19 where the answer to this question varies between very poor and poor being answered by 6 out of 10 participants. Finally, the mean and standard deviation for the field of a good organization of resources (including staff) is 3.27 and 2.86 respectively. The obtained data suggest that there is a poor organization of resources.

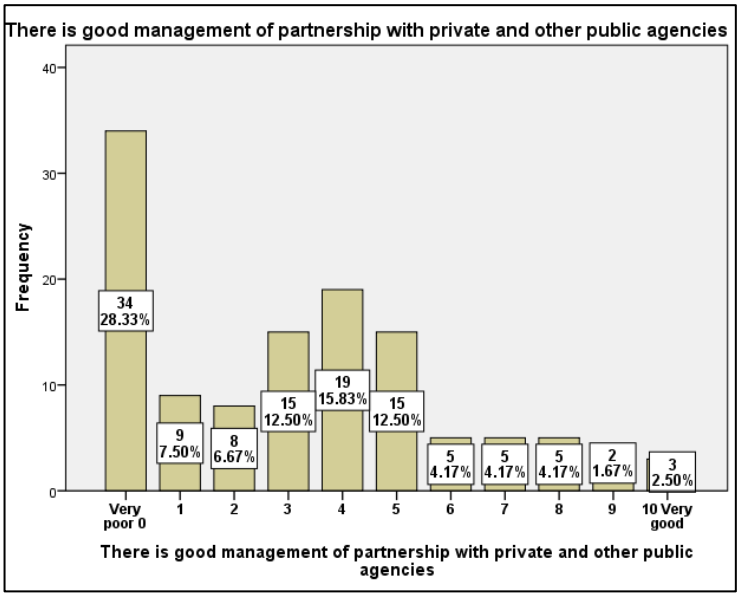

Figure 20: Frequencies of answers to the question, "There is good management of partnerships with private and other public agencies."

Figure 20 explains the existence of partnership management with private and other public agencies. There is a large percentage of participants stating this at a rate varying from 3 to 5 out of 10. However, a large percentage of the participants (more than 28%) stated that the management of partnerships was very poor. Moreover, the mean and standard deviation of a good management of partnerships with private and other public agencies is 3.12 and 2.74 respectively. These data suggest that there is a very poor management of partnerships.

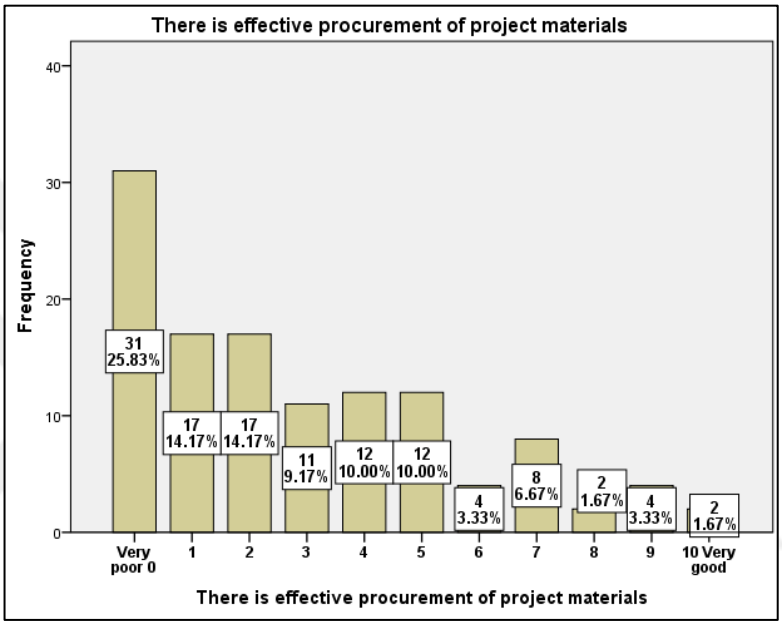

Figure 21: Frequencies of answers to the question, "There is effective procurement of project materials."

The final section in this question aims to clarify the existence of effective procurement of project materials where a large percentage of participants stated that there is effective procurement varying from 1 to 5 out of 10, according to the options presented to them. Nevertheless, a large sample of the survey stated that there is very poor effective procurement of project materials which exceeded 25%. While the mean and standard deviation is 2.87 and 2.71 respectively. The obtained data suggest that there is very poor effective procurement of project materials. If the mean value of this section is equal or greater than five, it refers that the status of e-management

in the participants institution is well. The project management status for the e-management project in the participants institutions is shown in Table 8.

Table 8: Clarifies the project management status for the e management project in the participants institutions

The project management status for the e-management	Very poor '0'	1	2	3	4	5	6	7	8	9	'10' very good
There is a steering individual or group to implement the electronic management project.	11.67 %	8.33%	9.17 %	10.83%	10%	16.67%	8.33%	6.67 %	7.5 %	3.33%	7.5 %
There is consideration of risk in the project.	23.33 %	12.5%	12.5 %	9.17 %	8.33 %	18.33%	4.17%	3.33 %	5%	3.33%	0%
There is a good monitoring and controlling of the system.	35.83 %	10.83 %	15%	12.5 %	5%	12.5 %	4.17%	1.67 %	1.67%	1.67%	0.83 %
There is good organization resources (including staff).	24.17 %	10.83 %	11.67%	10%	10%	10%	9.17%	4.17 %	5%	1.67%	3.33 %

There is a good management for partnership with other public and private institutions.	28.33 %	7.5 %	6.67 %	12.5 %	15.83%	12.5 %	4.17%	4.17 %	4.17%	1.67%	2.5 %
There is effective procurement of the project materials.	25.83 %	14.17 %	14.17%	9.17 %	10%	10%	3.33%	6.67 %	1.67%	3.33%	1.67 %
There is use of incentives to create commitment and ownership among stakeholders (including operational staff).	23.33 %	10 %	10.83%	10%	19.17%	14.17%	2.5 %	1.67 %	5.83%	0.83%	1.67 %
There is strong stakeholder involvement that builds support.	29.17 %	8.33%	8.33 %	16.67%	7.5 %	16.67%	2.5 %	2.5 %	4.17%	2.5 %	1.67 %

Q11: The following statements are questions on how well you perceive the management of change for the e-management project at your institution.

This section includes two statements and aims to investigate the change of management for the electronic management project in the institutions of the study survey and these statements can be summarized as follow:

- There is use of incentives to create commitment and ownership among stakeholders (including operational staff).
- There is strong stakeholder involvement that builds support.

The answers to these statements are shown in Figures 22 and 23.

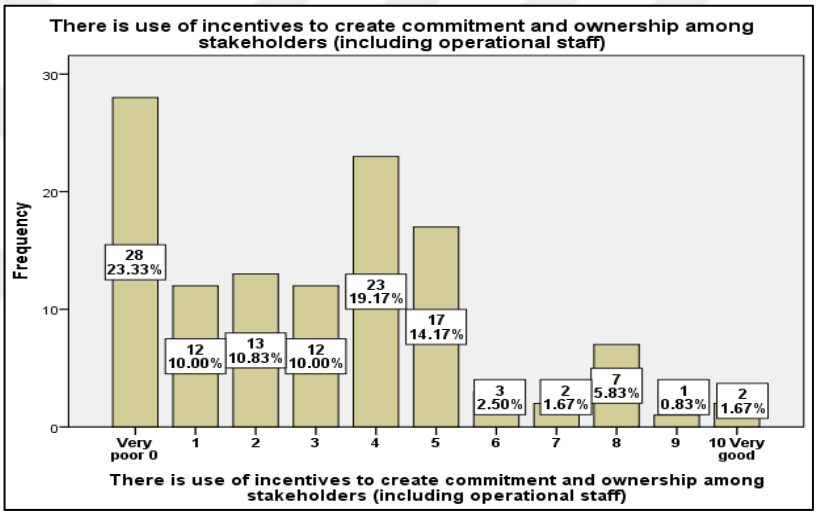

Figure 22: Frequencies of answers to the question, "There is use of incentives to create commitment and ownership among stakeholders (including operational staff)."

Figure 22 shows that a great percentage of the participants stated that there was moderate use of incentives to create commitment and ownership among stakeholders, including operational staff with a ratio from 4 to 5 out of 10. However, another group of participants mentioned that the incentives to create commitment and ownership among stakeholders was very poor. Also, in terms of the mean and standard deviation for the use of incentives to create commitment and ownership among stakeholders (including operational staff) is 3.07 and 2.54 respectively. These data

suggest that there is a moderate use of incentives to create commitment and ownership among stakeholders, including operational staff

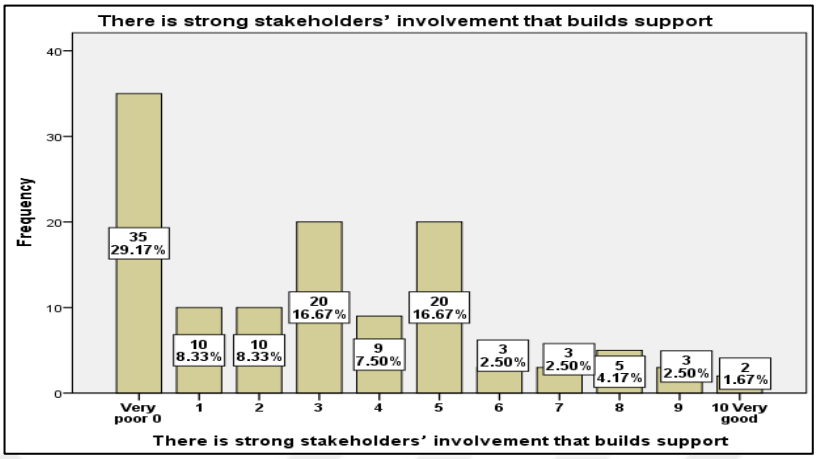

Figure 23: Frequencies of answers to the question, "There is strong stakeholder involvement that builds support."

The involvement of stakeholders that builds support existed at a rate of 3 to 5 out of 10 according to the participants, while more than 29% of the participants stated that this stakeholder involvement was very poor at a rate of 0 out of 10. Moreover, the mean value is 2.93 and standard deviation value of this section is 2.68. The data suggest that the stakeholder involvement is very poor. If the score of our mean value at this section is equal or greater than five, it indicates that there is management of change at the participants institutions. Table 9 clarifies how to perceive the management of change for the e-management project at the participants institutions.

Table 9: Perceive the management of change for the e management project at the participants institution.

Perceive the management of change for the e-management project	Very poor '0'	1	2	3	4	5	6	7	8	9	'10' very good
There is use of incentives to create commitment and ownership among stakeholders (including operational staff).	23.33%	10%	10.83%	10%	19.17%	14.17%	2.5%	1.67%	5.83%	0.83%	1.67%
There is strong stakeholder involvement that builds support.	29.17%	8.33%	8.33%	16.67%	7.5%	16.67%	2.5%	2.5%	4.17%	2.5%	1.67%

Q12: The following statements are questions on how you perceive the focus of key players on personal self-interest and playing politics in the e-management project at your institution:

This section consists of four statements that aim to determine the focus of key players on personal self-interest and playing politics in an electronic management project in the institutions of the participants. The statements pertaining to this question are as follows:

- There is perceived infighting in the e-management project.
- There is resistance to change where loss of power is feared.

- There is copying of e-management solutions for image purposes.
- There is an obsession with electoral impacts and short-term praise.

The answers to these statements are further clarified in Figures 24, 25, 26 and 27.

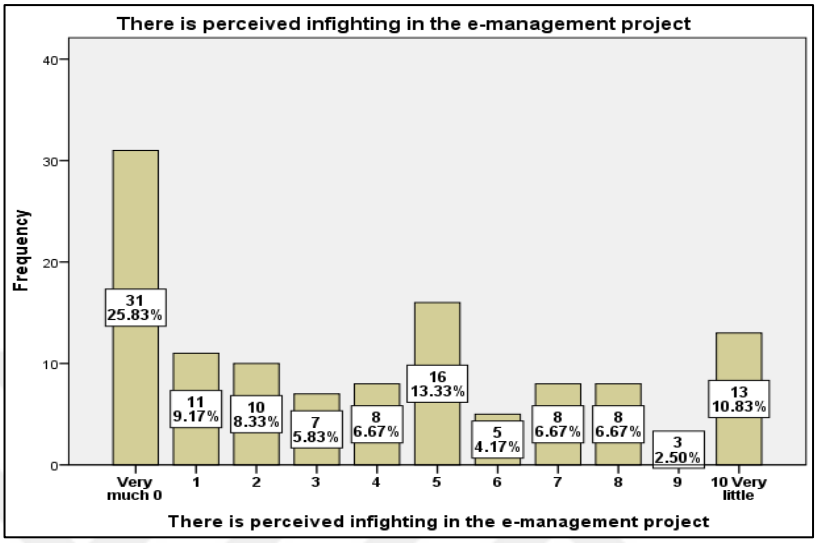

Figure 24: Frequencies of answers to the question, "There is perceived infighting in the electronic management project."

Figure 24 presents the opinions of the participants with regard to infighting which exists in Libyan institutions relating to electronic management projects. The largest sample of the participants, exceeding 25%, stated that there is a high amount of infighting. Whereas the value of mean and standard deviation for this section is 3.93 and 3.45 respectively. The obtained data suggest that there is a high amount of infighting in the Libyan institutions.

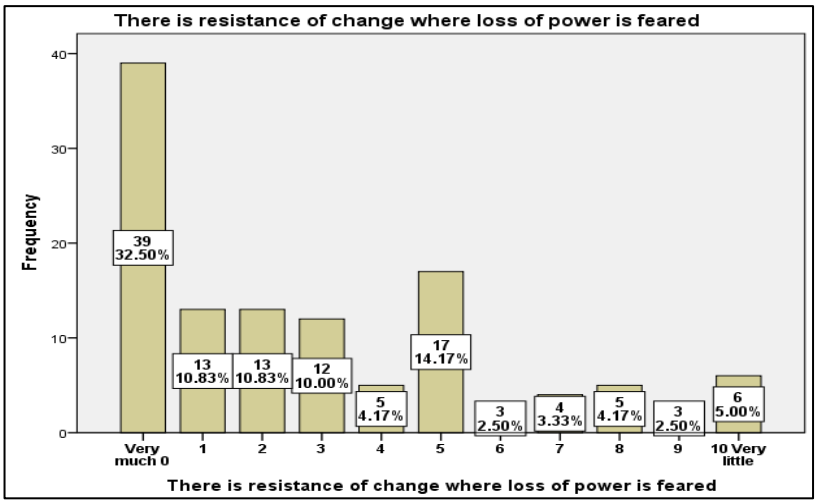

Figure 25: Frequencies of answers to the question, "There is resistance to change where loss of power is feared."

Resistance to change is shown in Figure 25 such that approximately 32% of the participants stated that there was resistance to change in their institutions, whereas the other percentage stated that the resistance to change existed but at a rate of 5 out of 10 according to the participants. Finally, the mean and standard deviation is 2.94 and 3.04 respectively. These data suggest that is resistance to change in the institutions.

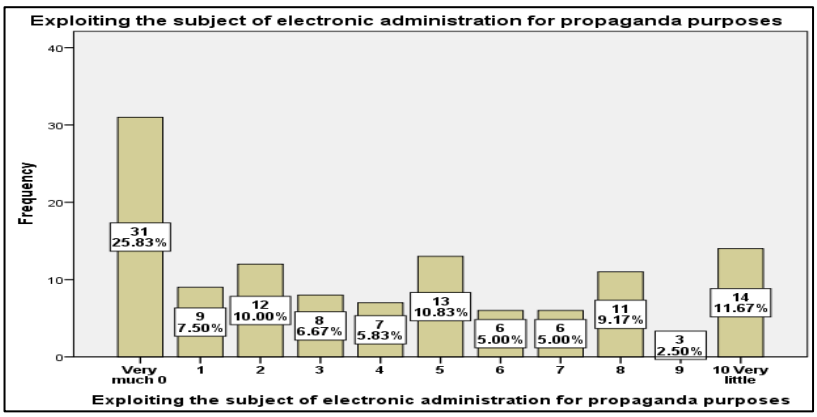

Figure 26: Frequencies of answers to the question, "Exploring the subject of electronic administration for propaganda purposes."

Figure 26 shows that we have more than 25% of the participants believing that there are propaganda purposes towards introducing the principle of electronic management in their institutions. In terms of mean and standard deviation, the mean and standard deviation of this section is 4.03 and 3.52 respectively. The obtained data suggest that there are propaganda purposes towards introducing the principle of e-management in the Libyan institutions.

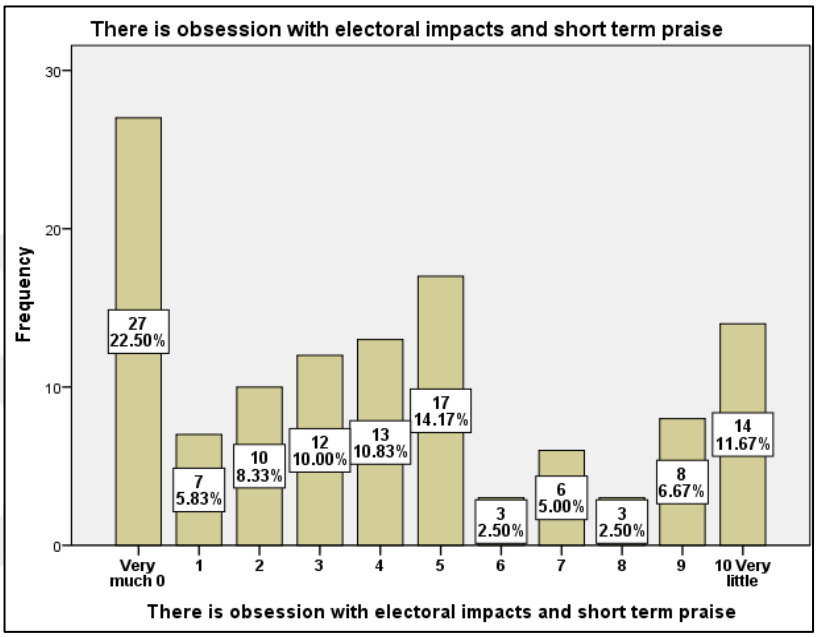

Figure 27: Frequencies of answers to the question, "There is an obsession with electoral impacts and short-term praise."

The obsession with electoral impacts and short-term praise affects the subject of electronic management in Libyan institutions where we have a large percentage of the participants mentioning that this subject occurs at a rate of 5 out of 10 while the other samples in the same survey stated that it is existed very much in their organizations. As well as, the mean for this section is 4.13 and standard deviation is 3.41. The gotten data suggest that there is obsession with electoral impacts and short-term praise affects the subject of electronic management in Libyan institutions. If the mean value at this section is equal or greater than five, it refers that there is focus from key players on personal self-interest and playing politics in the e-management project at the institution. Table 10 illustrates how you perceive the focus of key

players on personal self-interest and playing politics in the e-management project at the participants institution.

Table 10: Illustrates how you perceive the focus of key players on personal self-interest and playing politics in the e management project at the participants institution

Perceive the focus of key players on personal self-interest	Very poor '0'	1	2	3	4	5	6	7	8	9	'10' very good
There is perceived infighting in the e-management project.	25.83%	9.17%	8.33%	5.83%	6.67%	13.33%	4.17%	6.67%	6.67%	2.5%	10.83%
There is resistance to change where loss of power is feared.	32.50%	10.83%	10.83%	10%	4.17%	14.17%	2.50%	3.33%	4.17%	2.5%	5%
There is copying of e-management solutions for image purposes.	25.83%	7.5%	10%	6.67%	5.83%	10.83%	5%	5%	9.17%	2.5%	11.67%
There is an obsession with electoral impacts and short-term praise.	22.5%	5.83%	8.33%	10%	10.83%	14.17%	2.5%	5%	2.5%	6.67%	11.67%

4.1.6 Design Assessment

The purpose of this section is to collect data about the perception of the participants regarding how effective and realistic the project design of the electronic management project is. The design assessment section includes one main question, Question 13 (Q13), which is divided into six statements each processing some aspect in the design assessment section.

Q13. The following statements are questions on your perception on how effective and realistic the design of the e-management project at your institution is.

The six statements related to this question can be summarized, as follows:

- There is an incremental approach
- There are quick and feasible objectives
- There is strong stakeholder involvement ensuring designs meet real needs.
- There is employee satisfaction with the project organizational set-up.
- There is employee acceptance of project organizational change.
- There is employee openness to organizational change of the project.

Analyses of the above statement are shown in Figures 28, 29, 30, 31, 32 and 33.

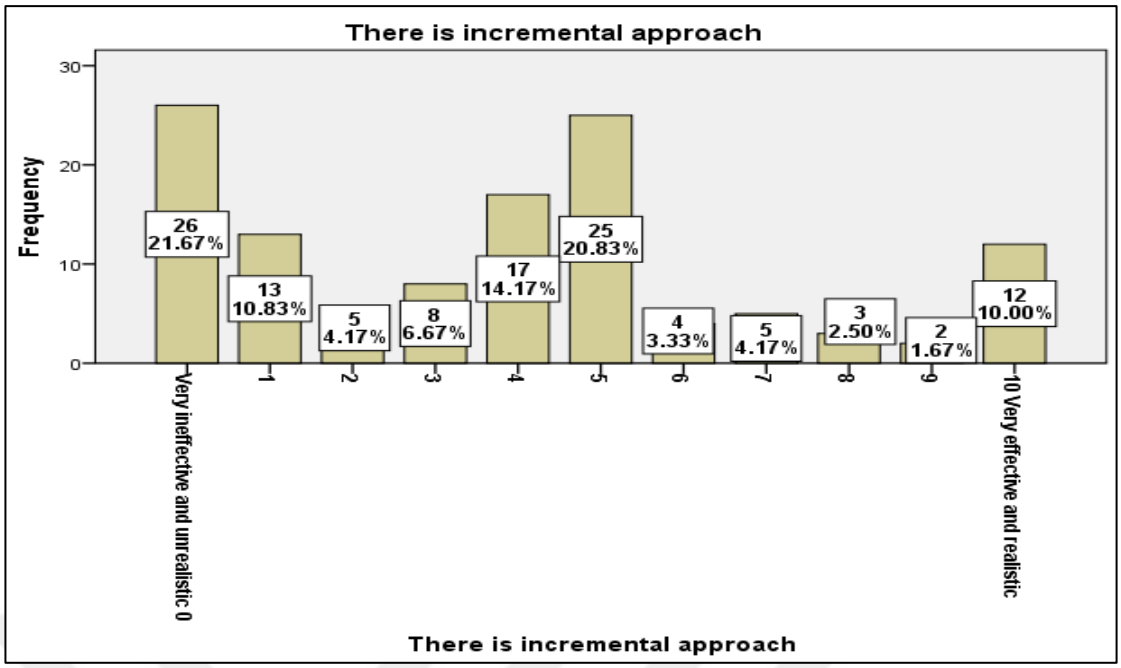

Figure 28: Frequencies of answers to the question, "There is an incremental approach."

It is clear from Figure 28 that there is an incremental approach in relation to the effectiveness and reality of electronic management in Libyan institutions such that we have 20% and 17% of our participants stating that the reality and effectiveness of the approach being incremental exists at a rate of 5 and 4 out of 10, respectively. However, we have 21% of our participants mentioning that this incremental approach does not existed at all in their institutions. Finally, the mean and standard deviation values for incremental approach are 3.84 and 3.14 respectively. The obtained data suggest that there is an incremental approach in relation to the effectiveness and reality of electronic management in Libyan institutions.

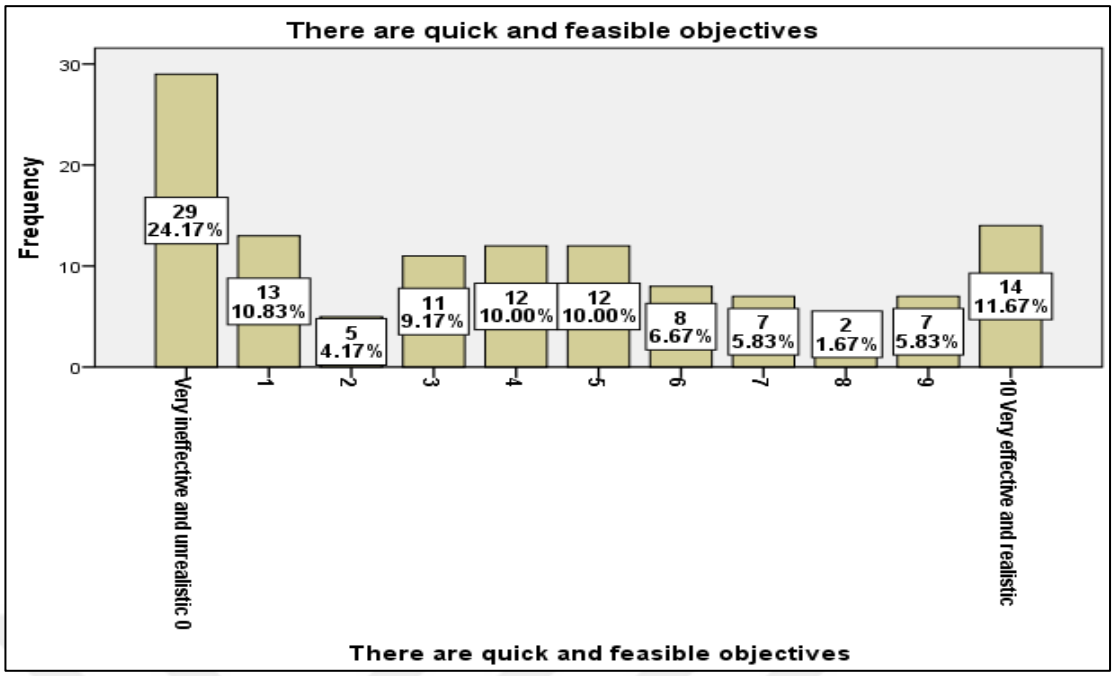

Figure 29: Frequencies of answers to the question, "There are quick and feasible objectives."

Figure 29 shows that more than 24% of our participants stated that there were no quick and feasible objectives in terms of electronic management in their organizations according to the participants. In terms of the mean and standard deviation, we found that the mean is 4 and standard deviation is 3.46. The data suggest that there are no quick and feasible objectives in terms of e- management in the Libyan organizations.

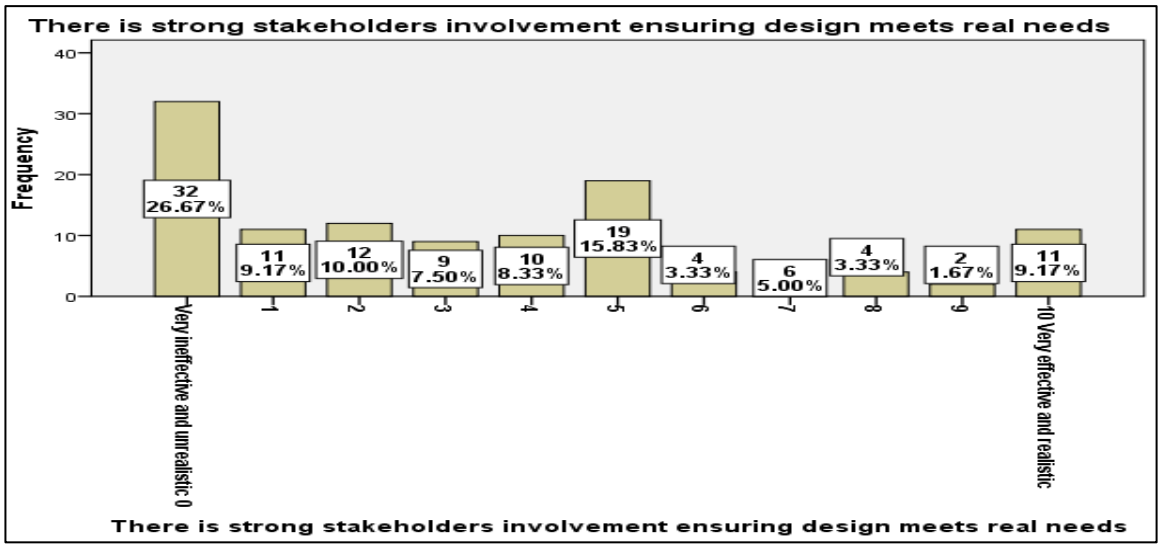

Figure 30: Frequencies of answers to the question, "There is strong stakeholder involvement ensuring designs meet real needs."

It is clear from Figure 30 that a large percentage of our participants mentioned the existence of strong stakeholder involvement ensuring that designs meet real needs at a rate of 5 and 4 out of 10 in their institutions. Finally, we extracted the mean and standard deviation for a strong stakeholder involvement ensuring designs meet real needs section and they were 3.53 and 3.22. These data suggest that there is a strong stakeholder involvement ensuring that designs meet real needs.

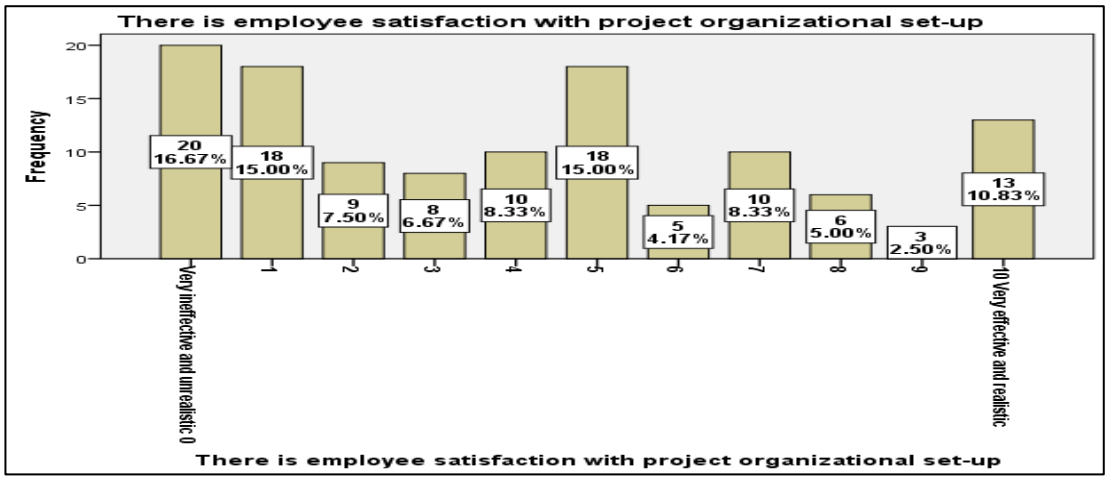

Figure 31: Frequencies of answers to the question, "There is employee satisfaction with project organizational set-up."

Employees are satisfied with the project organizational set-up as seen clearly in Figure 31 where we have a great percentage of our participants stating that they were satisfied with the project organizational set-up. However, approximately 17% of our participants were not satisfied with the project organizational set-up in their institutions. In terms of the employees satisfaction with project organizational set-up, we found that the mean value is 4.13 and standard deviation is 3.29. The obtained data suggest that employees are satisfied with the project organizational set-up.

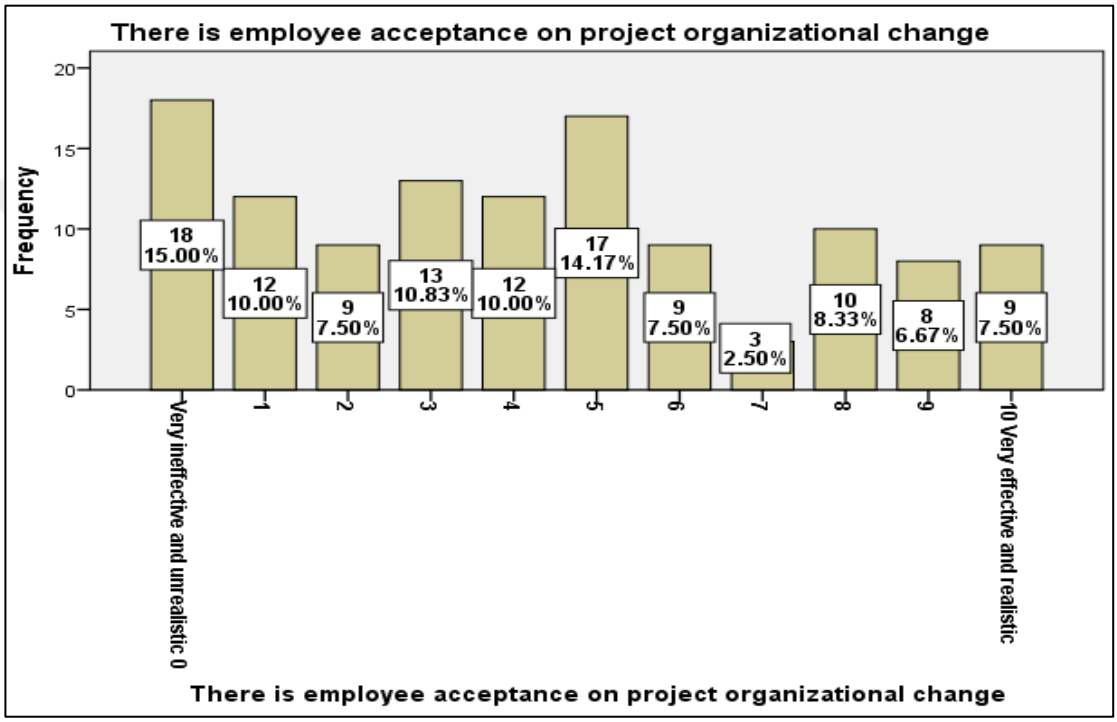

Figure 32: Frequencies of answers to the question, "There is employee acceptance of project organizational change."

Figure 32 shows that the employees accepted the project organizational change at a rate of 4 to 5 out of 10 and a good percentage of the participants completely agree on the organizational change in their organizations. The mean and standard deviation values for the employees acceptance of project organizational change, they were 4.33 and 3.17 respectively. The obtained data suggest that employees agree on the organizational change in their institutions.

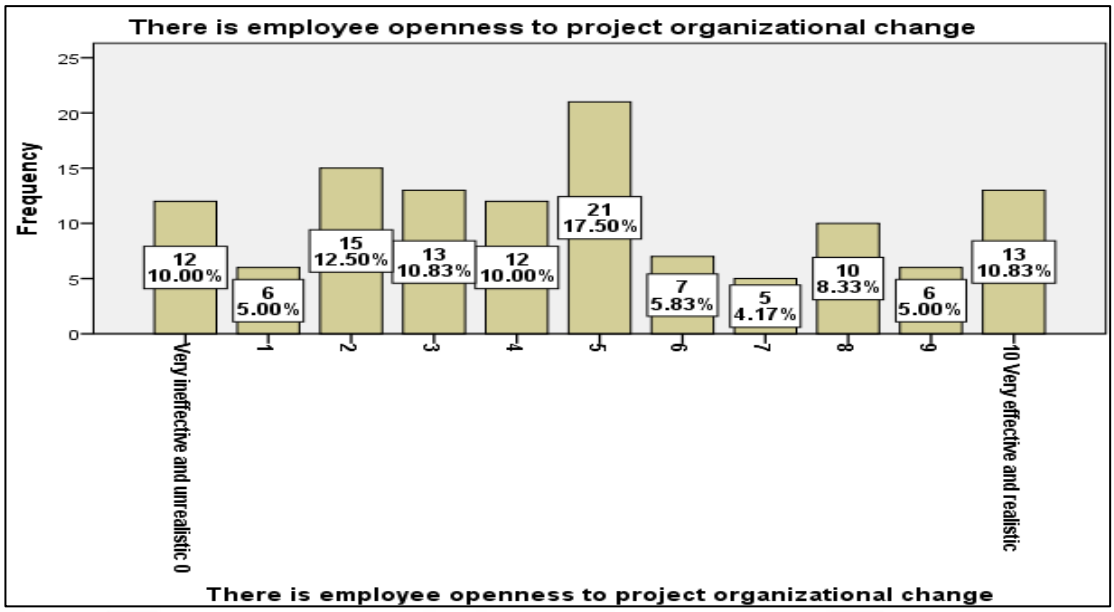

Figure 33: Frequencies of answers to the question, "There is employee openness to project organizational change."

The rate of employee openness to the project of organizational change is good, ranging from 5 to 10, as seen in Figure 33. This rate explains that employees in Libyan institutions welcome the change to electronic management in a good ratio according to the study sample. As well as, the mean and standard deviation value for this section is 4.74 and 3.07 respectively. The data suggest that there is ineffective and unrealistic employee openness to the projects of organizational change. If the mean value of this section is equal or greater than five, it indicates that there is effective and realistic the design of the e-management project in participants institution. Table 11 illustrates how effective and realistic the design of the e-management project in participants institution.

Table 11: How effective and realistic the design of the e-management project in participants institution

Perception on how effective and realistic the design of the e-management	'0' very ineffective and unrealistic	1	2	3	4	5	6	7	8	9	'10' effective and realistic
There is an incremental approach	21.67%	10.83%	4.17%	6.67%	14.17%	20.83%	3.33%	4.17%	2.50%	1.67%	10%
There are quick and feasible objectives	24.17%	10.83%	4.17%	9.17%	10%	10%	6.67%	5.83%	1.67%	5.83%	11.67%
There is strong stakeholder involvement ensuring designs meet real needs	26.67%	9.17%	10%	7.5%	8.33%	15.83%	3.33%	5%	3.33%	1.67%	9.17%
There is employee satisfaction with project organizational set-up	16.67%	15%	7.5%	6.67%	8.33%	15%	4.17%	8.33%	5%	2.5%	10.83%

There is employee acceptance of project organizational change	15%	10 %	7.5 %	10.83 %	10 %	14.17 %	7.5 %	2.5 %	8.33%	6.67%	7.5%
There is employee openness to project organizational change	10%	5%	12.5%	10.83 %	10 %	17.5%	5.83%	4.17%	8.33%	5%	10.83%

4.1.7 Competencies Assessment

The purpose of this section is to collect data about the perception of the study sample regarding the availability of human resources in terms of skills, knowledge and attitudes towards the electronic management project. The section consists of one question, namely number 14 (Q14).

Q14: The following statements are questions on how you perceive the availability of the required competencies in the e-management project at your institution:

- ICT capacity of users (skills, knowledge attitude);
- ICT education obtained by employees (system managers, developers, operators and users); and
- ICT specialists (strategic, change/project management, IS development and management)

The answers to and analyses of these statements are shown in Figures 34, 35 and 36.

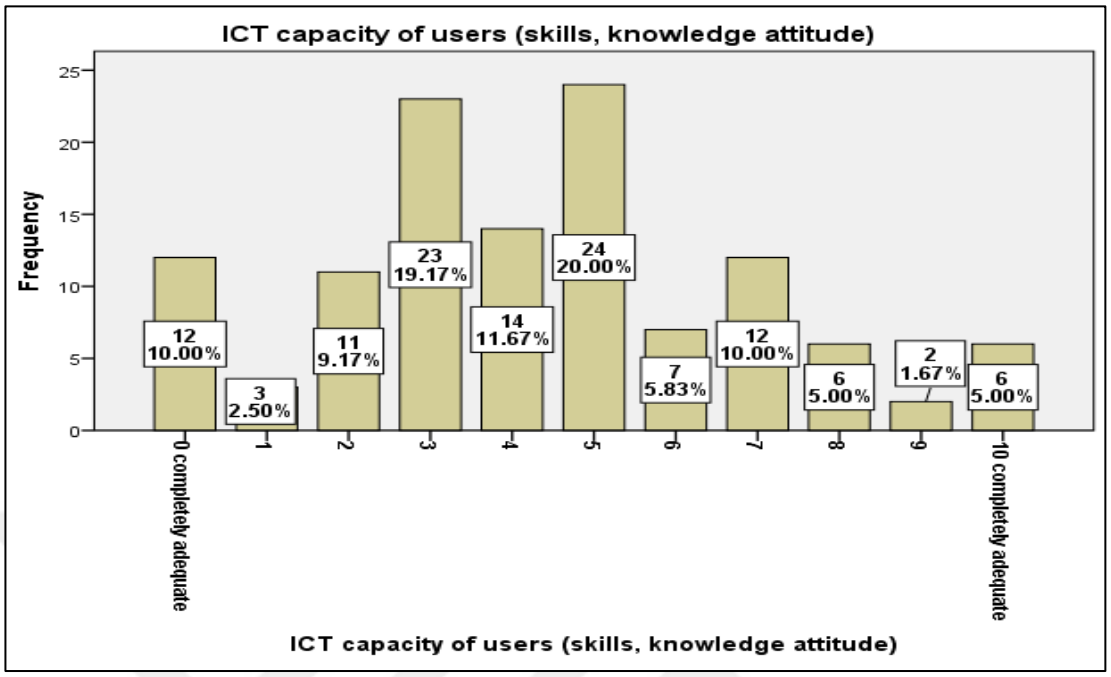

Figure 34: Frequencies of answers to the question, "ICT Capacity users."

Figure 34 shows that the participants stated that the ICT capacity of users, such as skills, knowledge and attitude, was good and its ratio extended from 5 out of 10 at their institutions according to the participants' point of view. This means that the users were qualified to work on developing software at their institutions if they found suitable and reputable hardware/software devices. The mean and standard deviation for ICT Capacity users is 4.35 and 2.58 respectively. These data suggest that the ICT capacity of users, such as skills, knowledge and attitude was good.

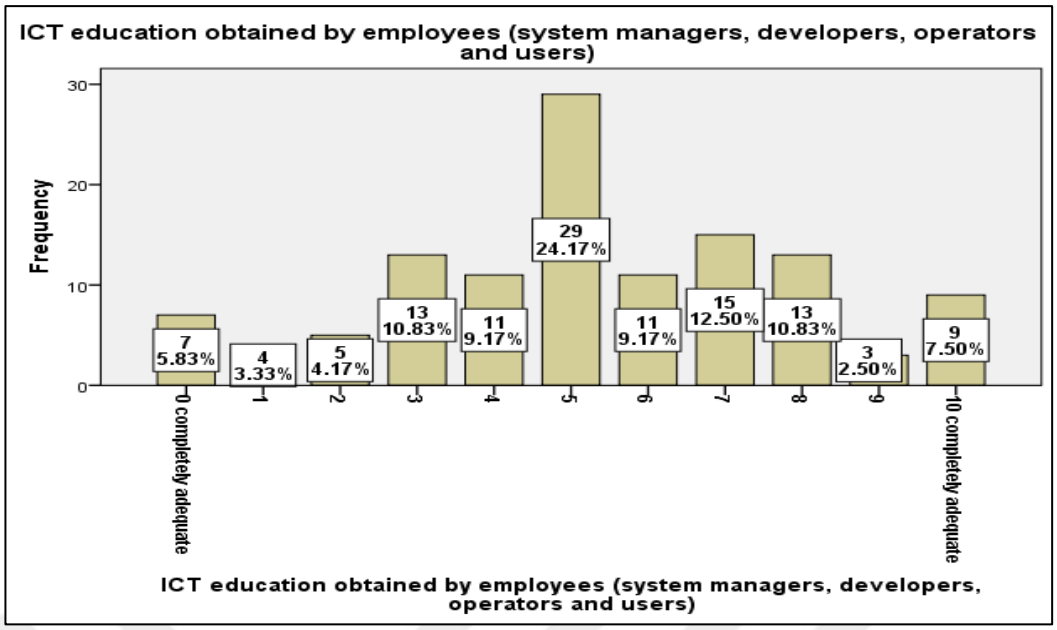

Figure 35: Frequencies of answers to the question, "ICT education according to employees."

The ICT education obtained by system managers, developers, users and operators is adequately good. Figure 35 shows that the largest percentage of employees at 24% stated that ICT education for the mentioned staff is good at a rate of 5 out of 10. The mean and standard deviation for ICT education according to employees is 5.28 and 2.59 respectively. The obtained data suggest that ICT education for the mentioned staff is good.

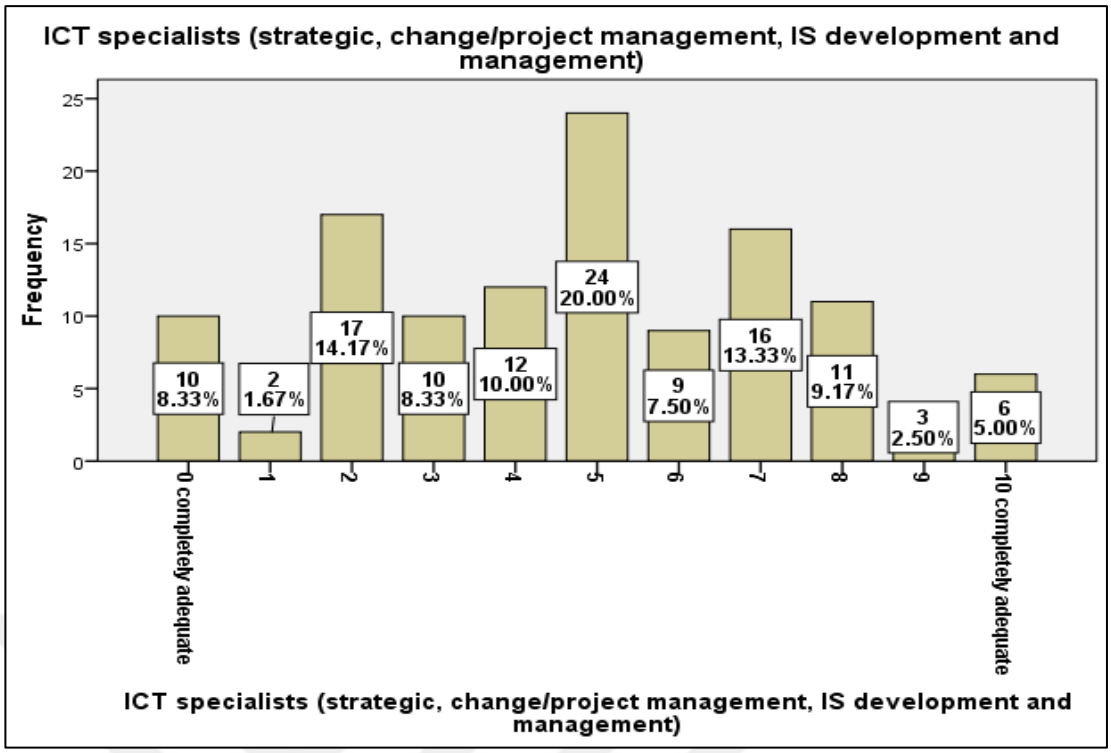

Figure 36: Frequencies of answers to the question, "ICT specialists."

Figure 36 shows that the participants stated that ICT specialists at their respective institutions, including strategic, change/project management and IS development and management, are very good at a rate ranging from 7 to 8 out of 10. This means that the ICT specialists are available at their institutions if they found good infrastructure and management. Finally, we extracted the mean and standard deviation for the ICT specialists and they were 4.79 and 2.67 respectively. The obtained data suggest that ICT specialists at their respective institutions, including strategic, change/project management and IS development and management are very adequate. If we obtained a mean value larger than or equal five, it indicates that there is availability of the required competencies in the e-management project at the participants institutions. Table 12 summarizes the availability of the required competencies in the e-management project at the participants institutions.

Table 12: The availability of the required competencies in the e management project at your institution

The availability of the required competencies in the e-management project at your institution	'0' completely inadequate	1	2	3	4	5	6	7	8	9	'10' completely adequate
There is an incremental approach	10%	2.5%	9.17%	19.17%	11.67%	20%	5.83%	10%	5%	1.67%	5%
There are quick and feasible objectives	5.83%	3.33%	4.17%	10.83%	9.17%	24.17%	9.17%	17.5%	10.83%	2.5%	7.5%
There is strong stakeholder involvement ensuring designs meet real needs	8.33%	1.67%	14.17%	8.33%	10%	20%	7.5%	13.33%	9.17%	2.5%	5%

4.1.8 Technology Assessment

The purpose of this section is to collect data on the perception of the survey participants regarding how adequate technological infrastructure aspects are available to the electronic management project. The section consists of only one question, namely question number 15 (Q15) in particular which includes six statements that can be summarized as follows:

Q15: The following statements are questions on how you perceive the adequacy of the technological infrastructure for the e-management project your institution:

- There is adequate hardware, software and network technology in this e-management project.
- Network/system development
- System interoperability
- Security and authenticity of technologies
- Concerns of unauthorized access to sensitive information and loss of trust
- Security measures in terms of data and software protection, data transfer over networks and safety of electronic transactions

Analyses of the above statements are shown in Figures 37, 38, 39, 40, 41 and 32.

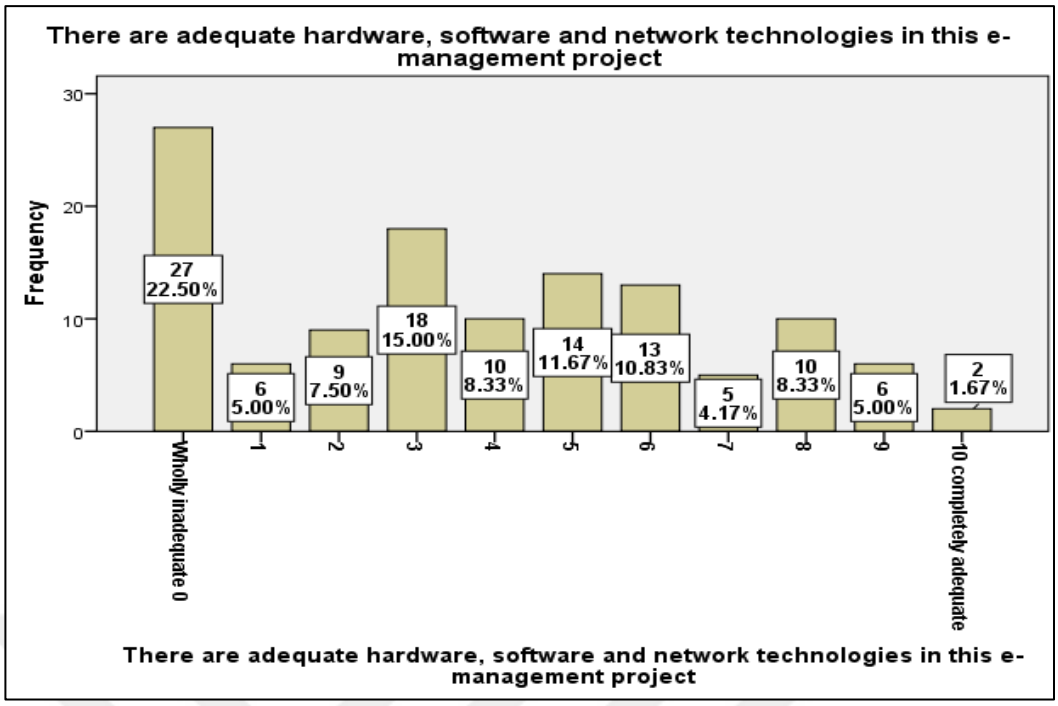

Figure 37: Frequencies of answers to the question, "There are adequate hardware, software and network technologies"

Figure 37 shows that a large percentage of our participants at more than 22% stated that the hardware, software and network technologies related to the electronic management project are wholly inadequate in their institutions according to the point of view of the study sample. The mean and standard deviation for this section is 3.79 and 2.93 respectively. These data suggest that the hardware, software and network technologies related to the electronic management project are inadequate.

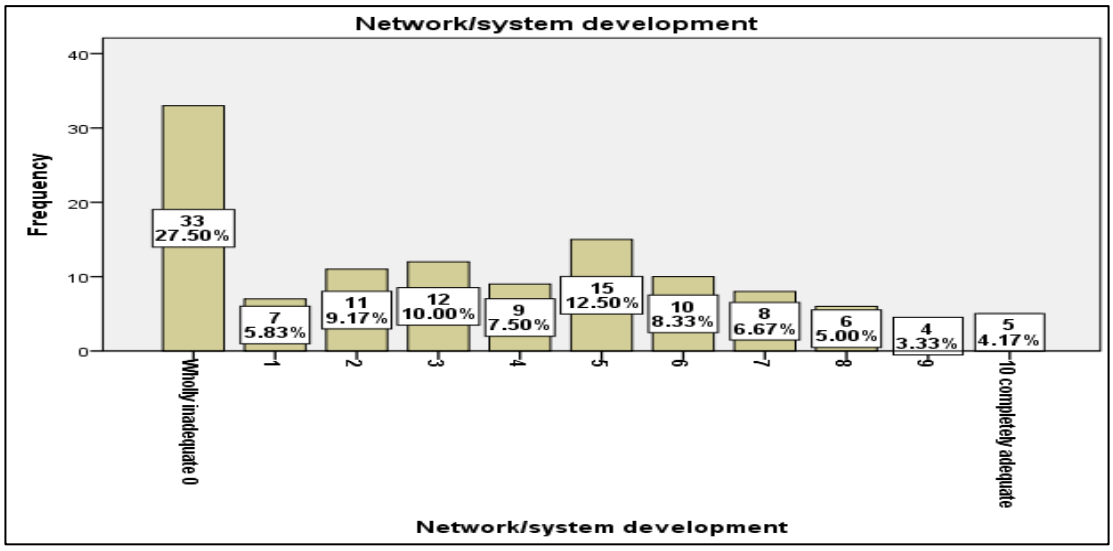

Figure 38: Frequencies of answers to the question, "Network/system development."

The network/system development is wholly inadequate in the organization where our participants work because a large percentage of the study sample at more than 27% mentioned this issue, as shown in Figure 38. Finally, we extracted the mean and standard deviation for network/system development and they were 3.55 and 3.07 respectively. These data suggest that the network/system development is inadequate in the organization.

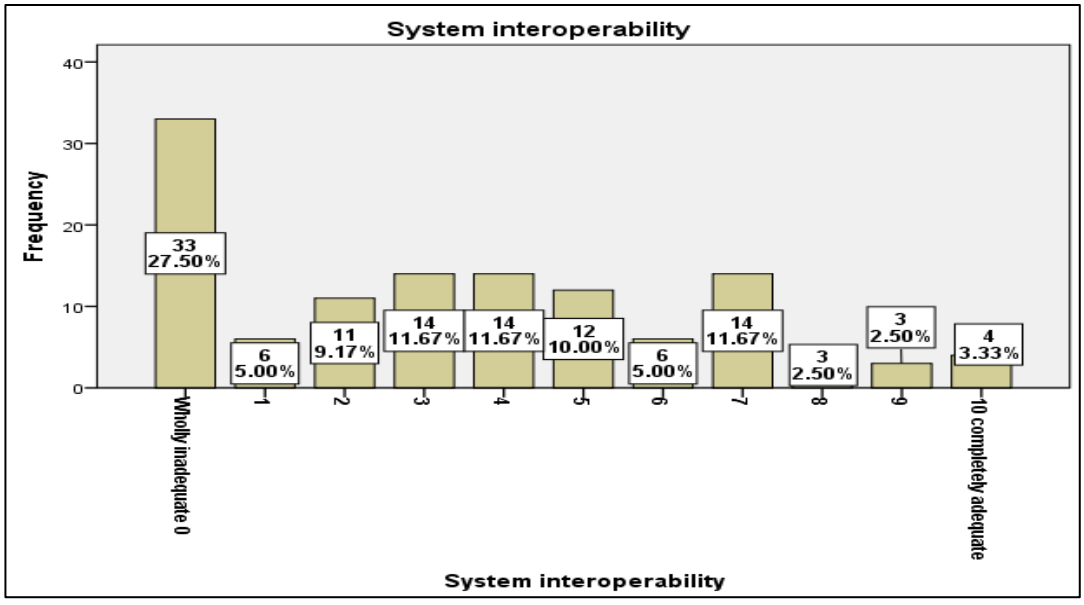

Figure 39: Frequencies of answers to the question, "System interoperability."

Figure 39 illustrates that we have more than 27% of our participants stating that system interoperability is wholly inadequate in their organizations. In terms of the mean and standard deviation for the system interoperability, the mean value is 3.43 and standard deviation is 2.94. The obtained data suggest that system interoperability is inadequate in the Libyan organizations.

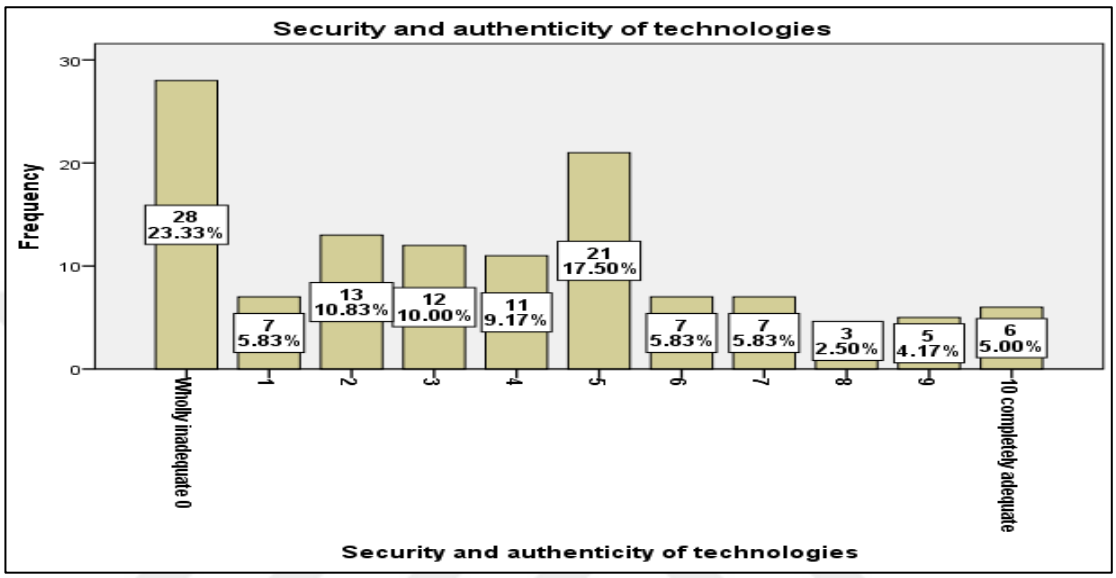

Figure 40: Frequencies of answers to the question, "Security and authenticity of technologies."

In terms of the security and authenticity of technologies, Figure 40 shows that we have 23% of our participants mentioning that security and authenticity are wholly inadequate at their institutions. In contrast, we have more than 17% of the study sample mentioning that security and authenticity are wholly adequate in their organizations. Finally, the mean value is 3.65 and standard deviation is 2.98. These data suggest that security and authenticity are inadequate at the Libyan institutions.

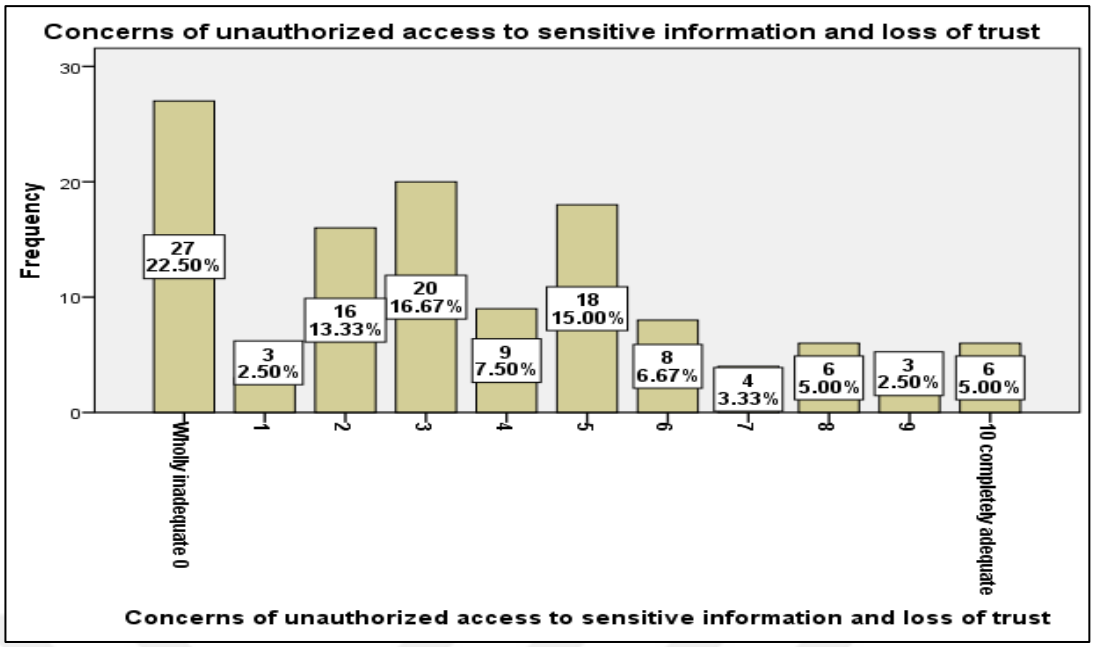

Figure 41: Frequencies of answers to the question, "Concerns for unauthorized access to sensitive information and loss of trust."

Figure 41 summarizes the participants answers about concerns for unauthorized access to sensitive information and loss of trust. The answers of the participants were varied and the largest percentage of them stated that it is wholly adequate and their ratios are 5 and 3 out of 10 according to the participants. In terms of the mean and standard deviation, we found that the mean value is 3.6 and standard deviation is 2.98. The obtained data suggest that concerns for unauthorized access to sensitive information and loss of trust are adequate.

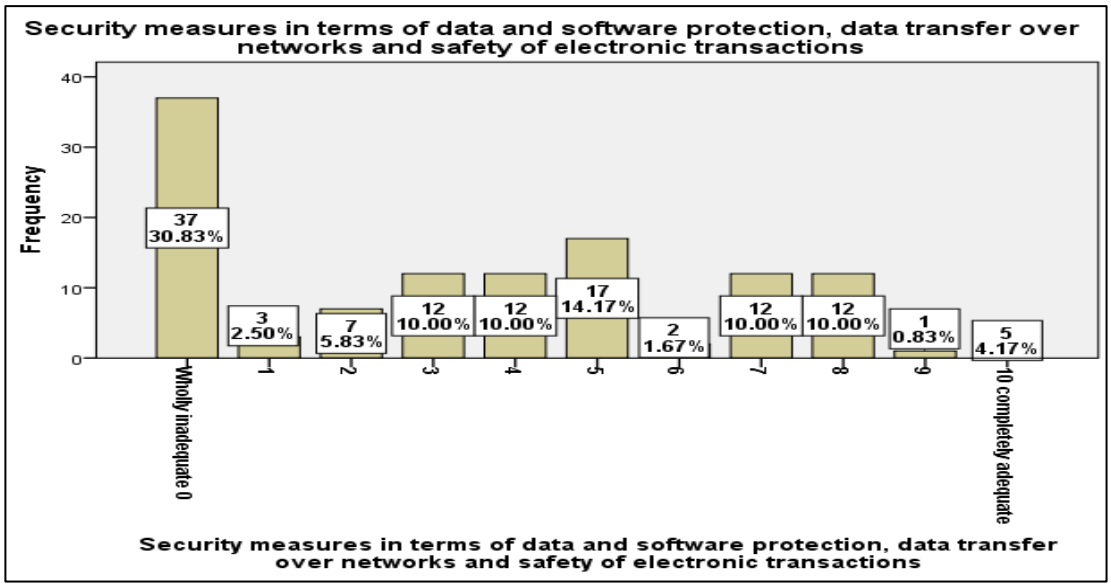

Figure 42: Frequencies of answers to the question, "Security measures in terms of data and software protection of electronic transactions."

In terms of the security measures for data and software protection of electronic transactions, Figure 42 shows that the largest percentage of our survey participants stated that the security measures are wholly inadequate as indicated by 30% of them. Whereas the mean value for security measures in terms of data and software protection of electronic transactions is 3.64 and standard deviation is 3.14. These data suggest that security measures are inadequate. At this section, if the mean value is greater than or equal five, it indicates that there is adequacy of the technological infrastructure for the e-management project at participants institution. Table 13 clarifies the adequacy of the technological infrastructure for the e-management project at participants institution.

Table 13: The adequacy of the technological infrastructure for the e management project at participants institution

The adequacy of the technological infrastructure for the e-management project at participants institution	'0' completely inadequate	1	2	3	4	5	6	7	8	9	'10' completely adequate
There are adequate hardware, software and network technologies	22.5%	5%	7.5%	15%	8.33%	11.67%	10.83%	4.17%	8.33%	5%	1.67%
Network/system development	27.5%	5.83%	9.17%	10%	7.5%	12.5%	8.33%	6.67%	5%	3.33%	4.17%
System interoperability	27.5%	5%	11.67%	11.67	10%	5%	11.67%	2.5%	2.5%	2.5%	3.33%
Security and authenticity of technologies	23.33%	5.83%	10.83%	10%	9.17%	17.5%	5.83%	5.83%	2.5%	4.17%	5%

Concerns for unauthorized access to sensitive information and loss of trust	22.5%	2.5%	13.33%	16.67%	7.5%	15%	6.67%	3.33%	5%	2.5%	5%
Security measures in terms of data and software protection of electronic transactions	30.83%	2.5%	5.83%	10%	10%	14.17%	1.67%	10%	10%	0.83%	4.17%

4.1.9 Other Assessment

In this section, we collected data on the perception of the participants regarding the availability of other factors which may cause the failure or success of electronic management. This section includes two questions – question number 16 (Q16) and question number 17 (Q17), as follows:

Q16: The following statements are questions about other factors likely to cause e-management project failure in your institution:

The above question includes four statements:

- "Just luck" (existing enabling environment)
- Perseverance by implementers
- Availability of financial resources for e-management
- Presence of a long-term budget plan for e-management

The answers of those statements are shown in Figures 43, 44, 45 and 46.

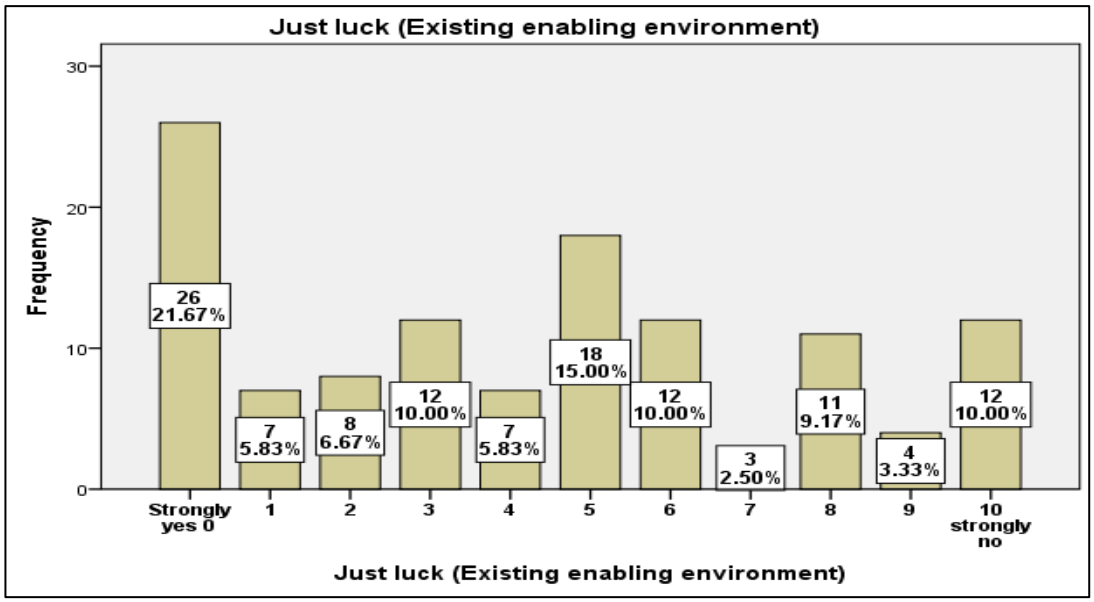

Figure 43: Frequencies of answers to the question, "Existing enabling environment."

This statement aims to process the existing enabling environment to apply electronic government in Libyan organizations in which the statement is answered by the participants a large number of whom stated that the environment was available and had existed for the application of electronic government, as shown in Figure 43. The mean value for Existing enabling environment is 4.28 and standard deviation is 3.32. The obtained data suggest that the existing enabling environment to apply electronic government was available and existed for the application of electronic government

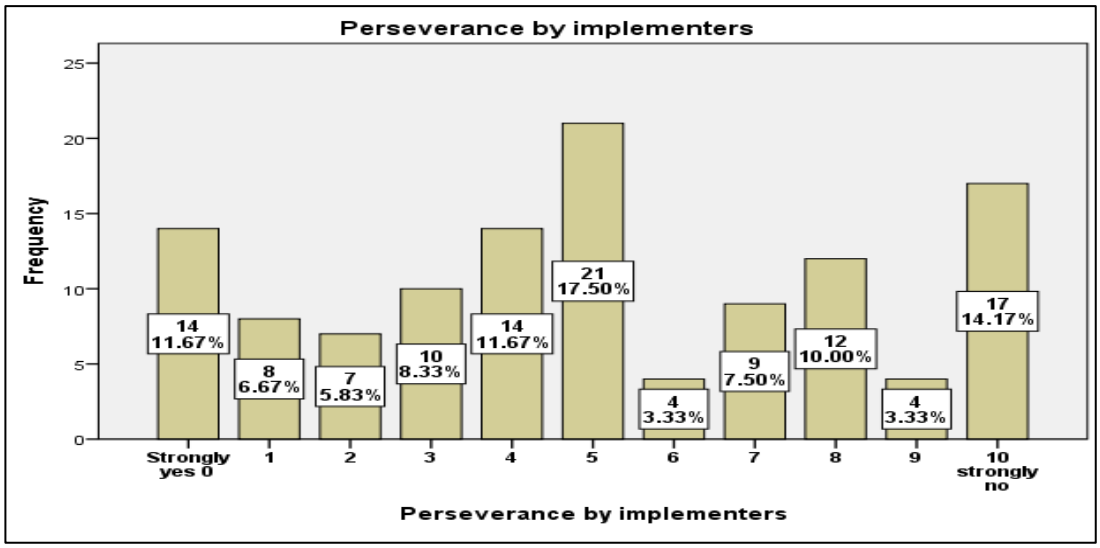

Figure 44: Frequencies of answers to the question, "Perseverance by implementers."

This statement was answered by our participants but with different answers, as shown in Figure 44. It is clear that a large proportion of them stated that the implementers spend effort on the application of electronic management and the ratio of these efforts is 5 out of 10. However, another percentage amounting to 14% mentioning that there was no effort spent by the implementers on applying electronic management in Libyan institutions. Moreover, the mean value is 5.02 and standard deviation is 3.21. We can see from the values of mean and stranded deviation that the values in the data set are far from the mean value as the values of mean and standard deviation are far from each other.

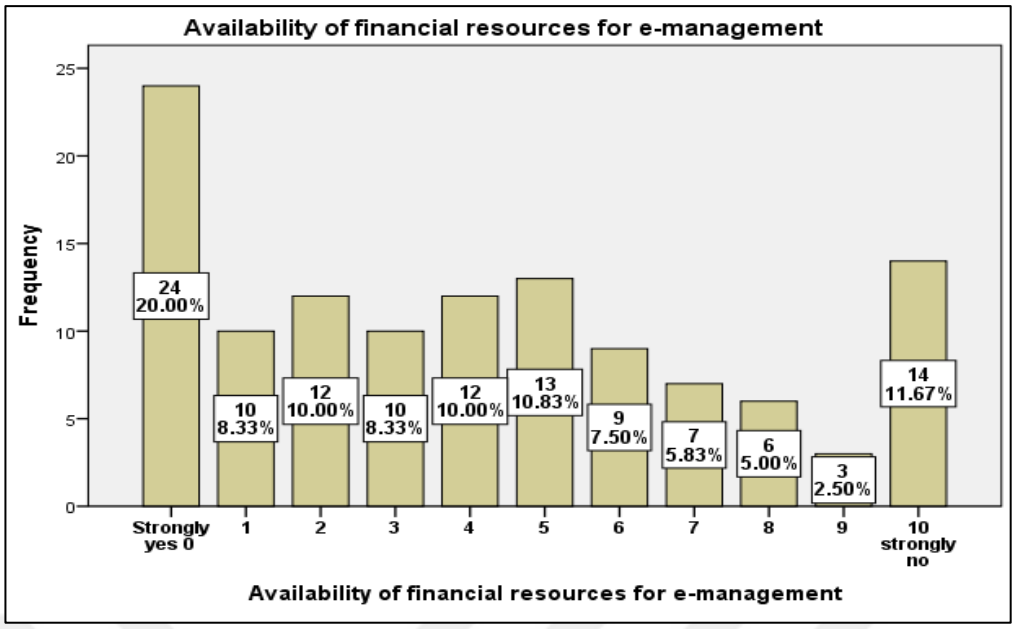

Figure 45: Frequencies of answers to the question, "Availability of financial resources for electronic management."

Figure 45 shows that 20% of our participants stated that there was availability of financial resources for electronic management in Libyan institutions. Moreover, the answers of another ratio extend from 2 to 5 regarding the availability of the financial resources for the electronic management. As well as, the mean value for availability of financial resources for electronic management is 4.13 and standard deviation is 3.32. The obtained data suggest that there was availability of financial resources for electronic management in Libyan institutions.

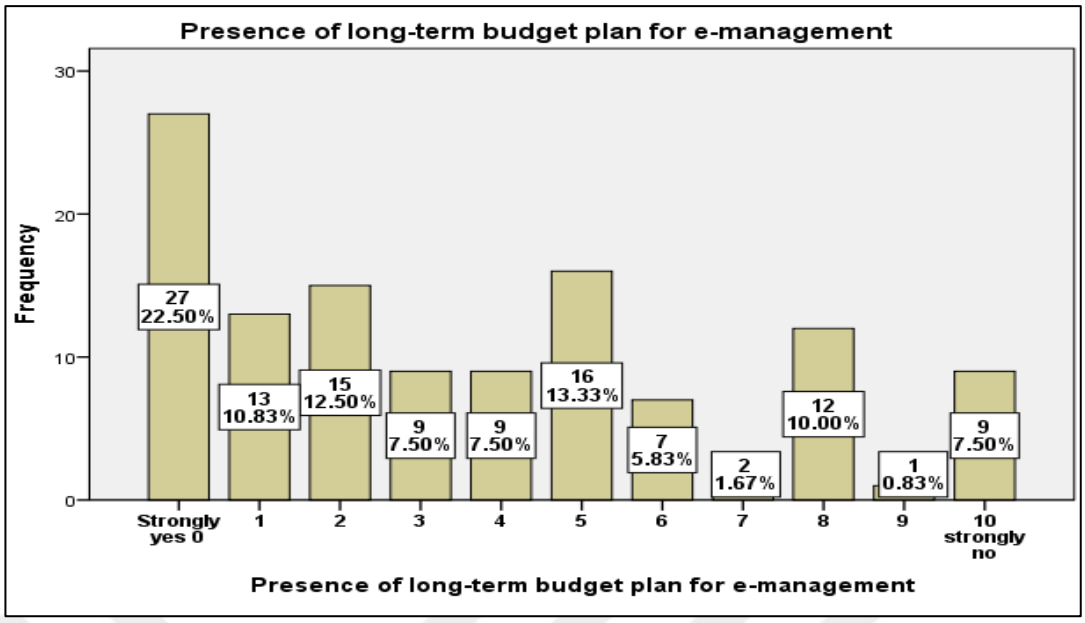

Figure 46: Frequencies of answers to the question, "Presence of a long-term budget plan for electronic management."

In terms of the availability of a long-term budget plan for electronic management, Figure 46 shows that more than 20% of our participants strongly affirmed ("Yes") the availability of these resources. Furthermore, another sample believed the availability of these resources at a rate of 2 and 5 out of 10 according to their point of view. Finally, the mean value is 3.64 and standard deviation is 3.18. These data suggest availability of a long-term budget plan for electronic management. If the obtained mean value is greater than or equal five, it indicates that there are factors likely to cause e-management project failure in participants institution. Table 14 expresses factors likely to cause e-management project failure in participants institution.

Table 14: Factors likely to cause e management project failure in participants institution

Factors likely to cause e-management project failure in participants institution	'0' strongly yes	1	2	3	4	5	6	7	8	9	'10' strongly no
Existing enabling environment	21.67%	5.83%	6.67%	10%	5.83%	15%	10%	2.5%	9.17%	3.33%	10%
Perseverance by implementers	11.67%	6.67%	5.83%	8.33%	11.67%	17.5%	3.33%	7.5%	10%	3.33%	14.17%
Availability of financial resources for electronic management	20%	8.33%	10%	8.33%	10%	10.83%	7.5%	5.83%	5%	2.5%	11.67%
Presence of a long-term budget plan for electronic management	22.5%	10.83%	12.5%	7.5%	7.5%	13.33%	5.83%	1.67%	10%	0.83%	7.5%

Q17: Who should take the responsibility of promoting e-management initiatives? Select the appropriate option according to perception.

This question includes only one section and it aims to determine the responsibility of promoting electronic management initiatives in Libya. The answers to this question are shown in Figure 47. It is clear from the figure that the largest percentage of our participants, numbering more than 80%, mentioned that responsibility lies with governmental agencies at the first level according to the point of view of the participants.

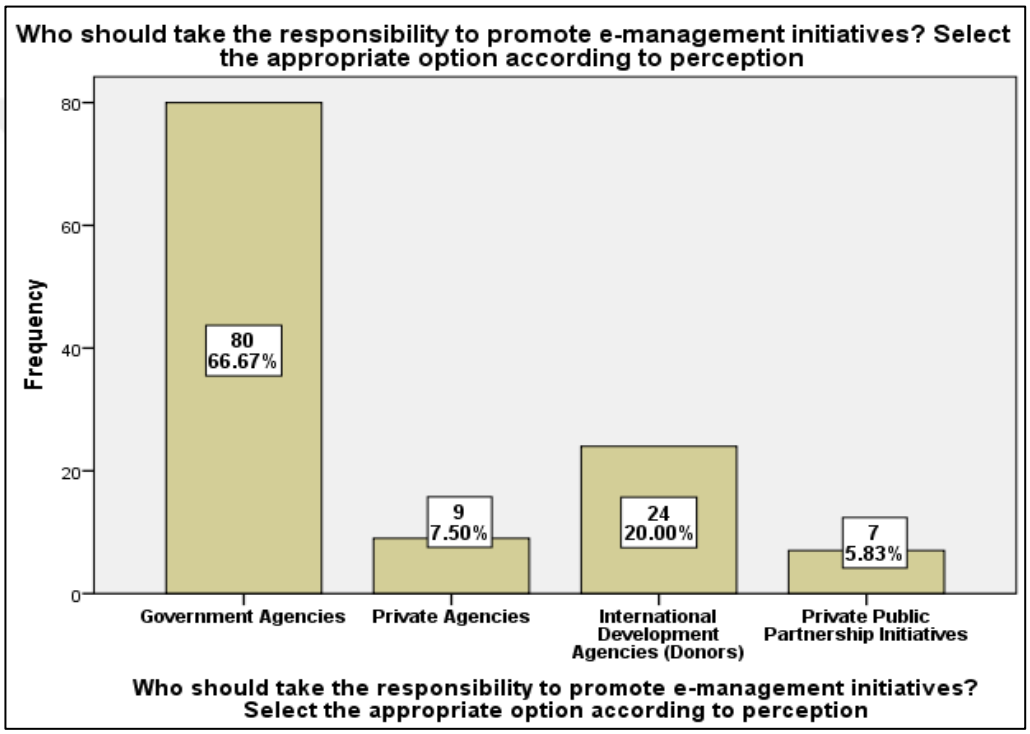

Figure 47: Frequencies of answers to the question, "The responsibility of promoting electronic management initiatives."

Q18: What is the general opinion and perception of this e-management project that you know in your institution? This question is not mandatory unless you have final comments to make.

This question is the final question in our survey and it aims to garner opinions about the accuracy and experience in electronic management projects which existed in the

participants' institutions. Moreover, this question was not compulsory such that the participants could opt to answer or not answer; we received only 49 valid answers from 120 valid answers in our survey.

Some answers explain that the non-ability of the participants' institutions to implement and complete existing and future electronic management at their respective institutions for many reasons and factors as they were not convinced and had no experience of the benefit of working with such systems that may facilitate procedures on them and on citizens. On the other hand, others stated the importance of working seriously in order to keep pace with developments witnessed around the world and that electronic management is a good tool that shortens time in any public or private organization and makes such organizations work as a single body.

Another sample mentioned that the implementation of those projects was difficult in the current time, especially as Information and Communication Technology (ICT) required continuous technical and financial support the availability of which is difficult due to the political problems in Libya. Moreover, others stated that implementation and accomplishment are difficult because they require support from the government and private sectors represented by investors who cannot work efficiently because of the bad political environment in Libya.

The last group sample stated that the application of electronic management was difficult as it required awareness, culture and high education from citizens.

CHAPTER FIVE

DISCUSSION

After analyzing the study results in the previous chapter (Chapter 4) using the Statistical Program for Social Sciences (SPSS), in this section and in the following sections, we discuss the study results that we achieved in order to understand the analysis results more deeply and derive the greatest possible benefit from the results. We will divide the discussion for each stage, which means it will be divided as we divided the analysis stages in the previous steps. In addition, we will find the mean for each question and followed by finding the total mean for each drive. Moreover, we will evaluate the success or failure of each drive accordingly.

5. 1 Total Driver Assessment

This section aims to evaluate the success or failure of applying this assessment of electronic management. Therefore, we will discuss the results of each question, evaluate its success or failure, discuss the overall mean value of the entire assessment and evaluate its success or failure, as shown in Table 4. The section has one question and consists of many statements, as follows:

Q8: The following statements are questions on how you perceive the drive for change from the government, aid donors and citizens as well as achievements and goals from key officials in the e-management project in your institution:

- Strong drive (recognition and interest) for change from outside in e-management
- Strong drive from key government officials for reform and achievement of e-management goals
- Availability of laws and regulations for e-management projects

Table 15: Overall Drive for Change Assessment

Questions	Mean	Standard deviations
Strong drive (recognition and interest) for change from outside e-management	3.78	3.192
Strong drive from key government officials for reform and achievement of e-management goals	2.63	2.547
Availability of laws and regulations to e-management projects	3.28	3.071
The overall mean of Drive for Change Assessment	**3.56**	**2.936**

As shown in Table 15 and after calculating the mean value for the entire assessment, it is clear that the application of electronic management for this drive does not exist according to the point of view of the participants.

5.2 Total Strategy Assessment

This section aims to evaluate the success or failure of applying the strategy of electronic management. Therefore, the mean value of each question is found and we measure if there is enough or not enough strategy, find the overall mean of the entire assessment and evaluate if there is a whole enough strategy or not, as shown in Table 15. This section includes one question and consists of many statements, as follows:

Q9: The following statements are questions on how you perceive the availability of government vision and strategies in the e-management projects in your institution:

- There is a national ICT policy.
- There is an e-management or ICT master plan.
- There is an ICT strategic plan.
- Stakeholders participate in e-management strategy development processes.

Table 16: Overall Assessment of the Strategy

Questions	Mean	Standard deviations
There is a national ICT policy.	3.01	3.020
There is an e-management or ICT master plan.	3.00	2.970
There is an ICT strategic plan.	3.28	2.945
Stakeholders participate in e-management strategy development processes.	3.43	2.898
The overall mean of Driver Assessment	**3.18**	**2.233**

As shown in Table 16 and after calculating the mean values of each question and the mean value for the entire assessment, it is clear that the application of electronic management to the strategy assessment seems that there is not enough strategy to apply the electronic management at current time in Libyan institutions according to the point of view of the participants.

5.3 Total Management Assessment

In this section, we analyze the success or failure of the management assessment, including three questions each of which is separated into many sections. The analysis results are shown in Table 17 and the questions and their statements can be summarized as follows:

Q10: The following statements are questions on how well you perceive the project management for the e-management project at your institution:

- There is a champion (steering individual or group) to implement the e-management project.
- There is consideration of risk in the project.
- There is a good monitoring and control system.
- There is good organization of resources (including staff).

- There is good management of the partnership with private and other public agencies.
- There is effective procurement of project materials.

Q11: The following statements are questions on how good you perceive the change of management for the e-management projects at your institution:

- There is a use of incentives to create commitment and ownership among stakeholders (including operational staff).
- There is strong stakeholder involvement that builds support.

Q12: The following statements are questions on how you perceive the focus of key players on personal self-interest and playing politics in the e-management project at your institution:

- There is perceived infighting in the e-management project.
- There is resistance to change where loss of power is feared.
- There is copying of e-management solutions for image purposes.
- There is an obsession with electoral impacts and short-term praise.

Table 17: Overall Assessment of Management

Question	Mean	Standard deviations
There is a champion (steering individual or group) to implement the e-management project.t	4.44	2.967
There is consideration of risk in the project.	3.1	2.636
There is a good monitoring and control system.	2.2	2.257
There is good organization of resources (including staff).	3.3	2.863
There is good management of partnerships with private and other public agencies.	3.12	2.745
There is effective procurement of project materials.	2.9	2.716
Overall mean of Question 10 (Q10)	**3.2**	**1.787**
There is the use of incentives to create commitment and ownership among stakeholders (including operational staff).	3.1	2.546
There is strong stakeholder involvement that builds support.	2.93	2.687
Overall mean of Question 11 (Q11)	**3.02**	**2.616**
There is perceived infighting in the e-management project.	3.93	3.455
There is resistance to change where loss of power is feared.	2.94	3.049
There is copying of e-management solutions for image purposes.	4.03	3.525
There is an obsession with electoral impacts and short-term praise.	4.13	3.405
Overall mean of Question 12 (Q12)	**3.8**	**3.3585**
Overall mean of Management Assessment	**3.34**	**2.587**

Table 17 summarizes the overall assessment of the management section and it is clear that all the questions and their respective statements have mean values less than

5 and the overall mean for this section is also less than 5, implying that there is not enough strategy to apply the electronic management at current time

5.4 Total Design Assessment

This section aims to evaluate the success or failure for the design assessment. It includes only one question with many sections.

Q13: The following statements are questions on your perception of how effective and realistic the design of the e-management project in your institution is.

- There is an incremental approach.
- There are quick and feasible objectives.
- There is strong stakeholder involvement ensuring designs meet real needs.
- There is employee satisfaction with project organizational set-up.
- There is employee acceptance of project organizational change.
- There is employee openness to project organizational change.

Table 7 presents the analysis results of this question with its many sections.

Table 18: Overall Assessment of Design

Questions	Mean	Standard deviation
There is an incremental approach.	3.84	3.141
There are quick and feasible objectives.	4	3.467
There is strong stakeholder involvement ensuring designs meet real needs.	3.53	3.228
There is employee satisfaction with project organizational set-up.	4.13	3.294
There is employee acceptance of project organizational change.	4.33	3.171
There is employee openness to project organizational change.	4.74	3.075
Overall mean of Design Assessment	**4.1**	**2.6803**

It is clear from Table 18 that there is not enough strategy to apply the electronic management at current time

5.5 Total Competencies Assessment

In this section, we aim to evaluate the total competencies in order to apply electronic management with the results of the analysis shown in Table 19. In addition, it includes only one question with many statements.

Q14: The following statements are questions on how you perceive the availability of the required competencies in the e-management project in your institution:

- ICT capacity of users (skills, knowledge attitude)
- ICT education obtained by employees (system managers, developers, operators and users)
- ICT specialists (strategic, change/project management, IS development and management)

Table 19: Overall Assessment of Competencies

Questions	Mean	Standard deviation
ICT capacity of users (skills, knowledge attitude)	4.35	2.582
ICT education obtained by employees (system managers, developers, operators and users)	5.28	2.590
ICT specialists (strategic, change/project management, IS development and management)	4.8	2.675
Overall mean of Competencies Assessment	**4.81**	**2.615**

As shown in Table 19, the mean values of this statement vary such that we have one statement of success, that being “ICT education obtained by employees (system managers, developers, operators and users)”, with a mean value of 5.28, indicating the success of this statement. However, the mean values of the other statements

indicate failure and the total assessment of less than 5 indicates the seems that there is not enough strategy to apply the electronic management at current time

5.6 Total Technology Assessment

This section discusses the success or failure of the technology assessment as shown in Table 20. The technology assessment section includes only one question with a number of statements.

Q15: The following statements are questions on how you perceive the adequacy of the technological infrastructure for the e-management project in your institution:

- There is adequate hardware, software and network technology in this e-management project.
- Network/system development
- System interoperability
- Security and authenticity of technologies
- Concerns of unauthorized access to sensitive information and loss of trust
- Security measures in terms of data and software protection, data transfer over networks and safety of electronic transactions.

Table 20: Overall Assessment of Technology

Questions	Mean	Standard deviation
There is adequate hardware, software and network technology in this e-management project.	3.79	2.939
Network/system development	3.55	3.076
System interoperability	3.43	2.941
Security and authenticity of technologies	3.65	2.986
Concerns of unauthorized access to sensitive information and loss of trust	3.60	2.894
Security measures in terms of data and software protection, data transfer over networks and safety of electronic transactions	3.64	3.140
Overall mean of Competencies Assessment	**3.61**	**2.991**

As shown in Table 20, none of the statements means exceeds 5 and thus, the total mean assessment value is less than 5, implying that there is not enough strategy to apply the electronic management at current time

5.7 Other Total Assessment

In this section, we discuss the success or failure for the other total assessment to apply electronic management in Libya. This section includes three sections, but we will analyze the first part which is located in the first question of this section explained below and present an analysis of results in Table 21.

Q16: The following statements are questions on other factors likely to cause the e-management project fail at your institution:

- "Just luck" (existing enabling environment)
- Perseverance by implementers
- Availability of financial resources for e-management

- Presence of a long-term budget plan for e-management

Table 21: Overall Other Assessments

Questions	Mean	Standard deviation
"Just luck" (existing enabling environment)	4.28	3.323
Perseverance by implementers	5.02	3.218
Availability of financial resources for e-management	4.13	3.327
Presence of long-term budget plan for e-management	3.64	3.218
Overall mean of other assessment	**4.26**	**3.271**

It is clear from Table 21 that we have one occurrence of success in the overall assessment of this section, namely the statement "Perseverance by implementers" which yielded a mean value greater than 5. However, the total assessment of this section seems that there is not enough strategy to apply the electronic management at current time

5.8 Limitations of the Study

Our study identified the obstacles face the e-management application in Libya from the point of view of wide sample of employees and decisions makers who work in different sections at the Libyan institutions. The restrictions accompanied with our study are existed and accompanying with many studies especially those conducted with any survey through the internet. As a result to the coordination across internet, we have not the ability obtain a wide sample of participants for many reasons including it is uncomfortable for many persons to the interactions take place across the internet. In spite of these obstacles, we analyzed the data by percentages to each section. As well as, general online survey does not provide data with quantity and type which provide a complete image for real obstacles that face the e-management. We hope that our study and our survey represent a starting point for deeper and more

comprehensive studies. The results of the study are depended on questionnaire which have been accessed through the internet in the period between 28 Jun 2018 to 30 September 2018.

5.9 Implications for Practice

The results obtained from this study has significant implications for developing countries that need to know obstacles of e-management in the existing and future projects. The obtained results can be considered as a foundation for comprehensive operations in order to eliminate the routine e- management projects especially in Libya because most of the responses stated that there are not real projects at this field which can be depended to promote the reality of e-management in this country. Obstacles which face electronic management in Libya can be overcome by the following suggestions:

- Develop a time plan in order to promote the reality of current e-management. The government must address this constraint by ignoring the self-interest and motivate all stakeholders at this sector to a great extent.
- The lack of projects which were designed effectively by the stockholders and decision makers. The government must overcome this problem by designing a clear e-management projects in continuous and incremental approach in different sectors and by including the involvement of the general staff into the design.
- Poor project management which relates on dispersed project responsibilities. The government must address this problem by taking into consideration that project management differs than other management and there must be special considerations when hiring ICT managers.
- Government must conduct many projects for the purpose of increasing awareness towards e-management projects amongst stakeholders.

5.10 Implications for Research

The exploratory and interpretive nature of our study provides many opportunities for future researches in terms of the problems faced in e-management. Thus, future studies in this field may refine our results and check the problems which are faced

during the application of e- management. Also, it is possible to use the same research questions of the current study and employ different research methodologies.

Future studies on this topic should also compare their results with the results of the current study. Also, our results can be expanded through learned lessons. In addition, the online survey responses can be compared with the responses are taken face-to-face.

CHAPTER SIX

CONCLUSION

In this study, we endeavored to highlight the obstacles which face e-management in Libya from the point of view of a large community who work in different fields in Libyan institutions in addition to private institutions. Their answers were somewhat differentiated according to their understanding of the importance of e-management projects and to the environment to which they belonged. Most of the responses showed that e-management projects would not succeed to a high degree in Libya according to many factors associated with the project environment, especially in the wake of wars experienced by Libya and the lack of planning and control.

The overall driver assessment shows that it is possible to fail. The mean of responses on the strategy assessment is 3.18, suggesting that there is not enough strategy to apply this assessment at current time in Libyan institutions according to the point of view of the participants. The overall management assessment showed that the mean value was 3.34, which is less than 5. This result was expected due to the lack of successful management in governmental institutions and the unsuitable environmental conditions. The analysis of the design assessment showed that it was close to the failure, according to the point of view of the participants. In spite of the overall competencies assessment, the existence of one factor seems to succeed where it has a mean value of 5.28. This factor is the education of information and communication technology by system managers, developers, operators and users. However, the overall assessment of this section has a mean value of 4.81. The overall technology assessment has a mean value of 3.61, which is less than 5 and indicate that the technology assessment would fail if applied according to the point of view of the participants.

The final assessment of our study is the other assessments which have a mean value less than 5. However, this assessment has a one statement in which mean value of the assessment is greater than 5 This statement is about perseverance by implementers where the mean value of responses is 5.02.

The above conclusions were obtained according to the opinions of a large sample of participants who are more than 120 participants. Opinions may differ from time to time and vary according to changes in the environment of the participants.

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EDUCATION

Degree	Institution	Year of Graduation
M.Sc.	Çankaya University	2018
B.Sc.	Engineering Academy, TAJOURA	2010
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WORK EXPERIENCE

Year	Place	Enrollment
2011	Engineering Academy, TAJOURA	Lab Technician in Computer Engineering Lab

FOREIGN LANGUAGES

Advanced English, Beginner Turkish

APENDIX A

QUESTIONNAIRE

Project name: The Obstacles of Applying E-Management in Libya

I am an MSc student at Cankaya University. As part of my thesis I am conducting research on the obstacles of applying e-management in Libya.

This research project aims to find out the obstacles which are face during the application of e-management in Libya.

To conduct this research, we are currently administering the following survey. We would like to invite you to participate in this in-depth survey which will take approximately 30 minutes of your time. You have been selected as a participant and we are interested in taking your opinion on this issue. You are encouraged to freely express your opinions and please be assured that your views are valued and that there are no right or wrong answers to the questions asked.

We will not collect any names or personal details as part of the survey. Your identity will not be revealed to anyone other than the researchers conducting this survey.

If at any stage you wish to receive further information about this research project please to not hesitate to contact ramzi84hussin@gmail.com before ../8/2018 date. The findings will be written up into my thesis. This will not affect your anonymity.

By completing this survey, you are acknowledging that you understand the terms and conditions of participation in this study and that you consent to these terms.

Thank you very much for taking time to take part in this survey!

Ramzi Hussin

Information Technology

Natural and Applied Sciences Institute

Cankaya University

Electronic management can be defined as “a software program that manages the creation, storage and control of documents electronically. The primary function of an electronic management is to manage electronic information within an organization workflow. A basic electronic management should include document management, workflow, text retrieval, and imaging. An electronic management must be capable of providing secure access, maintaining the context, and executing disposition instructions for all records in the system”. For example of the e-management is to submit a request and extract a passport online and pay the bills online or through the mobile phone.

1. Demographical Information

Part I: identification & e-management Awareness

Q1. What is your position? Choose suitable description of your position

- **ICT head**
- **ICT project manager**
- **ICT staff**
- **Other…..**

Q2what is your gender?

☐ Male ☐ Female

Q3: what is your age category?

☐ Less than 30 years old ☐ 30-39 years old

☐ 40-50 years old ☐ More than 50 years old

Q4: The following statements are questions about awareness of e-management projects in Libya

1. **The challenges which face the application of e-management in Libya**

I fully understand the benefit of e-management to citizens

☐ **Totally Agree** ☐ **Agree** ☐ **Neutral** ☐ **Disagree** ☐ **Totally disagree**

The government has official portal for the governmental information

☐ **Totally Agree** ☐ **Agree** ☐ **Neutral** ☐ **Disagree** ☐ **Totally disagree**

All government ministries have a website as a part of e-management project

☐ **Totally Agree** ☐ **Agree** ☐ **Neutral** ☐ **Disagree** ☐ **Totally disagree**

All local authorities have a website as a part of e-management project

☐ **Totally Agree** ☐ **Agree** ☐ **Neutral** ☐ **Disagree** ☐ **Totally disagree**

I can access the general information and perform basic online services across the websites

☐ **Totally Agree** ☐ **Agree** ☐ **Neutral** ☐ **Disagree** ☐ **Totally disagree**

There are some successful cases of e-management projects in Libya

☐ **Totally Agree** ☐ **Agree** ☐ **Neutral** ☐ **Disagree** ☐ **Totally disagree**

Q5: are you aware of any e-management project initiative by the Libyan government?

☐ **Totally Agree** ☐ **Agree** ☐ **Neutral** ☐ **Disagree** ☐ **Totally disagree**

Q6: write down any e-management projects you may know or manage in your institution (e.g. LAN/WAN installation, website development, computerization, internet and email, IFMIS, HR system etc.)

Q7: what is the status of this e-management project? Choose appropriate statuses of the project named in the previous question

☐ Implemented

☐ Currently being implemented

☐ In the planning stage

Part II: driver Assessment

This section aims to collect data on how you perceive the drive for change and achievement of e-management goals.

Q8: the following statements are questions on how you perceive the drive for change from the government, aid donors and citizens as well as achievements goals from key officials in the e-management project in your institution

Strong drive (recognition and interest) for change from outside in e-management

Does not exist 0 1 2 3 4 5 6 7 8 9 10 exist

Strong drive from key government officials for reform and achievement of e-management goals

Does not exist 0 1 2 3 4 5 6 7 8 9 10 exist

Availability of laws and regulations to e-management projects

Does not exist 0 1 2 3 4 5 6 7 8 9 10 exist

Strategy Section

This section aims to collect data on how you perceive the availability of electronic management vision and strategy in the electronic management in your institution.

Q9: The following statements are questions on how you perceive the availability of government vision and strategies in the e-management projects in your institution.

There are national ICT policy

No strategy 0 1 2 3 4 5 6 7 8 9 10 strategy

There is e-management or ICT master plan

No strategy 0 1 2 3 4 5 6 7 8 9 10 strategy

There is ICT strategic plan

No strategy 0 1 2 3 4 5 6 7 8 9 10 strategy

Stakeholders participate in e-management strategy development processes

No strategy 0 1 2 3 4 5 6 7 8 9 10 strategy

Part IV: Management Assessment

This section aims to collect data on your perception of project management and change management of the e-management project as well as commitment of key players in the whole process

Q10: the following statements are questions on how good you perceive the project management for e-management project in your institution.

There is a champion (steering individual or group) to implement e-management project

Very poor 0 1 2 3 4 5 6 7 8 9 10 very good

There is consideration of risk in the project

Very poor 0 1 2 3 4 5 6 7 8 9 10 very good

There is good monitoring and control system

Very poor 0 1 2 3 4 5 6 7 8 9 10 very good

There is good organization of resources (including staff)

Very poor 0 1 2 3 4 5 6 7 8 9 10 very good

There is good management of partnership with private and other public agencies

Very poor 0 1 2 3 4 5 6 7 8 9 10 very good

There is effective procurement of project materials

Very poor 0 1 2 3 4 5 6 7 8 9 10 very good

Q11: The following statements are questions on how good you perceive the change management for the e-management project in your institution

There is use of incentives to create commitment and ownership among stakeholders (including operational staff)

Very poor 0 1 2 3 4 5 6 7 8 9 10 very good

There is strong stakeholders' involvement that builds support

Very poor 0 1 2 3 4 5 6 7 8 9 10 very good

Q12: The following statements are questions on how you perceive the focus of key players on personal self-interest and playing politics in the e-management project in your institution

There is perceived infighting in the e-management project

Very much 0 1 2 3 4 5 6 7 8 9 10 very little

There is resistance of change where loss of power is feared

Very much 0 1 2 3 4 5 6 7 8 9 10 very little

There is copying of e-management solutions for image purposes

Very much 0 1 2 3 4 5 6 7 8 9 10 very little

There is obsession with electoral impacts and short term praise

Very much 0 1 2 3 4 5 6 7 8 9 10 very little

Part V: Design Assessment

This section aims to collect data on your perception of how effective and realistic the project design of the e- management project.

Q13. The following statements are questions on your perception on how effective and realistic the design of the e-management project in your institution.

There is incremental approach

Very ineffective and unrealistic 0 1 2 3 4 5 6 7 8 9 10 Very effective and realistic

There are quick and feasible objectives

Very ineffective and unrealistic 0 1 2 3 4 5 6 7 8 9 10 Very effective and realistic

There is strong stakeholders involvement ensuring design meets real needs

Very ineffective and unrealistic 0 1 2 3 4 5 6 7 8 9 10 Very effective and realistic

There is employ satisfaction with project organizational set-up

Very ineffective and unrealistic 0 1 2 3 4 5 6 7 8 9 10 Very effective and realistic

There is employee acceptance on project organizational change

Very ineffective and unrealistic 0 1 2 3 4 5 6 7 8 9 10 Very effective and realistic

There is employee openness to project organizational change

Very ineffective and unrealistic 0 1 2 3 4 5 6 7 8 9 10 Very effective and realistic

Part VI: Competencies Assessment

This section aims to collect data on your perception of availability of the human resources aspect in terms of skills, knowledge and attitudes towards the e-management project

Q14: The following statements are questions on how you perceive the availability of the required competencies in the e-management project in your institution

ICT capacity of users (skills, knowledge attitude)

Completely absent 0 1 2 3 4 5 6 7 8 9 10 completely adequate

ICT education obtained by employees (system managers, developers, operators and users)

Completely absent 0 1 2 3 4 5 6 7 8 9 10 completely adequate

ICT specialists (strategic, change/project management, IS development and management)

Completely absent 0 1 2 3 4 5 6 7 8 9 10 completely adequate

Part VII: Technology Assessment

This section aims to collect data on your perception of how adequate technological infrastructure aspects for the e-management project

Q15: the following statements are questions on how you perceive the adequacy of technological infrastructure for the e-management project in your institution

There are adequate hardware, software and network technologies in this e-management project

Wholly inadequate 0 1 2 3 4 5 6 7 8 9 10 completely adequate

Network/system development

Wholly inadequate 0 1 2 3 4 5 6 7 8 9 10 completely adequate

System interoperability

Wholly inadequate 0 1 2 3 4 5 6 7 8 9 10 completely adequate

Security and authenticity of technologies

Wholly inadequate 0 1 2 3 4 5 6 7 8 9 10 completely adequate

Concerns of unauthorized access to sensitive information and loss of trust

Wholly inadequate 0 1 2 3 4 5 6 7 8 9 10 completely adequate

Security measures in terms of data and software protection, data transfer over networks and safety of electronic transactions

Wholly inadequate 0 1 2 3 4 5 6 7 8 9 10 completely adequate

Part VIII: Other Assessment

This sections aims to collect data on your perception of availability of other factors likely to cause the e-management to fail or succeed

Q16: The following statements are questions on other factors likely to cause the e-management project fail in your institution

Just luck (existing enabling environment)

Strongly yes 0 1 2 3 4 5 6 7 8 9 10 strongly

Perseverance by implementers

Strongly yes 0 1 2 3 4 5 6 7 8 9 10 strongly no

Availability of financial resources for e-management

Strongly yes 0 1 2 3 4 5 6 7 8 9 10 strongly no

Presence of long-term budget plan for e-management

Strongly yes 0 1 2 3 4 5 6 7 8 9 10 strongly no

Q17: who should take the responsibility to promote e-management initiatives? Select the appropriate option according to perception

- ☐ Government Agencies
- ☐ Private Agencies
- ☐ International Development Agencies (Donors)
- ☐ Private Public Partnership Initiatives
- ☐ Other …….

Q18: what is the general opinion and perception of this e-management project you know in your institution? This question is not mandatory unless you have final comments to make.

……