



# The impact of implementing electronic governance on the quality of accounting information in businesses – An applied study

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## **Abstract**

E-governance has attracted the attention of local as well as the international communities. E-governance is able to implement modern technologies such as the internet and various communication devices to improve the quality of data, accounting and administrative information which are used by both organisational internal and external individuals and bodies. The study included determining the hypotheses' datum represented by the implementation of the e-governance system which will likely affect the quality of accounting information, and the system will contribute in reducing the costs, efforts and time in accomplishment and it will reduce the financial and administrative procedures and also serve to decrease mistakes in the study sample. An electronic governance system has a clear impact on the quality of the extracted accounting information from an entity as a sample of the study which can be illustrated by the tables that have been clarified at the levels of the college and departments. Each stage of study and the names of the students are those of students who paid either full or half tuition fees and also those who did not pay, and this is usually very difficult to apply under the traditional non electronic system in use. The extracted information from the tables of the electronic governance system reduced costs by the entity, decreased efforts to obtain more accurate and useful information for the administration and the beneficiaries and at any time, whereas the obtaining information from the traditional system by the entity needs huge efforts and costs more as it takes a long time to extract information from the archive. In any case such records are not accurate. An electronic governance system will hopefully contribute in facilitating the administrative and financial procedures and increase the quality of the accounting information in the study sample.

**Keywords:** Electronic governance, quality accounting information, standards, Iraq.

## **Introduction**

An E-governance system is easy to deal with in terms of information technology and communication which facilitates communication with other economic entities and makes transactions more efficient and easy. Economic entities use modern technologies to provide



services among customers, non-governmental companies and government entity (Fargher et al., 2007). E-governance provides good information, helps encouraging community overlapping in the governance activities and makes economic entity more flexible in controlling and accountability. E-governance is a normal result of the information revolution and the emergence of a knowledge society, therefore, government entities dealing with the e-governance system need to be considered as the beginning of the world of modern information and communication (Warkentin et al., 2002).

The use of the electronic governance system in the financial accounts of public and private entities will contribute in preparing monthly, quarterly and annual reports that can be relied on via the internal and external bodies with more accurate and easy results in their preparation. They are also cheaper to run in the financial accounts of the entities. The study included five research undertakings: the first research was on research methodology, the second research was on the concept of e-governance, the basics of the idea of e-governance, factors of success of its implementation, obstacles that may obstruct applying the e-governance in the international and in Iraqi government entities. The third research was on clarifying the characteristics of the key accounting information which is the adequacy, reliability, subordinate characteristics of comparability and consistency, the most important standards of quality accounting information, namely standards of accuracy, utility, efficiency and prediction efficiency. The fourth research was on work of the e-governance research sample system mechanism and what actions have been taken earlier in the manual system and the methods and procedures applied in the research sample governance system of Al-Rafidain University College. The fifth research issue was focused on the conclusions and recommendations.

### **The Research Problem**

The accounting system in any institution is considered an accounting information system, and the level of this system is different according to its ability in providing the required information in an appropriate and timely manner which helps in serving decision-making processes besides other objectives. However, the traditional (manual) accounting system which at the end of the financial period presents the result and statement of the financial center accounts is somewhat deficient in serving the management needs of the appropriate accounting information and the adverse impact on the decision-making process. This includes the historical data or inputs of the commercial transactions or financial events dating back to a period of a year and often does not include sufficient analysis as well as being inefficient in processing and in its lack in providing the periodically required accounting reports. This has led to a lack of administrative performance and therefore decisions will not be professional. The manual system reflects the accounting aspects of financial management information either for planning, performance assessment and its relation to goals are very rarely provided in terms of their lack of the capitalization of the administrative accounting system.

### **The Research Importance**

The use of modern means such as internet will contribute in saving time, costs, effort and speed in the performance of the government activities and services as well as implementing modern technological means as one of the preventive procedures against spreading of the administrative and financial corruption in the community and its institutions. Therefore the current research sought to focus on the importance of using modern electronic means in improving the quality of the accounting information provided for the beneficiary parties.



## **Research Hypothesis**

The transition to e-governance is reflected on the quality of information, cost, speed, and corruption. The assumption is divided into the following sub-assumptions:-

- There is a direct relationship between implementing e-governance system and the quality of accounting information.
- There is an inverse relationship between implementing e-governance and reducing cost and effort.
- There is an inverse relationship between implementing e-government system and the reducing of corruption and administrative and financial procedures.

## **The Research Objectives**

The research aimed at identifying the quality of accounting information provided by the economic entities by using modern technological methods as well as reviewing the possibility of accomplishing government financial works faster when dealing with customers and businesses and companies in comparing the use of traditional accounting methods, reducing the cost of administrative procedures, facilitating controlling and addressing shortages.

## **The Research Sample**

The research in this study focused on the data and information extracted by the Finance Department in Al-Rafidain University College and determined the reflection of the application of e-governance on the extracted accounting information.

## **Definition and Importance of Electronic Governance**

There are many commonly used definitions and terms of e-government such as e-business, e-governance, digital governance, etc. E-governance is a form of e-business that refers to the processes and structures that meet with providing services for both citizens and businesses (Hall, 2012). One of the basic concepts of e-governance is the completion of official information between government entities or between them and their customers in a modern information technology that is based on using computer for the trading of certain information required by the official procedure according to specific security safeguards. These protect the beneficiary and the entity that provides the service, cost less, require less effort and speed up the performance of government activities and services.

E-governance may refer to the implementation of the technologies on the Internet in government and non-government sectors and activities, and in a broader sense the e-governance is defined as the different ways in which "governance represented by its devices and managers in term of interacting with customers via web sites, e-mails and various tools such as videoconferences, touch data input, internal network and satellites (Bagrahoff, 2007).

The researchers identified electronic governance as the ability to use modern technological methods such as the Internet and various communication devices by the public and private entities so as to improve the quality of accounting and administrative data among the entities of the State and between them and other external beneficiaries, and to reduce effort and decrease cost at the same time. Thus e-governance is the virtual version of the classic real government as it can be found in networks, information systems and technology and in addition it brings together all the activities and interactive and information services in one place which is the official website



or the gate of electronic governance on the Internet in a form similar to the idea of the groups of government entities (Jung et al., 1999).

### **Elements of E-Governance**

- 1- Compiling all information, interactive and reciprocal activities and services in one place that is the official website of governance in a form similar to the idea of the groups of government entities.
- 2- Achieving a state of enduring contact with the public (24 hours a day, 7 days a week, 365 days a year) with the ability of providing all the information and service that citizen needs.
- 3- Achieving velocity and effectiveness in linking, coordination, performance and achievement among the entities of governance themselves and inside each entity separately.

### **Success factors for implementing e-governance**

- 1- Providing adequate infrastructure that is technically defined as the backbone of national information.
- 2- Providing an environment in which each of its elements (citizen, governance, and private sector) recognizes the importance of cooperation in bringing distance and overcoming the obstacles that obstruct achievement and development.
- 3- Laws and legislation enacted by governments.
- 4- Culture of the community, the percentage of education, illiteracy, awareness of the internet and percentage of skilled professionals in the field of information technology.
- 5- Confidentiality and security of information in electronic governance.
- 6- Media and its role in educating customers (citizens) and communicating with them to inform people on what the e-governance is providing for its beneficiaries.

### **Difficulties in Implementing E-Governance**

Despite the fact that government agencies throughout the world are the biggest spenders on IT compared to other sectors, and they have not improved their productivity and the quality of services they provided to their customers for the following reasons (Barth et al., 2008):

- 1- Focusing on the service of the ministry or the organization and providing its internal requirements but not on how to meet the needs of customers (citizens).
- 2- Government agencies in the 1990s tended to use information technology to automate their existing systems rather than to implement new, more efficient and effective solutions that are now available after lessons learned from implementing the business and private institutions of this technology.
- 3- Government agencies tend to purchase systems that meet their internal needs, regardless to the possibility of communication and integration with others, thus the customers (citizens) are forced to deal with multiple entities to obtain the service, due to the lack of integration of information between different agencies that lead to use and enter the same information several times.
- 4- Bureaucracy, budgetary and cultural procedures in government agencies and the fear of reorganizing and engineering of working procedures have created resistance to change towards integration of work and participation in the use of systems among government agencies.



The fourth factor is resistance to change, which is the most common among government agencies in order to achieve the application of electronic governance and to improve and develop its services that need for fundamental changes in the current bureaucratic procedures as well as the success depends on the ability to break the resistance to these changes. Lack of compatibility in the objectives of e-governance that lead to differences in visions, the spread of chaos, multiple roles and conflicts on influence (Lee & Baskerville, 2003) include:

- 1- Exaggeration in the absence of operational guidelines and the vast difference between the e-governance plan and the executive governance plan on the ground.
- 2- The technical problem associated with the safety systems used by various government administrations is an obstacle to the integration in e-governance projects and the lack of trust between users and government administrations in term of the security aspects of data is one of the obstacles to the success of e-governance projects (Warkentin et al., 2002: 162).
- 3- Ambiguity of the concept: The lack of understanding of the term of e-governance and related to many of the administrative leaderships is an obstacle to the development besides it needs to clarify the concept and provide the appropriate intellectual ground in the organizations.
- 4- Material obstacles: is the large need for financial resources to provide information technology, especially for all the State. The problem of financing e-governance projects is one of the biggest obstacles as the projects are disrupted and suspended because of the lack of funding sources that are necessary to implement them.
- 5- The success of e-governance is linked to the good design of its website to obtain the acceptance and satisfaction of its citizens, companies and departments besides the easiness of using and homogeneity of its content, therefore this should be developed with the participation of all relevant actors, starting with establishing a suitable electronic environment for their development, while working on preparing e-citizens, prioritizing and the needs of this governance and the not to achieve this will lead to failure to reach the objectives of e-governance.

The researchers reviewed many previous studies to ascertain the obstacles that obstruct the success of e-governance such as the security aspect because of the difficulty of implementing the objectives of electronic governance, whether technically, socially or politically, therefore, it is essential that e-governance contributes in disseminating of e-culture, establishing e-citizen and conducting awareness campaigns on the security and protection of the electronic country starts from the top of the state to its employees and the public/customers (citizens) (Brynjolfsson & Hitt, 2000). The governance is sought to brief the citizens on the size of the security risks associated with the implementation of the electronic governance system, how to avoid them, the actions of governance in all aspects and providing the necessary legal frameworks for prevention and deterrence of criminal issues for example, before implementing the e-governance system in order to increase the efficiency of its application and raise the confidence of users with the networks. There is also the need for computer software that protect the system of governance such as firewalls that prevent penetration of government websites as well as adopting digital signatures and passwords in order to reduce the risk that could affect the effectiveness of the e-governance system (Delone, 2000).

### **Challenges Facing the Implementation of E-Governance in Iraq**

The most important challenges facing the prevent transmitting from traditional government services to electronic submission are according to Heeks, (2001), the following:



- 1- The low capacity of Internet users in particular and the skills of IT users in general.
- 2- Infrastructural limitations and the lack of a communications network covering all areas of Iraq besides high cost of telecommunications to estimate the cost of using the Internet.
- 3- The concept of e-governance is a modern concept that Iraqis need to have a broad media education for this concept and the benefits behind it.
- 4- There is no government legislation that addresses this issue.
- 5- The limited capacity of the public sector and the low rate of cooperation among its institutions.

It is clear from what precedes, the researchers found that one of the most important obstacles to electronic governance in the Iraqi entities is the lack of awareness among some government entities on the importance of the electronic governance system, the need of practical experience on implementing the electronic governance system and the lack of government financial support to implement the electronic governance system in Iraq.

### **E-Governance Procedures**

E-governance processes include a number of practices that cause financial results such as the sale of government-used furniture in an electronic auction, government online procurement, direct online payment of public service fees, tickets to public swimming pools and parks. We can count a significant number of processes in which governance is a commercial party, either creditor or debtor with the citizen or business institutions in order to support these processes, e-governance should secure electronic payment methods technically and legislatively (Shim & Eom, 2008). The provision of public electronic services to citizens without support for them by electronic means and methods of e-commerce and good after-service, will not achieve the desired result of efficiency, effectiveness and well-being. Government e-commerce services will help in reducing the cost of procurement management significantly because of the savings time for managers who take searches in catalogs and compare prices for long time.

### **E-Governance in the Developed Countries**

The United States was one of the first countries to adopt e-governance and create e-citizens and has been achieving significant progress in this field through various levels of governance in the such as federal governance, state and local governments. To ensure implementing e-governance at various levels of governance, the US governance enacted two laws requiring the use of e-governance: the Paper Disposal Act and the Klinger-Cohen Law on the Development of Services for Citizens and the Private Sector on the Internet with focusing on extracting the results of its IT investments (Mistry & Jalal, 2012). In Singapore, governance has succeeded in connecting all schools in a single network in time with the training of the faculty members on IT applications as well as updated curricula to be in line with the new digital boom, ensuring that the IT study in the curriculum is 30% of the total curriculum. Singapore's e-governance experience is a pioneering experience. Singapore's e-governance is thus working to establish a network to promote the website of the e-citizen, moreover the training program has been developed for 400,000 people annually (Kim, 2009).

### **Quality of Accounting Information**

#### **Definition of Quality of Accounting Information:-**

The concepts of information quality define the characteristics of useful accounting information or the basic rules that should be used to assess the quality of accounting information as well as the



definition, will help officials to establish accounting standards and assist them to prepare the financial statements in assessing accounting information resulting from the application of accounting using some alternative methods, besides these characteristics are often of great benefit for financial reporting in assessing the quality of information resulting from the application of alternative accounting method (Aladwani, 2016).

### **Characteristics of Accounting Information**

The objectives of the financial reports represented via providing useful information to meet the different purposes of the users of those reports, whether inside or outside the entity in order to be useful for the needs of its users, requires that a set of qualitative characteristics of accounting information be provided. Therefore the main objective of accounting information is used to assess the level of quality of the financial information presented and disclosed in the financial reports. The FASB issued Statement No. 2, "Quality Standards for Accounting Information", which is a set of qualitative characteristics which considered as a benchmark for comparing best (most useful) and minimum (least useful) information for decision-making purposes, furthermore, the specific characteristics of accounting information has been set in light of the cost and relative importance of informational (Neupane et al., 2012).

### **The Principal Characteristics of Accounting Information**

Relevance: In order for the accounting information to be provided to internal and external users in an appropriate way, it should be effective in the decision, so if certain information is ineffective on the decision, it is inappropriate (Asgarkhani, 2005). For information to be appropriate, it should have three sub-characteristics:

- (1) Predictive Value: The appropriate information helps users to make predictions of the outcome of past, current and future events. When a company issues an interim financial report, the information it contains is appropriate because it provides a basis for predicting annual income (Yang & Rho, 2007).
- (2) Feedback Value: Accounting information is capable of evaluating the results of previous tests, providing the user with the ability to confirm or correct previous expectations (Aikins, 2011).
- (3) Timeliness: It is providing timely information in the sense of making accounting information available to those who use them when needed and this is because the information is useless if it is not available when it is needed but besides this, the appropriate timing has two aspects (D'agostino et al, 2011.)

- (A) The periodicity of the financial statements in term of the shortest period for which the financial statements are prepared.
- (B) The period between the end of the period of time for which the financial statements are prepared and the issuance of such reports and their availability for circulation.

Reliability of accounting information is characterized by credibility (or reliability), flawless and free of bias and presented correctly (Kim, 2014). In order for accounting information to be reliable, it should have three basic sub-characteristics:

A- Verifiability means that accounting professionals must use the same methods to measure revenue or profit because the different methods of measurement will lead to different results, thus to different accounting information, and then they may make the wrong decisions, so this will reduce the users' confidence in the accounting information (Wescott, 2009) Furthermore, the verification and validation feature means that the results of a particular person using certain



methods of measurement and disclosure can be reached by another person using the same methods, the possibility of verifying the information is a feature that allows us to avoid the kind of bias related to the personality of the measurement process, but this feature is not sufficient to achieve confidence in information because the information may not be trusted in the expression of the content of the phenomena that need to be measured and disclosed and according to that mentioned the distinction should be made between the ability to verify the same standards and the ability to validate the application of the measurement method (Rodríguez Bolívar et al., 2010).

**Representational Faithfulness:** it means that there is a need for matching or a covenant between numbers and descriptions on the one hand and the resources and events on which these numbers and descriptions are to be presented on the other hand, in another way, do the figures represent what actually happened? (Durbhakula, 2011).

**Neutrality:** This property is important on two levels:

A- The level of the bodies responsible for organizing the accounting policy.

B- The level of those responsible for preparing financial reports.

The Financial Accounting Standards Board (FASB) defines the bias in the measurement process as follows: "It is a tendency to measure what is expressed is expressed on more than one side, rather than that the occurrence is equally likely on both sides." Thus, the absence of bias represents the ability to measure an accurate description of the involved characteristic (Rotchanakitumnuai, 2013).

## **Secondary Characteristics of Accounting Information**

**Comparability** enables those who use financial accounting information to identify the real aspects of the similarities and differences between the performance of the establishment and the performance of the other establishments during a certain period of time and enables them to compare the performance of the establishment itself among different periods of time (Garcia-Murillo, 2010).

**Consistency** means that economic events are recorded and determined in a unified way from one period to another, consistency in one format includes:

1. Applying the same accounting procedures to the similar events in a single project over time from one period to another.
2. Applying the same concepts, measurement methods and procedures for each element in the financial statements.

The application of consistency in the implementation of accounting principles and procedures makes financial statements more comparable and more useful to the users (Hanan, 2003: 205).

## **Accounting Information Quality Standards**

Carter et al (2016) define information as being prepared or produced to be more useful to decision-makers for its valuable aspects in current decision-making or for future implementation. In order for the information to be useful to the decision-maker, it must be of a good quality, despite no specific definition of quality of information due to the differences in views and objectives of



producers and users of information besides the general criteria for measuring the quality of information can be defined as the following:

### **Accuracy as a Measure of the Quality of Accounting Information**

The quality of the information can be expressed as the accuracy of information, represented for the past, present and future of the information, the more accurate the information, the greater its quality and its value in expressing historical facts or future expectations. In any case it is hard to be achieved because the information on which the decision is built needs to involve the future and therefore it is uncertain as well as the accuracy is often being sacrificed when providing appropriate information for decision-making (Musavengane, 2018).

### **Benefit as a Measure of the Quality of Accounting Information**

The benefit is represented in two elements: the accuracy of the information and its ease of use and taking advantage can be achieved via one of the following aspects (Zhou, 2018):

A - Formal benefit: It means that the more the format and content of information can be matched with the requirements of the decision-maker, the higher of the value of this information can be obtained.

B - Time benefit: it means obtaining the information in easy way makes it higher in the value besides the direct communication to the computer for example, maximizes both the temporal utility and spatial information.

C. Evaluation and corrective benefit: it means the ability of the information capacity to assess the results of implementation of decisions as well as their ability to correct deviations of these results.

#### **1-Effectiveness as a Measure of the Quality of Accounting Information:-**

The efficiency of the information is defined as the extent to which information is achieved by the objectives of the entity or the decision-maker via using limited resources, besides the effectiveness of the information is a measure of the quality of the information.

#### **2-Predicting as a Measure of the Quality of Accounting Information:-**

This means the way that the past and present information can be used to predict future events and outcomes and the expectations are used in planning and decision-making. The quality of the information is certainly in the form of predictive ability and reduction of uncertainties when used as inputs to predict models such as financial center predicting models or as inputs to test models from the alternatives to management decisions.

#### **3-Efficiency as a Measure of the Quality of Accounting Information:-**

It means the achievement of the objectives of the entity with the least possible use of resources and some realize the need to apply the principle of economic information systems which targets maximizing the quality of information at the lowest possible costs that must exceed the value of information.

Efficiency is measured by the availability of material and human resources provided when conducting the processes and activities to achieve the objectives to be compared to the achieved outputs or results.



It is noticeable from the previous presentation that the quality of the accounting information is the availability of these characteristics in the information so as to increase the level of quality to be relied on in the rationalization of decisions, while the characteristics should be based on information that may be available. But the quality is not available if we consider the concept of quality as conforming to the desire of the user (Chingombe, 2018).

**Impact of Electronic Accounting Information Systems on Increasing the Quality of Information:**

The impact of the quality of accounting information on the implementation of the electronic governance system can be illustrated by the Table .1 as the following-:

**Table .1 The impact of e-governance on the elements of information quality**

<b>The impact of e-governance on the elements of information quality</b>	<b>Property</b>
As a describing the accuracy as the measurement of the quality of accounting information, e-governance has a positive impact on the accuracy of accounting information, It increases the accuracy of the accounting information produced via using of computer-specific software that addresses accounting procedures besides there is a negative impact if the computer is being hacked or attacked by a virus that effect the accounting data as well as this effect can be addressed via developing of approved protection software that prevent hacking and viruses.	<b>Accuracy</b>
The benefit includes two characteristics the validity of information and easiness of use, e-government has a positive impact on the information besides online transactions always done with utmost care because the service or product is being transmitted only through an electronic credit card or a valid password. In the ease of using the accounting information derived from this activity as well as accounting information can be found immediately once the transaction occurs this characteristics will affect the benefit of accounting information in term of positive impact as the classification and presentation of accounting information on business transactions user information (decision-maker) and temporary providing of information in the case of request and easiness of using the information will increase the effectiveness of cognitive ownership of the decision-maker which reflected its positive impact on the decision.	<b>Benefit</b>
The accounting information resulting from the activity of (e-governance) is considered as an effective aspect in achieving the objectives of the decision-maker resulting from obtaining the information in the required form, time and content as a result of using computer, on the other hand, the electronic governance processes are timely or take place in a relatively short period of time compared to the traditional government processes leading to the assertion of effectiveness in providing the information besides the impact will be overlapped between electronic accounting and electronic governance.	<b>Effectiveness</b>
The predictive value of accounting information relates to the ability of the economic entity to develop future plans of relative high accuracy besides the quality of information on this aspect is the ability of the information to reduce the uncertainty and inaccuracies inside the plans as well as the quality of accounting information is the availability of government business processes within a specific format of speed and availability for all ongoing operations and then continuous intervention to form a formula to expressed the future plans of the enterprise and support the decision making within the required budget and plans.	<b>Prediction</b>
The efficiency of accounting information is related to the economic value of information (cost versus benefit), the quality of information in this context emphasizes the optimal use of the available resources by the decision-maker and to achieve of the objectives of the economic unity, this will be achieved via using resources by electronic governance via entering, processing, and production of information automatically in order to provide accuracy and limited duration without the need to use hardcopy to provide the information.	<b>Efficiency</b>



Electronic accounting information: The current era is of the era of the ICT revolution, the used information is the most important feature of the last decades of the twentieth century. The development of information technology has led to increases in the information that must be processed, stored and provided to the system in a huge way, the process of control added a difficulty besides information technology applications have spread in various fields in all levels as well as in using computers in the accounting information processing which is now a necessary and very important step to produce and consume information in an entity (Aladwani, 2016).

Accounting is a social science and a service activity that serves many interested parties and users, both inside and outside the institution, therefore, the need for accounting starts from the need for information that can help them to meet the needs of users and vice versa so that the users help them making the right economic decisions. Information systems or information technology is one of the important fields that accountants should be familiar with because the accountants rely on a large amounts of information in their work which can be obtained via the accounting information system which is generally an effective method to provide the necessary information to the entity or institution (Aladwani, 2016).

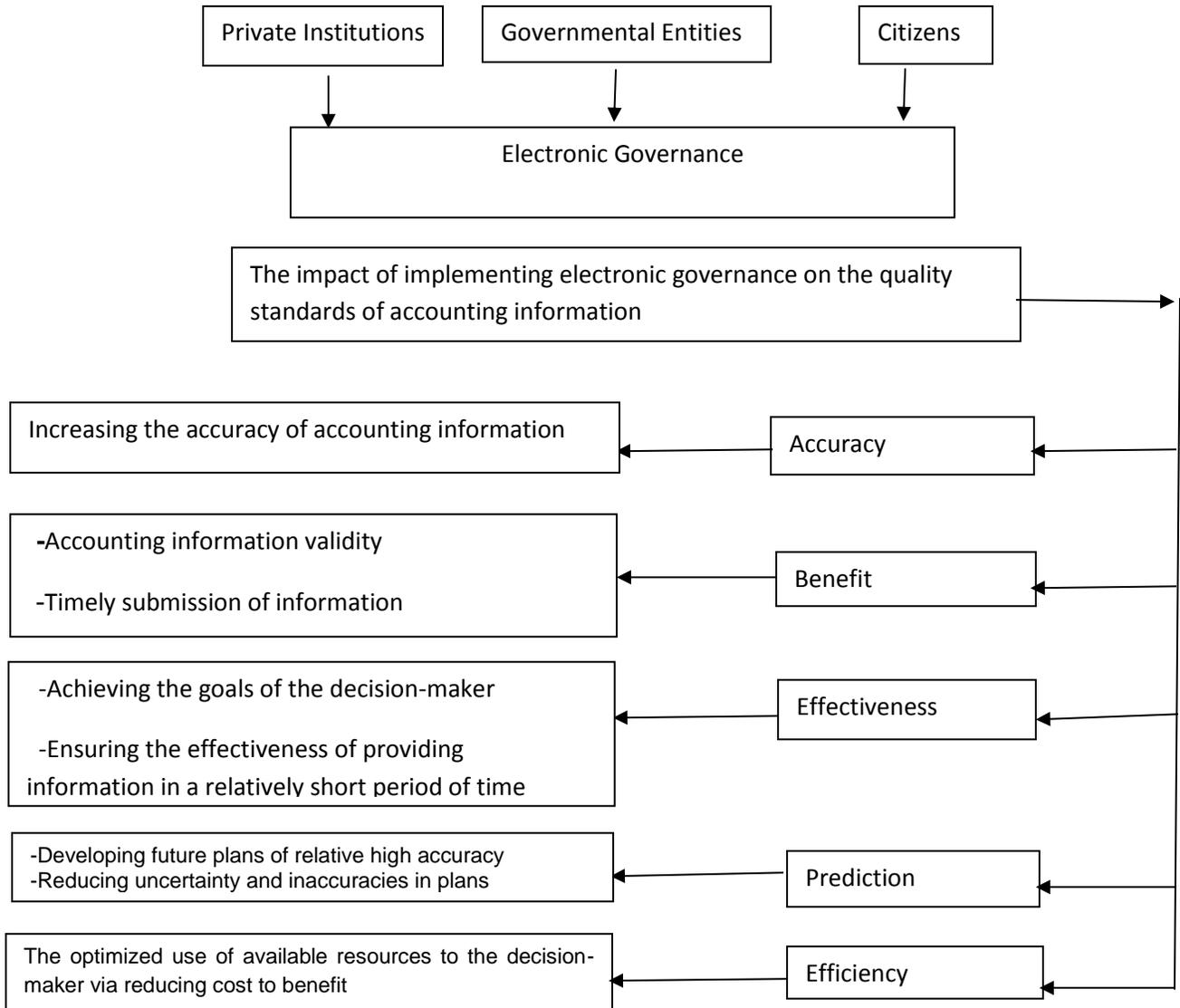
It is the application of computers and communications equipment to store, retrieve, transfer and process data regularly in the context of a business or other enterprise besides it is commonly used as a synonym for computers and computer networks, but also includes other information distribution techniques such as television and telephones as well as many industries are associated with information technology such as computer hardware, software, electronics, semiconductors, internet, communications equipment, e-commerce and computer services.

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## The impact of implementing of electronic governance on the quality standards of accounting information

Figure 1. The relation between e-governance and the quality of accounting information



### Electronic Governance System in Al-Rafidain University College

#### About the research sample - Al-Rafidain University College

The idea of e-governance in the sample of the research is to provide different services through electronic media and technological methods such as the internet and various communication devices via linking all the websites of the departments within a unified server or official website including hyperlinks to allow the user to navigate as required. The e-governance system of the research sample is used by internal parties such as employees, administration, college members as well as external parties represented by the Ministry of Higher Education and Scientific Research and the Financial Control Office.



## **Manual and Automatic System in AI - Rafidain University College**

The manual system previously used to allow the student to pay their tuition fee to the accountant and the cashier made a manual bill after entering all the required data (full name, student number, department, stage, and installment amount). The receipts were manually transferred to the accounting documents and then entered into a computer according to the unified accounting system prepared in light of the bill information (names, student number, section, stage of study, amount of the installment). After this process the student delivers the installment bill to the secretary of the department to approve it and here it is possible to make mistakes in the process, because the department is not sure that the student paid the tuition fee, therefore the student should bring the bill again and if the bill is lost by the student, the financial entity needs to find a copy of the installment bill and this is difficult for the entity because during the time between issuing the installment bill and the time of reissuing the second copy, a lot of documents need to be issued for other students.

In term of financial aspects in the manual system there are several mistakes that may accompany the process of paying the installment by the student such as the Secretary of the Fund receiving an increased or decreased amount for the student and according to the stage in which the student is studying, in this case it is difficult to detect the mistake due to the large number of students and payment time, except in the case where a student discovered that during following up the process there was an error. Also when the Audit Unit finds out there is a mistake which requires accounting adjustments. If the student pays less than the amount of the tuition fees that means that there may be a financial corruption case between the accountant and student where the latter pays less than the amount required by bribing the accountant with a commission. In such cases it is difficult due to the large numbers of students and the absence of an electronic system to consolidate the number of students, their stages of study and the department in which they are studying. Furthermore, there are no official accurate reports on the number of students who have been paid or who are unpaid.

It is also difficult to find the reports that the administration needs on the students who has paid either all or half of the installment or if they have not paid at all. The reports needed by the administration and the official authorities may take a long time and more effort because they are implemented manually besides they also lack accuracy in the extracted information. In the previous manual system the receipt of the installation amounts from the students and other parties by the financial accounts department are in the main facility only, except if the payment process are a then certified and checked, then the branches receive the instruments and are then transferred to the main facility (College) for security procedures as expected by the college.

### **E-Governance System**

To implement the e-governance system at Al-Rafidain University College there are several steps needed to be followed by the administration of the University. When implementing the e-governance system between the college administration and its departments the following apply:

- 1- A registration number is been allocated for each student in the college.
- 2- All student data (registration number, full name, department, stage, ...) is entered.
- 3- The student's tuition fees are introduced at the level of each department and each stage of the system.
- 4- Payment receipt information should be exactly the same as the hardcopy (number of the receipt, student's name, department, stage, type of study and paid amount) (Figure 2).



Receipt		
Department: .....	No:	
Stage...	Date:	
I received from.....		
The amount of only two million Iraqi dinars		
Check number.....	Date	the amount: 2000000
name of the account	The accounting number	Credit Number
1333333	435	Part of the installment
666667	435	
2000000 for		cashier
Example		

For the payment of tuition fees for the second installment of Al-Rasheed Bank / Al-Rafidain University College

**Figure 2.** Receipt of catch within the system of governance in the Rafidain University College

When the students pay the fees, the cashier will enter their registration number and all their details (name, department, stage, amount of the installment, number of the amount in both numbers and written, number and date of the receipt and the distribution of the amount according to the unified accounting system adopted for the current academic year and the next academic year) as in the diagram no (2) above.

**The difference created by the electronic governance system in this case is the manual system:**

- A- The ease of use, accuracy and rapidity in receiving the installment where the cashier needs to have the student registration number only because all other information will appear automatically.
- B- The amounts are 100% accurate because the installments were entered in the system previously according to the department stage and therefore the accounting information that is extracted is accurate, free of prejudice or mistake and can't be manipulated.

In the e-governance system, the financial department and the concerned department can determine the number of students paying a full or half-installment at any time required or as requested by the external and internal controlling or administrative entity. It is also possible to know the number of students who are not paid according to their department and stage of study and this provides a facilitated accounting work, saves time and reduces effort and greater accuracy exists in the extracted information as well as ease in obtaining the needed reports by the beneficiaries.

The system facilitates obtaining a report including the name of the student, paid installment amount, remaining unpaid installment, department and stage of study and offers the department less time, less effort, costs less work and gives us more accurate financial and accounting information that is free of mistakes and human bias.

The branches of Al-Rafidain University College should be linked to the central entity of the university electronically as any financial movement (payment of installments) appears directly in the branch and center when the payment occurs in the center besides this also prevents payment at the branches for security and controlling procedures adopted by the administration of the



university. It is also possible through the system of governance which was adopted by Al-Rafidain University College to extract several other reports needed by the college administration such as reports for checking if the students are suspended due to absence, or normal failure and are automatically extracted according to the beneficiary that requests them from the Deanship or the Ministry where it was previously implemented manually. That requires effort, time and cost as well as the number of successful students which can be identified and extracted through the electronic system. The system related to the financial accounts associated with the installments and the method of payment for each student besides the system, contains several sub-systems including the exam system, the registration system, the personnel system, the electronic library system and the students' grades system which is used by the beneficiaries at Al-Rafidain University College. In order to facilitate and simplify the procedures that can be accompanied with the payment of the installment by the students and to reduce the incidence of mistakes as well, the system is working via entering (name and password) that can be used only by director of the accounts in Al-Rafidain University College.

In case of entering the installment amount in the system there also needs to be an entering of the name and password that should be different from the code at the beginning of the system. In the case of a mistake in the delivery receipt, the student's validity is limited to the account manager only. Previously in the manual system, when the accounts section cancel the bill for a mistake made in the procedure during filling it out, or the number of the instruments used, is a mistake that only needs to be cancelled out in the system of governance. So as to prevent a violation in the process of canceling the bill this should be done by the account manager exclusively and by also entering the (name and password) to detect the fake bills to be manipulated as well as the account manager should be the only person who can enter the name and password in the main computer and then only after bringing the original hardcopy and the photocopy that the account possesses in order to be cancelled exclusively by the account manager.

For those who ask what is the difference in the case of overcrowding in the bank and the students desire to pay cash to the college, and also the approval of the college administration approval then the accounts person will check the information and enter this in the computer later. If there is a mistake in the bill the installment will be cancelled. The researchers believe that the electronic method will prevent the introduction of false information in terms of installments in number and writing and the remaining amount according to the date. Manipulation in the amounts of installments: For example, two million installment, it is possible in the manual system that the student may pay a million and a half and bribe the accountant to pay a certain amount, but in the electronic system the manipulation is impossible so the amount appears automatically in the computer so that the installment two million shows automatically and the accountant can't receive more or less than the due amount.

For more accuracy and control, the automated electronic system has been programmed to extract reports to control installments to know who paid a full or half installment, and these reports will be demanded at any time by the dean of the college, assistant of the dean, account manager, registration director, scientific departments and electronic system administrator besides the reports include installments, cancelled check, full installment, half installment and unpaid as well as there are aggregated reports for each department and sub-reports for each study stage. To enter the student's name in the lists of the Al-Rafidain University College, the registration department will give the applicant student an application pack that contains (student's name, number, class, stage, day or evening study) then it will be sent to the accounts in order to pay the installment, when the financial accounts department will enter the student number then the student's installment, name, stage and the method of payment by cash, check or both and the student does not need to return to the registration department because all the information will



appear directly on the system and the system has the possibility of payment in cash, by check or both to facilitate the student's payment method.

In order to clarify the extracted accounting information from the electronic governance system, the following section will review how the administration, scientific departments, financial accounts and the registration know the payment ratios for each department and the stage of the students and the students who paid a full or half installment ,or who did not pay, why their admission was canceled and any other information required by the administration for each department and for each student.

**Table 2.** College of Al - Rafidain University 12/4/2015  
 Number of college students and the percentage of payment in each department

No	Name of Section	Study	Stage	Total Number	Paid in full installment	paid by half of the installment	paid by private repayment	unpaid	Payment rate
1	Software Engineering			419	419	0	0	0	100.00
2	Computer Engineering			1041	990	43	5	3	95.10
3	dentist			815	796	9	3	7	97.67
4	Accounting			902	866	32	1	3	96.01
5	Statistics and Informatics			88	84	0	0	4	95.45
6	Refrigeration and Air Conditioning Engineering			577	535	33	2	7	92.72
7	Computer Science			640	632	6	1	1	98.75
8	Business Management			1001	952	41	2	6	95.10
9	Law			1520	1331	157	11	21	87.57
10	Computer Communication Engineering			691	653	16	0	22	94.5
11	the pharmacy			504	503	0	1	0	99.8
12	civil engineering			85	82	3	0	0	96.47
13	Computer Engineering			89	67	15	5	2	75.28
	Total			8372	7910	355	31	76	94.48

(Source: Governance System in Al-Rafidain University College)

Table 2 of the Governance System in Al-Rafidain University College shows the total number of students in each department, the number of students paid full or half installments, privately paid installments, unpaid, and the percentage of reimbursements in each department, in this table each stage of study and students who did not pay are unknown, but it shows only the number of



students in each department and the proportion of reimbursement for each department. In order to determine the number of students for each stage, whether they are day or evening students and the number of students who are paid in each stage and who are not paid are reviewed in Table 3 and extracted from the electronic governance system of Al-Rafidain University College and due to the large number of scientific departments we select the accounting department for illustration only and the rest of the department they will be applied to the same table.

**Table 3.** Al-Rafidain University College Payment of students for installments by stage 12/4/2015

No.	Department Name	Study	Stage	total number	Paying a full Installment	Paying half a Installment	private payment	Unpaid	Repayment rate
1	Accounting	Day	First	179	173	6	0	0	96.65
	Accounting	Day	Second	146	142	4	0	0	97.26
	Accounting	Day	Third	151	148	2	1	0	98.01
	Accounting	Day	Fourth	162	156	4	0	2	96.3
	Accounting	Evening	First	67	60	7	0	0	89.55
	Accounting	Evening	Second	63	63	0	0	0	100.00
	Accounting	Evening	Third	74	70	4	0	0	94.59
	Accounting	Evening	Fourth	60	54	5	0	1	90.00
	Total			902	866	32	1	3	96.00

Table (3) shows the number of students in each of the day or evening classes, the rate of payment at each stage and the number of those who paid full and half installment paid. Table 4 shows the students who paid the full amount of the installment and half the installment or the unpaid and the table reviews the name of each student, the registration number, the stage and the department in which the student is studying and it also illustrates the number of students and it is appropriate for the rest of the departments need to be applied.

**Table 4.** Student payments for installments by grade and student name  
 Department of Accounting

No	Name of student	Student registration number	Department	Type of payment	The total amount	The paid amount	the remaining
First Stage							
244	Wasan Hamad Ahmed Mohammed	22138714	D	Two Installments	2300000	2300000	0
245	Yasser Zaer Salman Harbi	22075114	D	Two Installments	2300000	2300000	0



246	Yasser Essam Dhari Awaid	22240114	D	Two Installments	2300000	2300000	0
Second Stage							
207	Wassen Wasfi Jabbar	22633013	D	Two Installments	2300000	2300000	0
208	Wafa Hanash Hadi	22637013	D	Two Installments	2300000	2300000	0
209	Yasmin Karim Jassim Mohammed	22350513	D	Two Installments	2300000	2300000	0
Third Stage							
223	Walid Khaled Mahdi Mohammed	10012	D	Two Installments	2000000	2000000	0
224	Wahran Shalal Radhi	8610012	D	Two Installments	2000000	2000000	0
225	Yasin Faleh Hajem Odeh	34012	D	Two Installments	2000000	2000000	0
Fourth Stage							
219	Tebah Hamid Jassim Mohammed	240809	H	Two Installments	1700000	850000	8500000
220	Ali Hassan Abbas Hassan	102685	H	Full Installment	1700000	1700000	0
221	Nafie Hafez Dakh Aboud Al - Maliki	100299	H		1700000	0	1700000
222	YahyaJassimKhudair Abbas	66299	H	Full Installment	1700000	1700000	0

(Source: Governance System in Al-Rafidain University College)

The table 4 of the governance system in Al-Rafidain University College shows the number of students and the paid amount as well as the number of students who are paid and who are not paid the tuition fees. It gives the college greater time, effort and accuracy in the extracted information, and besides these reports are required at any time by the administration, the Ministry, other controlling bodies and scientific departments in order to reduce mistake and manipulation of the paid amounts by the students. The system also reduces the occurrence of financial corruption via manipulating the paid amounts to the students. According to the mentioned tables e-governance has a clear impact and reflection on the quality of the extracted accounting information in the study sample entity. Besides e-governance also has an effect and reflection on



reducing the efforts and costs of the study sample as well as electronic governance contributes in reducing administrative and financial corruption in the study sample.

The study has demonstrated the validity of the hypotheses on which the application of the electronic governance system will be reflected on the quality of accounting information as well as the implementation of the e-governance system will contribute in reducing the cost, effort and rapidity of implementation besides the implementation of the e-governance system will contribute in reducing administrative and financial corruption in the community. The electronic governance system has a clear impact and reflection on the quality of the extracted accounting information from the sample of the study, this is illustrated by the mentioned tables at the level of the college, departments, study, name of each student and each stage as well as it will identify the names of students who paid a full or half installment and those who have not paid and this is difficult to be applied in the manual system. The extracted information from the tables within the electronic governance system has contributed significantly in reducing the costs incurred by the entity and effort to obtain more accurate and useful information for the administration and the beneficiaries and at any time needed by the entity and previously the information required by the department needs effort and costs more as it takes a long time to be extracted from the archive with less accurately. Through the procedures of the implementation of the electronic governance system, it is clear that this will contribute in simplifying the administrative and financial procedures and increase the quality of the accounting information in the study sample.

Recently, Al-Rafidain University College implemented a system to published students' grades through the Internet, each faculty members is given a password to enter the degrees of annual pursuit so that the score is calculated with each theoretical exam and reduce the burden on the faculty members not to review the students to know their grades during the semester besides provide each student and according to the stage and department will be provided by a password to know the degree and the annual pursuit. Al-Rafidain University College has also published on its website a number of procedures that allow its users and participants to learn about their work and results through the Internet, such as presenting the research of faculty members, students' products, teaching methods, examination schedules, lists of graduates, lectures, college journal and curriculum to reduce the burden, decrease the cost to users of information from faculty members and students and increase the speed of using information by users.

## **Conclusions**

- 1- e-governance contributes in improving the quality of accounting information that will promote the quality of accounting information.
- 2- There is a clear impact and reflection of the e-governance in reducing the effort and cost of the research sample.
- 3- Electronic governance simplifies administrative and financial procedures in the research sample.
- 4- Among the obstacles that obstruct the success of the e-governance system is the security impediment which has a clear impact on the implementation of the objectives of e-governance whether in terms of technical, social or political aspects.
- 5- The e-governance system contributes in providing reports to the concerned parties when needed with low cost, less effort and more accurate provided information in an accurate time.
- 6- The electronic governance system facilitates comparing the extracted results of the current year with previous years more easily and in more detail if compared with the manual system.
- 7- The e-governance system provides the possibility of making discretionary budgets for the coming year.



- 8- The e-governance system contributes in reducing the burden of financial accounting staff in the financial and administrative entity while maintaining high levels of quality of services and reducing the effort and hardcopies.
- 9- The prevailing accounting procedures in government entities and the fear of reorganizing and automating work procedures have created resistance to change towards integration of work and participation in implementing of electronic systems among government entities.

### Recommendations

- 1- Adopting of the electronic governance system by the Ministries and entities of the state according to needs and the nature of work that is appropriate for them.
- 2- Converting the procurement, maintenance and other expenses system to the future automated system to avoid financial and administrative mistakes.
- 3- Developing the research system of the faculty members, schedules, curricula, college journal and the possibility of users outside the college to benefit from its services.
- 4- Converting the system of students ' starting and leaving electronically in term of providing an electronic identification card for each student through which the student can enter the college except for the others and transferring the system of students' absences to the electronic system which helps reducing costs by adopting official papers and increasing the speed of procedures.
- 5- Adopting E-mail for all scientific and administrative departments of the College, the electronic system is programmed to automate the conversion of official documents and mailing in order to reduce the cost, effort and speed of work.
- 6- Promoting the level of basic computer training and Internet skills among employees.
- 7- Establishing an electronic environment and public companies connected to the installation of a local telecommunications network via forming a central committee in each institution to prepare for the transformation into electronic software.
- 8- Establishing an electronic protection network to protect the electronic data and information in electronic systems from penetration as much as possible.
- 9- Providing legal frameworks for preventing and deterring before implementing the e-governance project to increase the effectiveness of its application and to raise the confidence of customers with networks.
- 10- The e-governance system can be utilized in terms of accounting by applying it in the financial entities in Ministries and other institutions by facilitating the payment and receipt of the financial dues of the Ministry with the external parties by transferring the current manual financial system to an electronic system which will reduce cost and time and help in completing the work more accurately.

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