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**Employing Information Technology in Egyptian Universities in the  
light of Accreditation Standards  
“A Comparative Study”**

**PH.D Thesis**

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## **Summary of The Study**

### **Introduction**

Standards and theories of quality have become the directors for all institutions and sectors in the current age of informatics. Quality and accreditation are driven from the culture of the age of information, and interest in quality is a global phenomenon. So, organizations and governments all over the world give great importance to this issue, especially in light of the changes in advanced and competitive technology and the political, economic, and social changes that the global community has witnessed. As a result, quality has become a high priority for any organization that is looking forward to achieving a competitive advantage that enables it to continue in light of these changes in information and technology.

In addition to that, there is a strong relationship between total quality standards and accreditation, on one side, and the information technology system on the other side, as information technology is a direct approach to achieving quality, and in the same way quality is a basic aim for activating and applying information technology system in universities.

Applying quality and accreditation policy requires an environment that is interested in information and modern technology in all educational, administrative, and social infrastructures inside and outside the organization. This will provide the appropriate climate for application. It is also important to have a database that includes accurate information about the university and the services it introduces and its stakeholders as well. Another important thing for applying total quality standards is to change the traditional view of the functions of university regarding research, teaching and community service. A fourth requirement for achieving quality in university work is to widen the range of using informatics in education and university administration by having internal networks, using e-mails and the internet. This in turn requires training

people and developing their efficiencies in using computers and applying information technology.

### **Problem of the study**

Egyptian universities are encountered with a lot of obstacles when applying quality and accreditation standards. The apparent obstacles are: (١) weakness in the infrastructure of information and communication systems for clients and suppliers, (٢) using traditional methods when executing university processes, (٣) lack of an accurate system for data and information, and (٤) the absence of advanced techniques for revising and evaluating programs and lack of interest in developing curricula technologically. **Hence, the problem of the study could be tackled through answering the following question:**

**"What is a suggested vision for applying information technology in developing Egyptian universities in light of accreditation standards derived from the experiences of United States of America and Australia?"**

**This question can be branched into the following sub-questions:**

١. What is the concept of information technology and accreditation in universities?
٢. What are the experiences of America and Australia in applying information technology in university education in light of accreditation standards?
٣. What is the status-co of employing information technology in education in Egyptian universities in light of accreditation standards?
٤. What are the similarities and differences between Egypt on one side and the United States of America and Australia on the other side regarding the employment of information technology in university, in light of accreditation standards?
٥. How can Egyptian universities benefit from the experiences of the comparative countries in employing information technology in light of accreditation standards?

## **Aims of the study**

### **The current study was intended to:**

١. Define the concept of information technology and accreditation in university education.
٢. Identify the experiences of America and Australia in applying information technology in universities in light of accreditation standards.
٣. Determine the status-co of employing information technology in education in the Egyptian universities in light of accreditation standards.
٤. Identify the similarities and differences between Egypt on one side and the United States of America and Australia on the other hand regarding the employment of information technology in universities in light of accreditation standards and the cultural and social factors in these countries.
٥. Benefit from the experiences of the comparative countries in employing information technology in light of accreditation standards and the cultural and social factors in these countries.

## **Importance of the study**

### **The importance of this study is attributed to:**

١. Importance of the topic itself, as information technology has become one of the vital topics, especially in light of the global trend towards quality and accreditation, and the current technology revolution and changes in informatics.
٢. Nature of the problem, its dimensions, and how it is studied regarding the increasing role of employing information and communication technology in universities.
٣. Contribution of the study in determining the most important mechanics of technology applied by advanced countries for developing university performance in order to maintain quality outputs. This could help in

putting forward a suggested vision for developing information technology system in the Egyptian universities in light of accreditation standards.

- ξ. The study is based on the results of several studies at the global, national and local levels, which referred to the importance of the relationship between the quality of university education and information technology.
- ο. The study is a response to Egypt's commitment to develop its universities to cope with challenges of the modern age. It also goes with Egypt's strategy and national program in the field of information technology put forward by the ministry of research. The study is also based on the results of the national plan which concentrated on analyzing and specifying the tools needed for providing a suitable environment for the flow of information.

### **Limitations of the study**

#### **Subjective limitations:**

The study was limited to information technology, accreditation standards in universities including (university policy, staff members, administration, instruction process, and library). The study was also limited to the experiments of America and Australia.

#### **Spatial limitations:**

The study was limited to the status-co of employing information technology in a number of Egyptian universities (Fayoum, Tanta, and Ain Shams) in light of accreditation standards (a set of standards for evaluating university institutions).

### **Terminology of the study**

#### **١. Employing**

Employing information technology means benefiting from this technology in selecting accurately the modern techniques that help

university move towards its aims and developing them, and as a result, achieving aims and tasks effectively and efficiently.

#### **۲. Information Technology**

It refers to electronic technology including computers, multi-media and other types of advanced technology. It also includes communication technology that allows for information processing and dissemination in fields such as instruction, research, and administration. Provision of this technology can change the roles of staff members, students and administrators in universities, and connect them directly to information resources.

#### **۳. Accreditation**

It means the systematic process that aims at enabling educational institutions to have a distinct entity and identity recognized locally and internationally. It is further defined by the National Authority of accreditation as "the grant given by the National Authority for education quality and accreditation to the educational institution if it can prove that it has the institutional ability and educational effectiveness that go with national and academic measurement standards, or any other set of international standards accredited by the national authority. Accreditation includes also the educational institution's ability to have developed systems that ensure continuous enhancement and reinforcement of quality". Accreditation is defined in the current study as "the provision, monitoring, and evaluation of quality standards for different aspects of university institutions. It also includes the processes of enhancing and developing information technology system for achieving a head start and excellence for universities in light of the current changes and transformations in technology and informatics.

#### **۴. Accreditation Standards**

A standard is defined as "the minimum amount of efficiencies required for achieving a certain goal. This minimum amount is considered the least efficiencies required for an individual, or an institution in order to do his job well for enhancing the current state." It also refers to an

intended performance level for achieving a specified and expected amount of quality and excellence. Hence, accreditation standards refer to a group of criteria required in the institution for maintaining accreditation.

### **Method of the study**

The study made use of the comparative method including the descriptive and analytic approaches.

### **Procedures of the study**

**Firstly**, identifying the study framework including (introduction, problem, aims, importance, previous studies, method, terminology, limitations, and procedures of the study).

**Secondly**, determining the concept of information technology and accreditation in university education.

**Thirdly**, demonstrating the experiences of both America and Australia in the field of employing information technology in university in light of accreditation standards.

**Fourthly**, finding out the status-co of employing information technology in the Egyptian universities in light of accreditation standards.

**Fifthly**, conducting the field study and analyzing and interpreting data.

**Sixthly**, doing the comparative analysis.

**Seventhly**, putting forward the suggested vision for employing information technology in the Egyptian universities in light of accreditation standards.

### **Results of the study**

Results of the study showed that there are a group of problems regarding the status-co of employing information technology in the Egyptian universities in light of accreditation standards including:

#### **University policy and information technology:**

Although accreditation standards include some indicators for the necessity of providing databases inside university institution and having a system for storing and retrieving documents, the current study showed that these databases are surrounded by some problems such as:

These databases do not go with different administrations and functions of the university, and they are not renewed periodically.

- There is not a link between these databases and the databases of the Supreme Council of Universities.
- These databases are not used for taking decisions, which in turn affects the fastness and reliability of these decisions.
- These databases are not subjected to international measures of quality and effectiveness.
- Information technology services are not clearly defined in the organizational structure of universities. There is not an organizational structure or functional specification for incorporating information technology work teams in the administrative structure.
- Information technology units do not include a system for quality administration. This can be attributed to the shortage in the university's organizational ability to provide the requirements of accreditation.
- A shortage in the university administration system regarding decision making which weakens the university's ability to connect electronically to administration units. This does not allow for the free exchange of information, and allows for more dependence on paper documents.

### **University administration and information technology**

#### **١. The professional development of administrators in technology:**

In this aspect, the study results showed that there are no statistically significant differences between accredited and non-accredited universities in the emphasis on professional development of administrators in technology. This shows the negligence of this domain in accreditation standards, and the lack of effectiveness of administration technology in qualifying the institution for accreditation. Sample of the study in accredited and non-accredited universities agreed that there are a group of problems related to this point including:

- The absence of continuous follow-up techniques for identifying administrators' training needs in technology.



- Training courses introduced to administrators are only interested in using computers and printers and dealing with system and application programs. Universities do not introduce training courses concerning techniques for administration communication, database management, and technical resources. Sample of the study emphasized their need to have such courses especially in light of the current technological advances.
- Training courses are not obligatory, and they are mostly theoretical. This makes them difficult to be well-applied in real work tasks. These courses also do not reflect real needs of administrative work system.
- Weakness in electronic enlightenment in universities which leads to lack of support for these courses.

#### **٧. Regarding the physical environment for applying administration technology.**

Results of the study showed that there are some problems related to the absence of administration technology employment factors, these are:

- Lack of the financial allocations required for providing administration technology hardware.
- Lack of periodical maintenance for technology machines.

Results of the study also showed that administration processes and functions are very traditional. So, the study showed a group of problems related to the gap between university administration process and the employment of technology. These problems include:

- Inability of the administrator to deal with programs and modern technology machines.
- Administrative mechanization in university work is done traditionally, and is not employed in decision making, or in correspondence which is done traditionally not electronically.
- Centralization of university administration prevents the delegation of administrative authority, which decreases the possibility of employing information technology. Decentralization is one of the administration types that support the employment of information in all dimensions of university work.

### **Instructional process and information technology:**

Accreditation standards include several indicators related to evaluation of the instructional process regarding the employment of information technology. Analysis of variance of the status-co of the technological environment in both accredited and non-accredited colleges showed the existence of statistically significant differences between the two groups (accredited and non-accredited colleges). This difference is attributed to the fact that evaluation committees for accreditation emphasize the provision of infrastructure for information technology (this includes providing computers and sometimes data show projectors in teaching rooms). In spite of this, the technological environment suffers from several challenges such as:

- The decreased number of programs designed for raising staff members and students' awareness of electronic learning systems.
- Networks are always slowed down or are sometimes out of service. Failure of the web during teaching electronic courses is another problem, as depending on electronic courses may lead to irregularity of the teaching process as a result of irregular power supply.
- The instructional system in universities decreases the possibility of applying electronic learning, as it depends on traditional methods of teaching.
- Syllabi are another obstacle, as they are difficult to convert to electronic courses because of size and nature of these syllabi.
- Information technology is not invested in the right way; as paper books have been converted into electronic ones without changing and adapting their content in a way that allows or the employment of technology. Using multi-media has been used for facilitating memorization of information without investing them in obtaining and implementing this information.
- Instructional rooms are not equipped with sufficient tools for using technology in instruction.

- Additional learning sources are rarely used, and dependence is on the university book.
- The decreased number of courses whose tests are built and corrected electronically.
- Laboratory machines are becoming and there is not periodical maintenance for these machines. This includes also computer and micro teaching labs.
- The decreased number of qualified Technicians in labs.
- University regulations, especially those related to financials, usually hinder the employment of technology in teaching. This is because financial areas in universities suffer from a lot of shortages. The government usually meets this shortage depending on grants and loans, without thinking of Self-financing based on university sources

### **University library and information technology**

Accreditation standards include several indicators related to evaluation of university libraries regarding the employment of information technology. Analysis of variance of the status-co of the technological environment in both accredited and non-accredited colleges showed that there are no statistically significant differences between the two groups (accredited and non-accredited colleges). This emphasizes that accreditation in the Egyptian universities is a routine work and is far from reality. It is just a kind of accumulation of paper. Generally, the study results showed the existence of some problems related to that area these are:

- Shortage in the number of computers and technical equipment provided for users, as they are not characterized by modernity, and are not supported with periodical maintenance.
- University libraries are limited to having computers. This does not go with the guiding assessment models provided by the National Authority for accreditation which commit libraries to use indexing screens (one

screen for every 10 students). But this is totally far from application in both accredited and non-accredited colleges.

- Variance in specializations and qualifications in libraries; most of the librarians are holders of technical and technical commercial diploma certificates. This is because application for this job does not require certain qualifications.
- Indexing and mechanization of library work are not completely done. The process ends at recording the reference number, neglecting other mechanization processes such as converting paper books to electronic ones, and making full texts of information resources available. Even the electronic library does not provide full texts for some resources.
- Library environment is not technologically appropriate for enabling students to do research activities.
- The university is not interested in reviewing and analyzing the number of users annually.

#### **Staff members and information technology:**

In the field of professional development of staff members, results of the study showed that:

- In accredited and non-accredited colleges, there are training courses for professional development in technology. But these courses are introduced through the information technology system training program, under the supervision of the ministry higher education and the supreme council of universities, to all colleges all over Egypt. The problem is that accreditation standards in Egyptian universities do not include indicators and techniques for evaluating the technological ability of university staff. Even when accreditation team visits colleges, they are not interested in this specific area, but instead they are interested in training and development systems in general.