

THE IMPACT OF MANAGEMENT INFORMATION SYSTEMS (MIS) TECHNOLOGIES ON THE QUALITY OF SERVICES PROVIDED AT THE UNIVERSITY OF TABUK

(From the Perspective of Staff: A Case Study)

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ABSTRACT

This study aimed to identify the impact of management information systems (MIS) techniques on the quality of services provided at the University of Tabuk from the perspective of staff. To achieve the goals of the study, two questionnaires were developed and distributed on a random sample of 426 employees at the University of Tabuk in the Kingdom of Saudi Arabia. The Statistical Package of Social Sciences (SPSS, V.16) was used to analyze the data of the questionnaire.

KEYWORDS

MIS, computer, management, information technology, quality, and services.

I. INTRODUCTION

The topic of IT techniques is one of the core issues that the researchers sought to highlight and study various aspects thereof, in order to enrich the subject and take advantage of the results of studies and research that is being reached in the development of applications in various business organizations.

The utilization of IT among administrative organizations requires the making of radical changes across administrative systems that impact human resources in terms of technical skills, know-how, organization policies, and the leaders' behavior which plays a major role in success regardless of any difficulties faced by the staff. In order for organizations to advance into the future, they must adopt the technology utilization approach, which is a mandatory requirement for such organizations which seek excellence in performance.

Given the importance of the use of information technology in the quality of service, it has gained a particular importance on the applied level, in order to correct and control the processes of

change and development within various organizations. This importance is clearly demonstrated through the efforts being made by the University of Tabuk; utilizing information technology to the highest extent possible in the delivery of services, due to the importance of technology in these vital organizations.

Hence, this study seeks to measure the impact of the use of management information systems technology and the quality of services provided by the University of Tabuk in the Kingdom of Saudi Arabia, due to the importance of technology in providing effective services.

1.2 Study Problem

The problem of the study lies in the fact that the University of Tabuk has not accommodated the change towards the use of technology in performing its functions and operations; it rather remained in the same position away from progress and excellence, due to the intensification of competition between private and public organizations as a result of the multiplicity and diversity of services and organizations that provide such services on one hand, and the high level of their needs and expectations and desires, and different standards of judgment of the quality of services that they consume the other hand. The use of technology has many positive and effective advantages that are reflected on the organization itself such as technological development, competition, the desire to improve work and others, which leaves various outcomes and results on the organization, both at the level of work and the services provided. So the problem of the study is illustrated by the lack of awareness and knowledge of the impact of using of management information systems technology and quality on the services provided by the University of Tabuk in the Kingdom of Saudi Arabia.

1.3 Study Questions

The study seeks to answer the following questions:

Question One: What are the perceptions of staff at the University of Tabuk in the Kingdom of Saudi Arabia about the use of management information systems technology?

Question Two: What is the level of quality of services provided at the University of Tabuk in the Kingdom of Saudi Arabia from the perspective of its staff?

1.4 Importance of the Study

The importance of this study stems from the interest in users, although attention is often focused on information technology and its material components. Since this study addresses the use of management information systems technology, it acquires a new dimension in studying ways to develop information systems in the organization. Also, this study is important because it considers the use of management information system technology and its impact on the quality of services provided by the University of Tabuk in the Kingdom of Saudi Arabia. Further, this study gains its important from the following factors:

1. It addresses the organizational concept of using Management Information Systems (MIS) technology, which is one of the important topics in the modern management doctrine, being an important source for the survival and durability of the organization, especially in organizations that seek to adopt a strategy of modern management that allows the involvement of workers in making decisions, exploiting opportunities, and increasing their competitiveness and creativity.

2. Since this concept (perceived management information systems technology) is relatively new in this environment, subjecting this concept to an applied study gives the study a clear importance within the academic framework for advanced management methods in the acquisition of knowledge and skills which can be used to improve performance and increase productivity.

3. The importance of this study also stems from the importance of adopting the use of management information systems technology at the University of Tabuk in the Kingdom of Saudi Arabia; the use of which helps in the adoption of new operation methods that differ from the typical traditional work, and therefore helps the university to solve its problems and embrace change as a methodology.

4. Also, this study can guide the attention of managers and decision-makers at the University of Tabuk to the importance of adopting the use of the management information systems technology with a view to being promoted to help improve the quality of services.

5. This study contributes to enriching the Arabic literature with a new topic of interest to researchers and practitioners, and is the starting point for further studies.

5.1 Objectives of the Study

This study aims mainly to analyze and measure the impact of the use of management information systems technology and quality of services provided by the University of Tabuk in the Kingdom of Saudi Arabia, and this can be achieved through the following targets:

- Identifying the extent of the use of information technology at the University of Tabuk in the Kingdom of Saudi Arabia.
- Identifying the level of quality of services at the University of Tabuk in the Kingdom of Saudi Arabia.
- Measuring the impact of the use of information technology (hardware, software, security, and usability) on the level of quality of services provided across different dimensions (tangible physical evidence, reliability, response strength, safety and confidence, and empathy).
- Presenting a conceptual framework on the topic of using information technology and the quality of services provided at the University of Tabuk in the Kingdom of Saudi Arabia.
- Making recommendations based on the results of the study that help decision makers to adopt the use of information technology as an approach that contributes to the success of organizations to improve the quality of their services.

6.1 Study Hypotheses

This study is based upon the following hypotheses:

First major hypothesis: There is no statistically significant impact at the level of significance ($0.05 \leq \alpha$) for the use of information technology dimension (hardware, software, security, and usability) on the quality of services provided at the University of Tabuk in the Kingdom of Saudi Arabia.

The following sub-hypotheses are derived from the above:

Sub-hypothesis 1: There is no statistically significant effect at the level of significance ($0.05 \leq \alpha$) for the use of information technology dimensions (hardware, software, security, and usability) on the tangible physical evidence as a dimension of the quality of services provided.

Sub-hypothesis 2: There is no statistically significant effect at the level of significance ($0.05 \leq \alpha$) for the use of information technology dimensions (hardware, software, security, and usability) on reliability as a dimension of the quality of services provided.

Sub-hypothesis 3: There is no statistically significant effect at the level of confidence ($0.05 \leq \alpha$) for the information technology dimensions (hardware, software, security, and usability) on responsiveness as a dimension of the quality of services provided.

1.7 Procedural Definitions:

a. Independent variable:

Use of information technology (hard and soft components of computers, i.e. hardware and software together), which refers in the broad sense to all information systems in the organization. It consists of the following dimensions: devices, software, security and usability.

b. Dependent variable :

Quality of services provided: The product characterized by non-tangibility and correlation (inseparability of the service and the provider), the inability to store, contrast (plurality and difference), the dependence on the degree of the provider's skill and the place of provision, integration with tangible products when presented, and the inability to develop defined and specific standards to measure the degree of quality as well as the need for a beneficiary when produced or co-produced. It consists of the following dimensions: **physical and tangible evidence, reliability, responsiveness, security and confidence, and empathy.**

II. DETAILS

The implications of utilizing computerized management information systems

There is a wide range of effects for the enforcement and utilization of computerized management information systems, of which the most important are as follows (Al-Khatib and Zighan, 2009):

- 1- Increasing productivity
- 2- Improving the quality of administrative processes.

Service concept

Organizations provide services to the community or to organizations with or without a certain price, according to the nature of the service provided, and also according to the nature of the provider organization.

The service is mainly provided in order to satisfy the wishes and requirements of customers; it thus forms strong relationships between customers and organizations providing service. The concept of service is not limited to the performance of an activity; it should rather fit and match the preferences of customers benefiting from the service (Santos, 2003).

The 'quality of service' concept

Organizations provide services to the community or to organizations with or without a certain price, according to the nature of the service provided, and also according to the nature of the provider organization. The service is mainly provided in order to satisfy the wishes and requirements of customers; it thus forms strong relationships between customers and organizations providing service. The concept of service is not limited to the performance of an activity; it should rather fit and match the preferences of customers benefiting from the service

Steps to attain quality in customer services:

There are many common steps that achieve appropriate and adequate customer service, attain their targeted satisfaction towards the organization and the marketing services that should be provided to them in this area, such as: attracting attention, generating interest in customers, creating a desire among customers, identify their needs, persuading the customers and addressing their objections promptly (Al-Khatib, Fahd, and Gharaibeh, 1998; Abu Musa, 2000)

Ensuring that customers continue to deal with the organization; this comes through a variety of sales and marketing services that form the basis for ensuring loyalty between the organization and its customers (Sumaidaie and Allaq, 2002; Taamna, and Harahshah, 1995); paying attentions to customers' complaints and feedback and addressing situations through:

Apologizing to customers and making them feel the importance of the complaint filed by them, compensating them for the loss resulting from it, replacing defective parts or those unfit for the use of the commodity, replacing the entire commodity with another or an alternative item with showing gratitude to them in order to maximize their role in supporting the organization, and providing services after the completion of the sale and contracting process.

Reasons for measuring the level of quality and customer satisfaction:

Identifying the causes of the measurement and evaluation process leads to significant progress in the results achieved as follows (Mualla& al-Tai, 2002; Allaq, 2001): identifying the impressions and opinions of the customers, identifying the requirements and expectations of the customer, filling and bridging gaps, setting goals, advanced performance leads to increase profit, assessing the current level of the organization and determining its future plans, the ability to continue the process of development.

Service quality standards:

Service quality standards have been proposed in pursuit of improving the level of services provided to consumers, including public services, and such standards rely primarily on surveys of consumer satisfaction, linking consumers' perceptions about receiving the service and the predicted service quality perceived. The significance of these surveys is that they serve as feedback from consumers and are very useful in determining whether the service image needs to be improved (Enezi, 2007).

Latifa (2002) pointed out that there are five key determinants of quality arranged according to their importance as follows: confidence or reliability, tangible aspects, responsiveness, assurance, and empathy and compassion.

III. METHODOLOGY AND DESIGN

3.1 Methodology

The study adopted the descriptive, field and analytic research methodology. As per the descriptive research, desk research was conducted and field and theoretical studies were reviewed in order to develop the principles and foundations underlying the theoretical framework, in addition to reviewing a number of notable previous studies, which are a vital source for the study in their areas of knowledge.

As for the analytic field research, a comprehensive exploratory survey was conducted, and all the data collected through questionnaires were analyzed using appropriate statistical methods, and the study relied on the developed questionnaire .

3.2 Study population

The study population consisted of all staff at the University of Tabuk in the Kingdom of Saudi Arabia's totaling 1036 employees (University of Tabuk, Personnel Affairs Department, 2011).

IV. STUDY SAMPLE

A simple random sample (50%) was withdrawn from all staff at the University of Tabuk in the Kingdom of Saudi Arabia, and thus the total sample size was 518 employees. Questionnaires were distributed to members of the study sample, 439 questionnaire were retrieved, which accounted for (94%) of the sample size, and 13 questionnaires were excluded for lack of suitability for analysis, bringing the number of valid questionnaires for analysis to 426, representing 82.2% of the study sample which is a valid percentage for the purposes of scientific research.

Description of the characteristics of the staff sample at the University of Tabuk:

Table (1) Distribution of the study sample individuals by variables (age, job title, job experience, academic qualification)

Variable	Level	Number	Percent age
Academic qualification	General secondary or less	39	9.15%
	Intermediate diploma	84	19.72%
	Bachelor's	272	63.85%
	Graduate studies	31	7.28%
	Total	426	100%
Job title	Department Manager	34	7.98%
	Deputy Department Manager	69	16.20%
	Head of Department	97	22.77%
	Officer	226	53.05%
	Total	426	100.0
Job experience	5 years or less	63	14.79%
	6-10years	87	20.42%
	11-15years	113	26.53%
	+ 16 years	163	38.26%
	Total	426	100%
	30 years or less	74	17.37%

Age	31-40years	109	25.59%
	41-50years	155	36.38%
	+ 51years	88	20.66%
	Total	426	100.0%

With respect to the qualification variable, Table 1 shows that the highest proportion was in favor of staff with a bachelor's degree amounting to 63.85%, followed by the proportion of employees holding intermediate diploma amounting to 19.72%, followed by the percentage of employees with a high school degree or less, which amounted to 9.15%, and finally came the proportion of employees with graduate education, amounting to 7.28%.

With regard to the career level, the highest percentage in favor of the "officer" rank with 53.05%, followed by the heads of departments with 22.7%, followed by the deputy directors with 16.20%, whereas directors came in last with 7.98%.

With regard to experience, staff with 5 years or less represented 14.79%, whereas 20.42% of the study sample had 6-10 years in experience, 26.53% of the study sample had 11-15 years in experience, and 14.3% of the study sample had an experience of 16 + years.

Considering the age variable, employees aged 41-50 years represented 36.38% of the study sample, followed by employees aged between 31-40 years representing 25.59%, followed by employees aged 51 years and above representing 20.66%, and finally came the employees aged 30 years or less who ranked last with 17.37%.

v. STUDY TOOLS

The following two tools were used in this study :

One: Information technology study tool

By reviewing literature on information technology, in line with the objectives of this study and in order to gather information and test the hypotheses of the study, a questionnaire has been developed which comprises two parts:

Part I: devoted to the collection of personal and job data about staff, and includes (age, job title, job experience, educational qualification)

Part II: consists of 20 paragraphs that measure the study's independent variable of information technology, as well as the development of this part based on the studies of (Yousuf, 2010; Aisan, Ani, 2008; Al-Jadiyah, 2008; Kasasbeh, 2007; Al-Bahisi, 2006; Hawamdeh, 2002). It was modified to suit the nature and functions of staff in the study population, and includes four sub-dimensions for measuring information technology, namely: (hardware, software, security, and usability).

Two: Study tools related to the quality of service provided:

The study questionnaire was developed based on the theoretical framework and previous studies on the subject. The questionnaire consisted of two sections :

The first section contains information about the characteristics of the study sample, according to demographic variables, namely, (university degree, academic year, GPA, and monthly income).

The second section includes 29 items. Construction of this section's items was guided by the service quality standards (ServQual). A questionnaire was developed to measure the quality of service at the University of Tabuk, benefiting from studies of (Soliman and Al-Zaid, 2002; Hernon et. al, 1999; Wisniewski, 1996; Awad, 2009; Enezi, 2007). Responses were classified according to the Likert scale of multiple options which computes the weights of those items in a five-degree scale as follows: (always, 5 degrees), (often, 4 degrees), (sometimes, 3 degrees), (rarely, two degrees), and (never, one degree). Table (2) shows the study variables and the items that measure each variable.

Table (2): Variables of the study and numbers of measuring items

Variable	Variable	Items
IT	Hardware	1-5
	Software	6-10
	Security	11-15
	Usability	16-20
Quality of Service	Tangible physical evidence	1-7
	Reliability	8-13
	Safety and confidence	14-18
	Empathy	19-24
	Responsiveness	25-29

3.5 Validity of the study tool

The questionnaire was presented to 7 arbitrators of specialized management professors and faculty members in Jordanian universities, in to verify the credibility of the items of the questionnaire. Taking their insights into consideration, some items were rephrased and required changes were made in an accurate manner to strike a balance between the contents of the questionnaire in its items.

3.6 Reliability of the study tool:

To verify its reliability, the tool was applied to a sample consisting of 25 respondents, who were excluded from the study sample .Cronbach's Alpha Equation of internal consistency was used to calculate the reliability of each tool of the study. Results are outlined in Table (3) below:

Table (3): Reliability coefficients for each tool of the study:

Variable	Dimensions	Reliability coefficient
IT	Hardware	0.87
	Software	0.84
	Security	0.86
	Usability	0.88
Quality of Service	Tangible physical evidence	0.89
	Reliability	0.88
	Safety and confidence	0.87
	Empathy	0.85
	Responsiveness	0.86
Total	Total	0.90

The results contained in Table (4) indicate that the reliability coefficients for the dimensions of information technology ranged between (0.84-0.88), while the reliability coefficients for service quality dimensions were (0.85 -0.89), and the total was (0.90). These values are considered acceptable for the purposes of this study.

VI. STATISTICAL TREATMENTS

After the data has been entered using the Statistical Package for Social Sciences software (SPSS.16.1), the following statistical treatments were used:

- Descriptive Statistic Measures: used to describe the characteristics of the study sample in figures, percentages, mathematical averages and standard deviation.
- Multiple Regression Analysis: used to test the validity of the study model and the impact of the independent variable on the dependent variable.
- One Way ANOVA: used to to test for differences in demographic variables of the respondents' perceptions about the dependent variables.
- Stepwise Multiple Regression Analysis: used to test the entry of independent variables in the equation to predict the dependent variable.
- Variance Inflation Factor (VIF) and Tolerance to make sure that there is no high correlation (Multicollinearity) between the independent variables.
- Skewness coefficient test: used to make sure that the data follow a normal distribution.
- Cronbach's Alpha equation of internal consistency: used to verify the reliability of study tool.

VII. FINDINGS, DISCUSSION AND RECOMMENDATIONS

7.1 Answers to the study's questions:

Descriptive analysis was conducted for all the variables of the study according to the responses of the study sample members to the items of the questionnaire. Mathematical averages and standard deviations were calculated and arranged in descending order according to their relative importance based on the value of the mathematical average, taking into account the scale used in the study, and based on that, the mathematical average values obtained by the study were based on the following criteria for the interpretation of data:

Mean	Level for the mean:
3.5 and above	High
2.5 - 3.49	Moderate
1 - 2.49	Low

Based on this criterion, if the value of the mathematical average of the items greater than 3.5 then the score of the study sample is high, if the value of the mathematical average is 2.5 -3.49, then the score of the study sample will be moderate, and if the mathematical average is 2.49 and below the score of the study sample is low.

Answer to the first question: What are the perceptions of workers at the University of Tabuk in the Kingdom of Saudi Arabia about management information technologies?

Table (4) Mathematical averages and standard deviations of the perceptions of workers at the University of Tabuk about the dimensions of using information technology

Items	Information technology dimensions	Mean	Standard Deviation	Rank	Level for mean
1-5	Hardware	3.58	0.57	4	High
6-10	Software	3.65	0.53	2	High

11-15	Security	3.61	0.55	3	High
16-20	Usability	3.66	0.52	1	High
1-20	Overall average	3.63	0.51	-	High

Table (4) shows that the overall average of information technology dimensions amounted to (3.63) and the standard deviation (0.51). This means that the perceptions of workers at the University of Tabuk about information technology are high .

An analysis of the dimensions of information technology shows clearly that usability ranked first with a mathematical average of 3.66 and a standard deviation of 0.52, followed by software with a mathematical average of 3.65 and a standard deviation of 0.53, followed by security with a mathematical average of 3.61 and a standard deviation (0.55), and finally hardware with a mathematical average of 3.58 and a standard deviation of 0.57.

This result demonstrates that the availability of information technology dimensions at the University of Tabuk will facilitate administrative procedures, increase efficiency among its staff, and improved outcomes, and save time and money .This can be achieved through providing necessary hardware and software to apply this concept, in addition to the provision of specialists, the IT infrastructure required, the availability of equipment and supplies necessary in terms of qualified human resources, clear strategic plans and an extensive database which all contribute to the achievement of organizational goals desired.

HYPOTHESES TESTING

Before beginning to apply regression analysis to test the hypotheses of the study, the researcher conducted some tests in order to ensure the suitability of data for the assumptions of regression analysis as follows: it was ascertained that there is no high correlation between independent variables (Multicollinearity) using Variance Inflation Factor (VIF) and Tolerance tests for each variable of the study, taking into account that the VIF value may not exceed (10) and the Tolerance greater than (0.05). It was also ascertained that the data followed the normal distribution by calculating the skewness coefficient, taking into consideration that data follows the normal distribution if the skewness coefficient value is less than (1).Table (5) shows the results of these tests.

Table (5) VIF, Tolerance and Skewness

Independent variables	Sub-dimensions	VIF	Tolerance	Skewness
Overall dimension IT	Hardware	1.337	0.748	0.89
	Software	1.632	0.613	0.64
	Security	2.405	0.416	-0.96
	Usability	1.010	0.990	0.76

We note that the values of the VIF test for all variables are less than (10) and range between (1.01 - 2.405), and that the tolerance values ranged between (0.416 - 0.9900), which is greater than (0.05) This is an indication that there is no high correlation between the independent variables (multicollinearity). Also, it was verified that the data follows a normal distribution by calculating the skewness coefficient, whose values were less than (1).

FGTable (6) Results of the regression analysis of variance to verify the validity of the model to test the hypotheses of the study.

*Statistically significant at the level ($0.05 \geq \alpha$)

Dependent variable	Source	Coefficient of determination R2	Sum of squares	Average squares	Calculated F value	Level of significance F
Quality of services provided	Regression	0.469	49.115	12.279	62.615*	0.000
	Error		51.723	0.123		
Tangible physical evidence	Regression	0.466	46.190	11,548	61.96*	0.000
	Error		49.972	0.118		
Credibility	Regression	0.388	48.694	12.174	45.009*	0.000
	Error		74.202	0.176		
Responsiveness	Regression	0.397	45.667	11.417	46.661*	0.000
	Error		67.691	0.161		
Security and confidence	Regression	0.495	49.606	12.401	69.59*	0.000
	Error		50.811	0.121		
Empathy	Regression	0.384	57.501	14.375	44.273	0.000
	Error		90.742	0.216		

Table (7) demonstrates the validity of the model to test the study hypotheses. Due to the high value of calculated F over its tabulated value at the level of significance ($0.05 \geq \alpha$), whereby the dimensions of information technology interpret 46.9% of the variance in the dimension (quality of service), 46.6% of variance in the dimension (tangible physical evidence), 38.8% of variance in the dimension (credibility), 39.7% of variance in the dimension (responsiveness), 49.5% of variance in the dimension (security and confidence), as 38.4% of variance in the dimension (empathy). All this confirms the role and impact of the information technology dimensions in the interpretation of the service quality dimensions. Consequently, we can test the hypotheses of the study.

First hypothesis: There is no statistically significant effect at the level of significance ($0.05 \leq \alpha$) for the use of information technology dimension (hardware, software, security, and usability) on the quality of services provided at the University of Tabuk in the Kingdom of Saudi Arabia.

Table (7) Results of multiple regression analysis to test the impact of information technology on the quality of services provided at the University of Tabuk in the Kingdom of Saudi Arabia.

IT dimensions	B	Standard error	Beta	Calculated t value	Level of Significance (t)
Hardware	0.229	0.057	0.231	4.024*	0.000
Software	0.195	0.055	0.210	3.563*	0.000
Security	0.196	0.062	0.162	3.168*	0.002
Usability	0.285	0.054	0.274	5.329*	0.000

*Statistically significant at the level ($0.05 \geq \alpha$)

The statistical results contained in Table (7) and the t-test values show that the following sub-variables (hardware, software, security, and usability) have an impact on the quality of services provided at the University of Tabuk in the Kingdom of Saudi Arabia, whereby the calculated values of (t) amounted to 4.024, 3.563, 3.168 and 5.329, respectively, which are significant values at the level of significance ($0.05 \geq \alpha$). The above results require the following: reject the null hypothesis, which states that: There is no statistically significant effect at the level of significance ($0.05 \geq \alpha$) for the dimensions of information technology (hardware, software, security, and usability) on the quality of services provided at the University of Tabuk in the Kingdom of Saudi

Arabia and accept the alternative hypothesis, which states that: There is no statistically significant effect at the level of significance ($0.05 \geq \alpha$) for the dimensions of information technology (hardware, software, security, and usability) on the quality of services offered at the University of Tabuk in the Kingdom of Saudi Arabia.

Table (8) Results of Stepwise Multiple Regression analysis for predicting the quality of service provided through the dimensions of information technology as independent variables

Order of entry of independent elements in prediction equation	R2 Determination coefficient	Calculated (t) value	Level of significance (t)*
Usability	0.310	7.411*	0.000
Hardware	0.407	6.855*	0.000
Software	0.450	5.882*	0.000
Security	0.469	4.706*	0.000

*Statistically significant at the level ($0.05 \geq \alpha$)

When the Stepwise Multiple Regression analysis was conducted to determine the importance of each independent variable in contributing to the mathematical model, which represents the impact of the dimensions of information technology (hardware, software, security, and usability) on the quality of services provided at the University of Tabuk in the Kingdom of Saudi Arabia, as shown in Table (8), which illustrates the order of entry of the independent variables in the regression equation, the usability dimension was ranked first, interpreting 31% of the variance in the dependent variable, followed by the hardware dimension which interpreted with usability 40.7% of the variance in the dependent variable, then came the software dimension which interpreted with the two previous dimensions 45% of the variance in the dependent variable, and finally the security dimension which interpreted with all the previous dimensions 46.9% of the variance in the quality of services provided at the University of Tabuk in the Kingdom of Saudi Arabia as a dependent variable.

Sub-hypothesis 1: There is no statistically significant effect at the level of significance ($0.05 \leq \alpha$) for the use of information technology dimension (hardware, software, security, and usability) on the tangible physical evidence as a dimension of the quality of services provided.

Table (9) Results of multiple regression analysis to test the impact of information technology on the tangible physical evidence as dimension of the quality of services provided at the University of Tabuk in the Kingdom of Saudi Arabia.

*Statistically significant at the level ($0.05 \geq \alpha$)

Information technology dimensions	B	Standard error	Beta	Calculated t value	Level of significance (t)
Hardware	0.241	0.055	0.228	4.426*	0.000
Software	0.233	0.056	0.247	4.190*	0.000
Security	0.148	0.058	0.147	2.562*	0.011
Usability	0.314	0.063	0.256	4.975*	0.000

Evidenced by the statistical results appearing in Table (9), along with the t-test values, the following sub-variables (hardware, software, security, and usability) have an impact on the tangible physical evidence as a dimension of the quality of services provided at the University of Tabuk in the Kingdom of Saudi Arabia, whereby the values of calculated t amounted to 4.426, 4.190, 2.562 and 4.975, respectively, which are significant values at the level of significance ($0.05 \geq \alpha$). The above requires the following: reject of the null hypothesis, which states that: There

is no statistically significant effect at the level of significance ($0.05 \geq \alpha$) for the information technology dimensions (hardware, software, security, and usability) on the tangible physical evidence as a dimension of the quality of services provided at the University of Tabuk in the Kingdom of Saudi Arabia and accept the alternative hypothesis which states that: There is a statistically significant effect on the level of significance ($0.05 \geq \alpha$) for the information technology dimensions (hardware, software, security, and usability) on the tangible physical evidence as a dimension of the quality of services provided at the University of Tabuk in the Kingdom of Saudi Arabia.

Table (10) Results of Stepwise Multiple Regression analysis to predict the tangible physical evidence through the information technology dimensions as independent variables

Entry order of independent elements in the prediction equation	R2 Determination coefficient	Calculated t value	Level of significance (t)*
Usability	0.321	6.374*	0.000
Hardware	0.402	5.873*	0.000
Software	0.454	4.587*	0.000
Security	0.466	3.094*	0.009

*Statistically significant at the level ($0.05 \geq \alpha$)

When the Stepwise Multiple Regression analysis was conducted to determine the importance of each independent variable in contributing to the mathematical model, which represents the impact of the information technology dimensions (hardware, software, security, and usability) on the tangible physical evidence as a dimension of the quality of services provided at the University of Tabuk in the Kingdom of Saudi Arabia, as evidenced by Table (10), which shows the order of entry of the independent variables in the regression equation, the usability dimension ranked first, interpreting 32.1% of variance in the dependent variable, followed by hardware which interpreted with usability 40.2% of variance in the dependent variable, followed by software which interpreted with two prior variables 45.4% of variance in the dependent variable, and finally came in security which interpreted with all the previous variants 46.6% of variance in the tangible physical evidence as a dimension of the quality of services provided at the University of Tabuk in the Kingdom of Saudi Arabia as a dependent variable.

Sub-hypothesis 2: There is no statistically significant effect at the level of significance ($0.05 \leq \alpha$) for the information technology dimensions (hardware, software, security, and usability) on reliability as a dimension of the quality of services provided.

Table (11) Results of multiple regression analysis to test the impact of information technology on reliability as a dimension of the quality of services provided at the University of Tabuk in the Kingdom of Saudi Arabia.

*Statistically significant at the level ($0.05 \geq \alpha$)

Information technology dimensions	B	Standard error	Beta	Calculated t value	Level of significance (t)
Hardware	0.270	0.066	0.226	* 4.014	0.000
Software	0.191	0.067	0.180	* 2.844	0.005
Security	0.197	0.076	0.142	* 2.585	0.010
Usability	0.280	0.070	0.247	* 4.104	0.000

Evidenced by the statistical results appearing in Table (11), along with the t-test values, the following sub-variables (hardware, software, security, and usability) have an impact on reliability as a dimension of the quality of services provided at the University of Tabuk in the Kingdom of Saudi Arabia, whereby the values of calculated t amounted to 4.014, 2.844, 2.585 and 4.104, respectively, which are significant values at the level of significance ($0.05 \geq \alpha$). The above requires the following: reject of the null hypothesis, which states that: There is no statistically significant effect at the level of significance ($0.05 \geq \alpha$) for the information technology dimensions (hardware, software, security, and usability) on reliability as a dimension of the quality of services provided at the University of Tabuk in the Kingdom of Saudi Arabia and accept the alternative hypothesis which states that: There is a statistically significant effect on the level of significance ($0.05 \geq \alpha$) for the information technology dimensions (hardware, software, security, and usability) on reliability as a dimension of the quality of services provided at the University of Tabuk in the Kingdom of Saudi Arabia.

Table (12) Results of Stepwise Multiple Regression analysis to predict reliability through information technology dimensions as independent variables

Order of entry of independent elements in prediction equation	R2 Determination coefficient	Calculated t value	Level of significance (t)
Usability	0.274	5.863*	0.000
Hardware	0.342	5.018*	0.000
Software	0.374	3.472*	0.000
Security	0.388	3.261*	0.000

*Statistically significant at the level ($0.05 \geq \alpha$)

When the Stepwise Multiple Regression analysis was conducted to determine the importance of each independent variable in contributing to the mathematical model, which represents the impact of the information technology dimensions (hardware, software, security, and usability) on reliability as a dimension of the quality of services provided at the University of Tabuk in the Kingdom of Saudi Arabia, as evidenced by Table (12), which shows the order of entry of the independent variables in the regression equation, the usability dimension ranked first, interpreting 24.7% of variance in the dependent variable, followed by hardware which interpreted with usability 34.2% of variance in the dependent variable, followed by software which interpreted with two prior variables 37.4% of variance in the dependent variable, and finally came in security which interpreted with all the previous variants 38.8% of variance in reliability as a dimension of the quality of services provided at the University of Tabuk in the Kingdom of Saudi Arabia as a dependent variable.

Sub-hypothesis 3: There is no statistically significant effect at the level of confidence ($0.05 \leq \alpha$) for the information technology dimensions (hardware, software, security, and usability) on responsiveness as a dimension of the quality of services provided.

Table (13) Results of multiple regression analysis to test the impact of information technology on responsiveness as a dimension of the quality of services provided at the University of Tabuk in the Kingdom of Saudi Arabia.

Information technology dimensions	B	Standard error	Beta	Calculated t value	Level of significance (t)
Hardware	0.242	0.067	0.222	* 3.631	0.000
Software	0.229	0.064	0.224	* 3.578	0.000
Security	0.190	0.073	0.143	* 2.614	0.009
Usability	0.245	0.063	0.214	* 3.909	0.000

*Statistically significant at the level ($0.05 \geq \alpha$)

Evidenced by the statistical results appearing in Table (13), along with the t-test values, the following sub-variables (hardware, software, security, and usability) have an impact on responsiveness as a dimension of the quality of services provided at the University of Tabuk in the Kingdom of Saudi Arabia, whereby the values of calculated t amounted to 3.631, 3.578, 2.614 and 3.909, respectively, which are significant values at the level of significance ($0.05 \geq \alpha$). The above requires the following: reject of the null hypothesis, which states that: There is no statistically significant effect at the level of significance ($0.05 \geq \alpha$) for the information technology dimensions (hardware, software, security, and usability) on responsiveness as a dimension of the quality of services provided at the University of Tabuk in the Kingdom of Saudi Arabia and accept the alternative hypothesis which states that: There is a statistically significant effect on the level of significance ($0.05 \geq \alpha$) for the information technology dimensions (hardware, software, security, and usability) on responsiveness as a dimension of the quality of services provided at the University of Tabuk in the Kingdom of Saudi Arabia.

Table (14) Results of Stepwise Multiple Regression analysis to predict responsiveness through the dimensions of information technology as independent variables

Order of entry of independent elements in prediction equation	R2 Determination coefficient	Calculated t value	Level of significance (t)*
Usability	0.277	* 5.210	0.000
Hardware	0.350	* 4.596	0.000
Software	0.382	* 3.994	0.000
Security	0.397	* 3.197	0.002

*Statistically significant at the level ($0.05 \geq \alpha$)

When the Stepwise Multiple Regression analysis was conducted to determine the importance of each independent variable in contributing to the mathematical model, which represents the impact of the information technology dimensions (hardware, software, security, and usability) on responsiveness as a dimension of the quality of services provided at the University of Tabuk in the Kingdom of Saudi Arabia, as evidenced by Table (14), which shows the order of entry of the independent variables in the regression equation, the usability dimension ranked first, interpreting 27.7% of variance in the dependent variable, followed by hardware which interpreted with usability 35.0% of variance in the dependent variable, followed by software which interpreted with two prior variables 38.2% of variance in the dependent variable, and finally came in security which interpreted with all the previous variants 39.7% of variance in responsiveness as a dimension of the quality of services provided at the University of Tabuk in the Kingdom of Saudi Arabia as a dependent variable.

VIII. DISCUSSION OF RESULT

1. The results showed that the perceptions of staff at the University of Tabuk about information technology were at a high level. Usability ranked first, followed by the software dimension, followed by the security dimension, and the hardware dimension came in last .What explains this result is that the availability of the dimensions of information technology systems at the University of Tabuk will improve the utilization of modern information systems to facilitate administrative procedures, increase efficiency among employees, improve output, and save time and money .This can be achieved through the availability of equipment and hardware necessary for the application of this concept including the provision of specialists, required IT infrastructure, qualified human resources, clear strategic plans, an extensive and prepared database that contribute to improving the design of the organizational structure .The integration of these systems is aimed at a deeper understanding and better interpretation of management information, which ensures integration and removes the contradiction between the information obtained by the decision maker from external sources and those obtained from internal sources, and it provides the organization with methods that enable it to draw the necessary plans to strengthen administrative communication methods to achieve the primary and secondary objectives through the use of human resources and information .This result corresponds with the results of (Yousif, 2010), whose findings indicated that the perceptions of employees in the Communications and Information Technology units about of the characteristics of information technology were at a high level, and also correspond with (Haidari, 2008) which indicated that the level of use of computerized management information systems was above average.
2. The results showed that the following sub-variables (hardware, software, security, and usability) have an impact on the quality of services provided at the University of Tabuk in the Kingdom of Saudi Arabia. Usability was ranked first and interpreted 31% of variance in the dependent variable, followed by hardware which interpreted with usability 40.7% of variance in the dependent variable, followed by software which interpreted with the two prior dimensions 45% of variance in the dependent variable, and finally came in security which interpreted with all the previous variables 46.9% of variance in the quality of services provided at the University of Tabuk in the Kingdom of Saudi Arabia as a dependent variable.
3. The results showed that the following sub-variables (hardware, software, security, and usability) have an impact on tangible physical evidence as a dimension of the quality of services provided at the University of Tabuk in the Kingdom of Saudi Arabia. Usability was ranked first and interpreted 32.1% of variance in the dependent variable, followed by hardware which interpreted with usability 40.2% of variance in the dependent variable, followed by software which interpreted with the two prior dimensions 45.4% of variance in the dependent variable, and finally came in security which interpreted with all the previous variables 46.6% of variance in the quality of services provided at the University of Tabuk in the Kingdom of Saudi Arabia as a dependent variable..
4. The results indicated that there are statistically significant differences at the significance level ($\alpha \leq 0.05$) in the perceptions of the sample members about the dimensions of IT techniques that are attributable to personal and functional variables for workers at the University of Tabuk (academic qualification, professional experience, age). What explains this finding is that the more a worker's age he would be more committed to employing techniques of information technology because the elderly are more experienced and knowledgeable than young people; they are aware of benefits accruing from the utilization of information technology which help to initiate creativity at work and excellence in performance.What explains this result is also that the experience of long-time employees generate their knowledge of the policies and objectives of the organization in which they work, hence they

become more familiar with the merits of work which contribute to matching their goals and values with those of the organization, and their feelings and passions relate to work during their terms, and this increases their IT utilization levels .This can further be explained by the fact that the more academically qualified individuals have a greater ability to assess the positive elements at work and enhance their career position, and have a high degree of responsibility, loyalty and good workflow. This adds up to the notion that employees with high academic qualifications are usually able to choose the organization they believes will meet the desires and aspirations, which increases the level of IT utilization levels.

IX. RECOMMENDATIONS

In light of the findings that have been reached, the study recommends the following:

1. The need to keep pace with technological developments in the field of information systems quality and to ensure the use of modern equipment, and advanced software due to their positive impact in improving the quality of service, and the rehabilitation and training of personnel in the field of management information systems, and supplying them with the qualified and trained competencies they need to increase the efficiency and effectiveness of these systems in order to keep up with the rapid technological developments in this field.
2. The need to involve workers and users in the process of designing and developing management information systems; given their importance in achieving mental satisfaction, reducing the causes of resistance, improving morale, and making them feel their importance at the university.
3. To studyThe need to link the aim of increasing productivity and improving quality with improving the conditions of workers and increasing their skills within an integrated strategy for the management of human resources. In this regard, we propose that the university adopts HR policies or revise existing policies in order to :
 1. Set up a system of rewards that clears the way for the adoption of a culture of participation in various activities and in particular, training programs on the quality of service .
 2. Give individuals sufficient opportunities to utilize their skills, and provide them with the necessary capacities to analyze and solve problems, and make suggestions .
 3. Expand the use of work teams, and the enhancement of team spirit.
 4. The provision of security and safety systems at work.
4. The need for the university management to have a level of senior management commitment that is embodied in the promotion of a culture of quality among workers, improving their skills and providing strategic vision and well-defined objectives and the organization .
5. The study recommends the need for coordination between Saudi universities (and all organizations using service quality systems) in order to :
 1. Exchange of expertise in various issues of service quality .
 2. Take advantage of the training programs that are carried out by some of these organizations .
 3. Evaluate and compare the results achieved and draw appropriate indicators to judge how much of the objectives of the quality of service systems, both at the technical, human or organizational levels have been achieved.

X. RESULT WERE HIGHLIGHTED BY

1. The perceptions of staff at the University of Tabuk about management information systems technologies are at a high level.
2. There is an impact for the dimensions of management information systems on the quality of services provided at the University of Tabuk, and the dimensions and management information systems explain 46.9% of the variance in the quality of services provided at the University of Tabuk.

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Appendix A: Staff Questionnaire Section I: Personal Information:

Tick (√) on the appropriate answer:

- 1- Education: () High School and below () Community College Diploma. Bachelor's () Graduate studies
 Age: () 30 years or less. () 31-40years. () 41-50years. () 51 years and over.
 Experience: () 5 years or less. () 6-10years. () 11-15years. () 16 years and over.
 Career Level: 1 - () Manager. 2 - () Deputy Manager. 3 - Head of department 4 - () Employee.

Section II: Please read each item and place an (x) at the alternative that matches your opinion.

No.	Item	Always apply	Often apply	Sometimes apply	Rarely apply	Does not apply at all
1.	Hardware and software at the university are modern					
2.	Hardware at university is subject to regular maintenance by the Communications and Information Technology unit.					
3.	Hardware used commensurate with the functions of the university					
4.	Hardware used at the university help reduce the effort in the communication process					
5.	Senior management at the University follows up on developments to update the hardware used					
6.	Computer software suitable for the functions of the university is available.					
7.	Applied software help to accomplish the work of the university.					
8.	Staff of University maintain an ongoing process of updating the software used					
9.	Staff of the university is experienced to use modern software in the field of communications.					
10.	Programs are available at the university to facilitate the process of communication between different units					
11.	Information technology personnel at the university provide security in dealing with information.					
12.	Information technology personnel at the University maintain the confidentiality of information provided to the competent authority					
13.	The university uses sophisticated software to maintain information security					
14.	The information technology unit at the University provides a non-access feature for programs applicable only to authorized personnel					

15.	Software used at the university ensure the ability to not manipulated or steal stored data					
16.	Users can easily learn the operate technological devices used in the university to accomplish various functions					
17.	Hardware and software used at the university help users to solve work problems					
18.	Hardware and software used at the university can simply accomplish various functions					
19.	The university personnel can easily use its software					
20.	Devices available at the Information Technology Unit at the University are easy to use even for non-professionals					

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