

Analysis Of The Impact Of IT Governance In Achieving Institutional Excellence According To The Indicators Of The European Model

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Abstract

The research aims through its chapters to verify the impact relationship between the independent variable IT governance in its dimensions (strategic alignment, resource management*, performance measurement, value delivery, risk management), and the approved variable Institutional excellence according to the indicators of the European model with its dimensions represented (senior leadership, human resources, strategic plan, institutional resources and partnerships, operations), the research was applied in the Ministry of Higher Education and Scientific Research in (Quality Assurance and Academic Accreditation Department / Scientific Supervision and Evaluation Authority). , Department of Reconstruction and Projects / Department of Information Technology), the researcher relied on the descriptive analytical approach in the completion of this research through the collection of data from the Ministry of Higher Education and Scientific Research with the help of the questionnaire to collect data from the sample of (148) people, which represents 61% of the community of (241) of workers in (Supervision and Scientific Evaluation Authority, Department of Information Technology), and the research reached a set of conclusions, the most prominent of which was that the results of statistical analysis showed The results showed that the approved variable (institutional excellence) ranked first in terms of relative importance by (81.08%), followed by the independent variable (IT governance) by (75.73%), which indicates a high awareness by the sample members of the importance of these aspects in improving the work environment, The most prominent recommendations were the need for the Ministry's attention to the strategic compatibility of information technology through its adoption of a specific methodology that achieves harmony between its overall strategy and the information technology strategy and training leaders and employees in the Ministry on strategic compatibility skills to raise awareness of the importance of linking the information technology strategy and the overall performance strategy, as well as developing flexible and adaptable mechanisms in the implementation of strategies, allowing plans to be modified quickly according to the requirements of the changing work environment, in addition to the need to focus on The strategic plan of the Ministry in a way that leads to the entry of Iraqi universities in international rankings and in line with that plan, and commensurate with the characteristics of team members.

Keywords: Information technology governance, institutional excellence, European model, Ministry of Higher Education and Scientific Research, Scientific Supervision and Evaluation Authority, Information Technology Department.

INTRODUCTION:

The business environment has witnessed a major shift in technological developments, which led to an important change in society and in light of the rapid technological development, it is difficult to imagine an institution practicing its activity without keeping pace with this development, and this led to increased attention to information technology governance, which aims to ensure that information technology is compatible with business needs, and therefore the greater the compatibility between business and information technology, the better the performance of technology in many economies and business organizations, whether at the local level or Especially in light of the continuous and tremendous developments, this imposed on institutions the need to use modern technologies that are a standard in developing their services and achieving excellence in performance.

In order to reach institutions that provide impressive and sustainable performance levels that meet the needs of those concerned (recipients of services, products, human resources, society and the implementation of government policies to raise performance) to reach excellence, the Council of

* The resource management dimension was included because it is part of the European model of excellence and because the aim of the study is to achieve institutional excellence. Therefore, it was necessary to include it in the dependent variable and place it in the independent variable.

Ministers in Iraq took Resolution No. (114) of 2018 to adopt a system of international standards in evaluating the institutional performance of ministries annually and keep pace with future amendments to their system and present the results of the evaluation to the Prime Minister, in light of this, the criteria for evaluating institutional performance should be applied according to the European model. The number (9) includes (32) sub-criteria, five of which are possible and four results.

In light of the above, the idea of the current research was launched, to address contemporary topics (information technology governance, and institutional excellence according to the indicators of the European model) because the research variables play an active role in the performance of institutions, and the research has been applied in the Ministry of Higher Education and Scientific Research in (Quality Assurance and Academic Accreditation Department / Scientific Supervision and Evaluation Authority, Department of Construction and Projects / Information Technology Department), the field of study was chosen based on the guidance of the Director General of the Audit and Control Department in the General Secretariat of the Ministers during a personal interview, where the European model was applied in state institutions, and the Ministry of Higher Education and Scientific Research was chosen because it is one of the basic fields in building societies in addition to the availability of the necessary support by officials and workers in the ministry, specifically the study community by providing the required data and their accurate answers, and the research problem emerged to clarify whether there is an impact of information technology governance in achieving the requirements of institutional excellence according to the indicators of the European model and to clarify the extent of the ministry's commitment to The application of institutional excellence standards according to the indicators of the European model, while the aim of the research was to determine the level of the ministry's interest in the areas of information technology governance as well as determine the extent of the commitment of the Ministry of Higher Education and Scientific Research in achieving institutional excellence standards according to the European model in its departments.

THE FIRST TOPIC: RESEARCH METHODOLOGY

1.1 Research problem:

A study (Suárez, 2022) indicates that the weak awareness of information technology governance practitioners is one of the most prominent obstacles facing its effective implementation, especially in higher education institutions in developing countries, which hinders access to institutional excellence, and according to the decision of the Council of Ministers in Iraq Resolution No. 114 in 2018 Adopting a system of international standards in evaluating the institutional performance of ministries annually, including the Ministry of Higher Education and Scientific Research, based on what Progress The problem of the current research appears to enhance the role of information technology governance in achieving institutional excellence according to the indicators of the European model, and from this point of view, the main problem of research arises in answering the following question: Is there an impact of information technology governance in achieving the requirements of institutional excellence according to the indicators of the European model? A group of questions arises:

1. What is the level of interest of the Ministry in the governance of information technology and its fields?
2. What is the commitment of the Ministry of Higher Education and Scientific Research in applying the standards of institutional excellence according to the European model?
3. How can the areas of IT governance achieve institutional excellence in the Ministry of Higher Education and Scientific Research?

2.1 The importance of research:

The importance of the research lies mainly in trying to link between the governance of information technology with institutional excellence according to the indicators of the European model from specific aspects and expressed through the dimensions of each of the two concepts and from this point of view can determine the importance of research as follows:

1. Contribute to providing a theoretical framework for research variables by showing the essential ideas related to the topics of the study (IT governance, and institutional excellence according to the European model), to find the correlation between its variables according to the impact relationship.
2. Trying to benefit the surveyed departments by providing a contemporary vision and providing results on the performance of information technology governance in the standards of institutional excellence and can be benefited from and to know the strengths and opportunities for improvement that contribute to the development of performance.

3. Identify the level of application of the Ministry of Higher Education for information technology governance and institutional excellence according to the indicators of the European model.

3.1 Research Objectives:

The research seeks to achieve the following objectives:

1. Determine the level of interest of the Ministry of Higher Education and Scientific Research in the areas of information technology governance.
2. Determine the commitment of the Ministry of Higher Education and Scientific Research in applying the standards of institutional excellence according to the indicators of the European model.
3. Identify the extent to which information technology governance contributes to reaching institutional excellence.

4.1 Hypothetical scheme of the research:

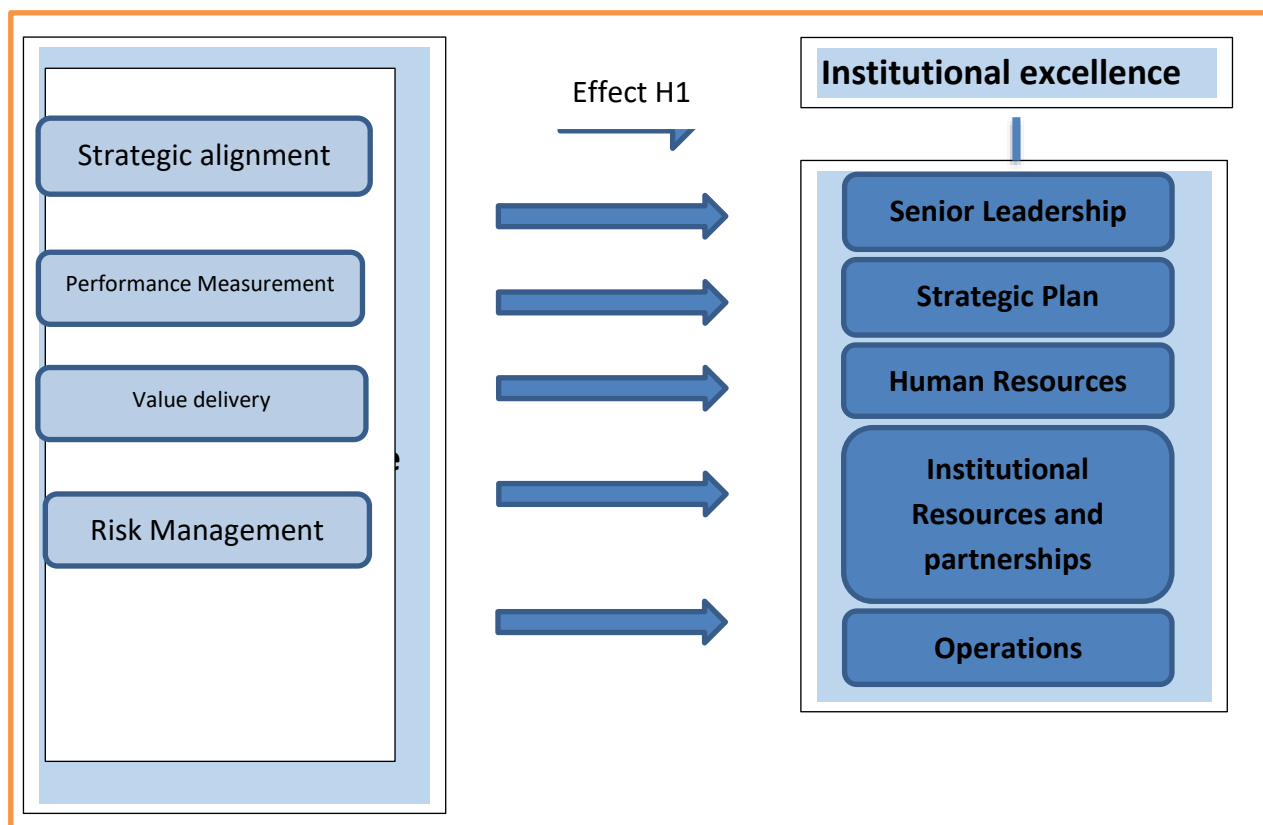
The hypothetical scheme of the research aims to indicate the relationship of the main and sub-variables related, as the models for the variables were selected based on the available scientific sources and according to the following variables and as shown in Figure (1):

1- The independent variable: which is represented by the governance of information technology and includes five areas: (strategic alignment, resource management), performance measurement, value delivery, risk management).

Karataş Source : Merve Hatice & Çakır, Hüseyin , (2024) , IT Governance Mechanisms and Frameworks , JOTIDA Journal of Learning and Teaching in Digital Age, p 91

2- Dependent variable: which is represented by institutional excellence according to the indicators of the European model and includes nine criteria, five enablers and four results as follows (senior leadership, strategic plan, human resources, institutional resources and partnerships, operations, human resources results, beneficiary results, community results, overall performance results).

Source: (Document issued by the General Secretariat of the Council of Ministers in Iraq, Institutional Performance Evaluation Criteria, 2018).



Source: Prepared by the researcher.

5.1 Research hypotheses

To address the research problem, we propose the following hypothesis:

The main hypothesis:

Information technology governance has a statistically significant impact on institutional excellence and the following sub-hypotheses emerge from it:

1. There is a statistically significant significant impact of IT governance in senior leadership.
2. There is a statistically significant significant impact of IT governance in the strategic plan.
3. There is a statistically significant impact of IT governance in human resources.
4. There is a statistically significant significant impact of IT governance in institutional resources and partnerships.
5. There is a statistically significant impact of IT governance in operations

6.1 Research population and sample:

The research was applied in the Ministry of Higher Education and Scientific Research (Quality Assurance and Academic Accreditation Department / Scientific Supervision and Evaluation Authority, Department of Construction and Projects / Information Technology Department) being specialized in research variables and a purely field of work for information technology and the continuous pursuit of excellence, and in accordance with the directions of the Council of Ministers to adopt the European model of institutional excellence, the research community was (241) employees of the Ministry of Higher Education and Scientific Research, the researcher went to adopt the Omi Scaran table for small samples, to be The sample to be surveyed on the two phenomena (148) distributed the questionnaire to them after adding a number (7) questionnaires to address the error rate (0.05) and the researcher recovered (150) questionnaire, the valid of which was for statistical analysis (148) and according to the following table:

Table (1) Research population and sample

society	Sample	Distributor	Retriever	Invalid
241	148	155	150	2

7.1 Research Methodology:

The researcher adopted the descriptive analytical approach, and data and information were collected for the research through the preparation of the questionnaire form.

8.1 Research limits:

The research limits can be determined through the following:

- 1- Spatial boundaries: Some departments of the Ministry of Higher Education and Scientific Research (Quality Assurance and Academic Accreditation Department / Scientific Supervision and Evaluation Authority, Department of Construction and Projects / Information Technology Department)
- 2- Time limits: results of the questionnaire distribution and receipt from 2/2/2025 to 1/4/2025.

The second topic: the theoretical aspect**1.2 Fundamentals of IT governance****1.1.2 The concept of IT governance**

IT governance represents a framework for decision-making and accountability rights to encourage desirable behavior in the use of information technology, and to achieve appropriate institutional performance goals. Sound IT governance benefits from the values of business governance to operate and benefit from information technology Information technology governance in general includes the process of forming measurement and control tools to enable the roles of individuals and accomplish their tasks The goal of IT governance is to ensure the results of a company's business processes that meet its strategic requirements, and this is exactly what IT governance seeks to achieve, (Alkhaldi, et al, 2017: 2). IT governance can be defined as: a set of processes, policies and controls used by organizations to align their IT systems with business objectives, secure them, comply with legal and regulatory requirements and effectively manage and monitor them (Zahiruddin, 2024: 113).

2.1.2 The importance of IT governance

IT governance is an essential element in IT management within organizations, it ensures that investments in this area contribute to reducing the risks associated with the operation and implementation of information technology, that the successful implementation of IT governance provides many benefits to the organization's business and to IT itself (Sami, Fatima Al-Zahra, 2023: 11) Thus, the importance of IT governance is evident through the following points:

1. IT governance contributes to creating value for the organization, as the IT governance model is necessary to enhance business value. In the absence of governance, it becomes difficult to control the implementation of decisions and measure their results, and the lack of governance prevents obtaining the information necessary to support strategic decision-making. (Nassour, 2015: 56)
2. IT governance allows organizations to effectively invest their resources, which contributes to achieving a positive economic return on all the activities they carry out, taking into account the associated costs. (Sahi, Khaled, 2018)
3. One of the distinctive aspects of IT governance is that it takes into account the interests of all stakeholders, and ensures that operations achieve measurable results, this can be achieved through side IT governance structures, which include the participation of all levels of management. (Lorences, 2013: 221)

3.1.2 Elements of applying IT governance

The proper application of information technology governance requires a set of elements that must be available in the company for the purpose of its contribution to achieving the goals of the organization when investing in information technology (Zakaria, Abdullah, 2023: 308), the elements for the success of the application of IT governance in any organization are the following points:

1. IT infrastructure management refers to decisions related to the types of hardware and software, in addition to the establishment of networks and data management used within the organization. It also addresses the standards necessary to achieve and develop its IT assets. (Makhlouf, 2022: 302)
2. Prepare a financial and financing plan for information technology. (League, 2021: 331)
3. Develop a general framework for the application of information technology governance and continuous control, taking into account the requirements imposed by the control and supervision authorities and the legislation regulating the work of institutions and organizations, in addition to choosing the available practical alternatives such as the Cubat model. (Zakaria, Abdullah, 2023: 308)

4.1.2 IT governance focus areas

The IT Governance Institute has identified five key areas of focus: strategic alignment, resource management, performance measurement, value delivery, and risk management. The first three areas (strategic alignment, resource management, and performance measurement) are key drivers, while the other two factors (value delivery and risk management) are seen as results:

1. Strategic alignment: Strategic alignment is the key element in IT governance, as it represents the starting point for designing an IT strategy that is in line with the organization's overall strategy and business goals. (Gheorghe, 2010: 34)
2. Resource management: This area is concerned with the key issues associated with knowledge enhancement and infrastructure development, including effective investment in critical information technology resources, such as people, processes, applications, infrastructure and information, as well as managing them appropriately to achieve the organization's strategic objectives (Lin, Arshad, 2010: 45)
3. Performance measurement: means following up and monitoring the implementation of the strategy, in addition to evaluating how resources can be used effectively periodically. This aims to correct any failures that may occur, whether through accurate statistical methods or through the preparation of periodic reports. (Miloud, Insaf, 2022: 72)
4. Value delivery: This field focuses on maximizing the returns on information technology investments and contributes to achieving the goals and strategy of the institution through the quality of services provided and delivery on time and at appropriate costs.
5. Risk management: ensures awareness of risks by senior officials in the organization, clear transparency and understanding of the organization's desire to obtain important risk and compliance requirements and include risk management responsibilities in the organization. The main concern is to include accountability to mitigate significant risks (Aasi et al, 2020: 166).

2.2 Fundamentals of institutional excellence according to the European model

1.2.2 The concept of institutional excellence

Institutional excellence is one of the basic elements in modern era institutions, the pursuit of excellence and progress and understanding the global standards associated with it is necessary, as institutional excellence and its standards have become an integral part of the administrative development process that aims to improve performance levels. (Saeed, 2025: 55-56)

In addition, institutional excellence expresses reaching the pinnacle of creativity and excellence in various aspects of the organization, which contributes to achieving high levels of performance and

implementation, and this leads to results and achievements that exceed those achieved by competing institutions, and institutional excellence meets the needs of beneficiaries and all concerned parties inside and outside the institution, and helps it face the changes and challenges surrounding it. (Mahrous et al., 2021: 1462).

2.2.2 Characteristics of Organizational Excellence

Organizations that aim to achieve organizational excellence in their performance are characterized by a set of characteristics that enhance their effectiveness and reflect their ability to reach their strategic goals, including continuity and growth by adapting to challenges that arise in the external environment. Kazim, 2019: 346), and these characteristics can be summarized as follows:

1- Accepting difficult work: Successful institutions are those that accept challenges and have the ability to deal with emergencies and crises they face, these institutions need to modify their current policies to meet the challenges, regardless of their difficulty, institutions that work to develop their capabilities to face these challenges will be able to improve their performance levels, and thus achieve their goals of excellence. (Friday, 2019: 23)

2- Expertise outside the scope of work: Distinguished institutions have experiences that exceed their fields of work, especially in the field of community service, these experiences contribute significantly to enhancing performance and excellence, as institutions that do not meet the needs and aspirations of society will not be able to achieve the excellence required to reach their goals. (Al-Azzawi, Ahmed, 2024: 215)

4- Accuracy: Establishing a reliable forecasting system by choosing the best modern methods for performing tasks, and enhancing the internal environment that highlights the importance of the impact of forecasting accuracy on the excellence of the organization. (Al-Mughairiyah, 2022: 40)

5- Training Programs: The standard system followed in institutions related to performance excellence activities is less important compared to what is directly gained from training opportunities that enhance organizational excellence. (Rifai, 2021: 257)

3.2.2 The concept of organizational excellence according to the European Model for Quality Management

It is an abbreviation (European Excellence Model for Quality Management), and represents a framework for enterprise management systems, helps to understand key strengths and potential gaps, and provides a framework that promotes the cooperation and innovation necessary to achieve the objectives of the organization, to ensure a comprehensive framework for managing operations and comparing them with international standards. (Shahin, 2018)

The EFQM model is based on the principle that customer satisfaction, employee satisfaction and integration into the life of society are achieved through leadership, policy, strategy, personnel management, resources and processes, all of this ultimately leads to excellent operational results, in addition, the EFQM excellence model is considered one of the least expensive ways to improve performance, as the model is applied and monitored through a self-evaluation process, which reduces external costs (Gabriela, 2021: 551)

4.2.2 Pillars of the European Model of Excellence EFQM

The European Model of Excellence is based on three main pillars that form the basis for its construction and dissemination:

1- Basic concepts of excellence: These concepts represent the basic principles that aim to achieve sustainable excellence in any organization, and they provide general guidelines that organizations must follow to achieve outstanding performance.

2- Standards: These standards include a framework that helps organizations transform basic concepts into practice, this part is divided into sub-criteria, and each standard has guiding points that illustrate the excellent characteristics of the organization, these points are used as indicators to guide the evaluation process, but they are not mandatory in evaluation.

3- RADAR: is a powerful tool to achieve systematic improvement in all areas of the organization, provides a systematic approach to review and evaluate performance critically, radar is an abbreviation for:

A. Results: Results achieved by the organization.

B. (Approach): Methods and plans adopted by the organization.

C. Deploymen: How to implement these plans.

D. Assesses & Refine: Continuously review and improve performance. (Kuldip,2021:3)

The third topic: the practical aspect

1.3 Test the normal distribution of data

To determine the type of test that the researcher will use to analyze the study data and test its hypotheses, (parametric or nonparametric test) it must be clarified that according to the theory of the central limit (Central Limit Theorem), if the sample size is (30) individuals or more, the probability distribution of this sample is close to the normal distribution. (Kwak, Kim, 2017: 145)

2.3 Questionnaire stability test

1- Virtual honesty (sincerity of the content of the questionnaire):

The questionnaire was presented in its initial version to a group of arbitrator professors specialized in the fields of business administration, strategic management and others, where their number reached eight arbitrators, this came with the aim of ensuring the apparent honesty of the questionnaire and its ability to measure the two variables of the study, in addition to verifying the validity of the dimensions and paragraphs and their relevance to the subject of the study Based on their observations, the researcher made the necessary adjustments to enhance the effectiveness of the questionnaire.

2- Measuring honesty using the stability coefficient:

The researcher used the (Alpha Cronbach) coefficient to find out the stability of the resolution, the degree of consistency, its results, the degree of confidence in which it is far from error, and to obtain the same results when redistributed repeatedly, at varying periods of time and with the same degree of confidence, as its value is ($70\% \leq \alpha$) (Hair, et al, 2010), the stability coefficient measures the level of consistency of paragraphs about the information and behaviors that the employees of the Ministry of Higher Education and Scientific Research (Scientific Supervision and Evaluation Authority, Department of Information Technology) In the Department of Reconstruction Projects), as shown in Table (2) the results of the stability coefficient for each of its axes (IT governance, institutional excellence).

Table (2) Validity and stability of the research dimensions at the level of sample answers (n=148)

Dimensions	Codec	Number of paragraphs	Coefficient of stability
IT Governance	<u>GIT</u>	<u>20</u>	<u>0.913</u>
IT Strategic Alignment	X1	1-5	0.794
Performance Measurement	X2	6-11	0.726
Value Delivery	X3	12-16	0.831
Risk Management	X4	17-20	0.769
Organizational Excellence	<u>EXCEST</u>	<u>31</u>	<u>0.932</u>
Senior Leadership	Y1	21-27	0.762
Strategic Plan	Y2	28-33	0.707
Human Resources	Y3	34-39	0.725
Corporate & Corporate Resources	Y4	40-45	0.856
Operations	Y5	46-51	0.824
Total Stability of the Questionnaire	51		0.937

Source: SPSS V.28.

3.3 Testing the impact of IT governance on organizational excellence:

1.3.3 Testing the main hypothesis: IT governance has a statistically significant impact on organizational excellence:

1. From the results of Table (3), there was an interpretation coefficient of (0.417), and a modified interpretation coefficient of (0.401), as (Information Technology Governance) was able to explain (40.1%) of the changes that occur in institutional excellence, while the remaining percentage (59.9%) is attributed to other variables that were not included in the tested model.

2. The interpretation model is a statistically acceptable model that can be adopted in interpreting the improvement in institutional excellence attributed to the governance of information technology in its combined dimensions, especially since the value of (F) calculated for the model (25.621) at the degrees of freedom (4,143,147), as it exceeds its scheduled value (3.9073) at the degree of freedom (147) and the probability value (0.05).

3. . There was an adverse effect of the strategic compatibility dimension in institutional excellence of (0.580) and although the strategic compatibility dimension showed statistical significance in its

relationship to all dimensions of the approved variable, but this effect was negative, which indicates a lack of knowledge of how to use it or apply it inaccurately, and this requires a review of the mechanisms of strategic planning and implementation within the ministry, and there was an effect of the performance measurement dimension of (0.291), and the effect of the value delivery dimension of (0.368), and the impact of risk management of (0.285) It exceeds its tabular value (1.9767) with a degree of freedom (147) and a probability value (0.05), as these results lead to the acceptance of the main hypothesis (IT governance has a statistically significant impact on institutional excellence), according to the following equation:

Organizational Excellence (Y) = (2.718) - 0.580 * (IT Strategic Alignment) + 0.291 * (Performance measurement) + 0.368 * (Value delivery) + 0.285 * (Risk Management)

Table 3: Impact of IT Governance on Organizational Excellence (n=148)

Independent variable	Institutional Excellence						
	β	T	p	F	α	R ²	AJR ²
Strategic alignment	-.580	6.601	.000	25.621	2.718	.417	.401
Performance measurement	.291	3.075	.003				
Value delivery	.368	3.962	.000				
Risk Management	.285	4.772	.007				

Source: Prepared by the researcher based on the outputs of the program (SPSS V.28)

The following sub-hypotheses emerge from it:

2.3.3 Testing the first sub-hypothesis: There is a statistically significant impact of IT governance in senior leadership:

1. From the results of Table (4), an interpretation coefficient of (0.433), and a modified interpretation coefficient of (0.417), as (IT governance) was able to explain (41.7%) of the changes that occur in the senior leadership, while the remaining percentage (58.3%) is attributed to other variables that were not included in the tested model.

2. The interpretation model is a statistically acceptable model that can be adopted in interpreting the improvement in the senior leadership attributed to the governance of information technology in its combined dimensions, especially since the value of (F) calculated for the model (27.270) at degrees of freedom (4,143,147), as it exceeds its scheduled value (3.9073) at the degree of freedom (147) and a probability value of (0.05).

3. There was an adverse effect of the dimension of strategic compatibility in the senior leadership of (0.609), and although the dimension of strategic consensus showed statistical significance in its relationship with the approved variable (senior leadership), but this effect was negative, which indicates a lack of knowledge of how to use it or apply it inaccurately, and this requires reviewing the mechanisms of strategic planning and implementation within the ministry, and found an effect of the performance measurement dimension of (0.433), the effect of the value delivery dimension of (0.493), and the impact of risk management Its amount is (0.198), which exceeds its tabular value (1.9767) with a degree of freedom (147) and a probability value of (0.05), as these results lead to the acceptance of the first sub-hypothesis of the main hypothesis (there is a statistically significant significant impact of IT governance in senior leadership), according to the following equation:

Senior leadership (Y) = (2.144) - 0.609 * (IT strategic alignment) + 0.433 * (performance measurement) + 0.493 * (value delivery) + 0.198 * (risk management)

Table (4) The effect of information technology governance on the high leadership

Independent variable	Senior Leadership						
	B	T	P	F	A	R ²	AJR ²
Strategic alignment	-.609	6.169	.000	27.270	2.144	.433	.417

Performance measurement	.433	4.075	.000				
Value delivery	.493	4.731	.000				
Risk Management	.198	2.956	.004				

Source: Prepared by the researcher based on the outputs of the program (SPSS V.28)

3.3.3 Testing the second sub-hypothesis: There is a statistically significant impact of IT governance in the strategic plan:

1. From the results of Table (5), an interpretation coefficient of (0.285), and a modified interpretation coefficient of (0.265), as (IT governance) was able to explain (26.5%) of the changes that occur in the strategic plan, while the remaining percentage (73.5%) is attributed to other variables that were not included in the tested model.

2. The interpretation model is a statistically acceptable model that can be adopted in interpreting the improvement in the strategic plan due to the governance of information technology in its combined dimensions, especially since the value of (F) calculated for the model (14.251) at degrees of freedom (4,143,147), as it exceeds its scheduled value (3.9073) at the degree of freedom (147) and a probability value (0.05).

3. There was an adverse effect of the strategic compatibility dimension in the strategic plan of (0.646), and although the strategic consensus dimension showed statistical significance in its relationship to the approved variable (strategic plan), but this effect was negative, which indicates a lack of knowledge of how to use it or apply it inaccurately, and this requires a review of the mechanisms of strategic planning and implementation within the ministry, and there was an effect of the performance measurement dimension of (0.317), and the impact of the value delivery dimension of (0.285), and the impact of risk management Its amount is (0.206), which exceeds its tabular value (1.9767) with a degree of freedom (147) and a probability value of (0.05), as these results lead to the acceptance of the second sub-hypothesis of the main hypothesis (there is a statistically significant significant impact of IT governance in the strategic plan), according to the following equation:

Strategic Plan (Y) = (3.551) - 0.646 * (IT Strategic Alignment) + 0.317 * (Performance measurement) + 0.285 * (Value delivery) + 0.206 * (Risk Management)

Table 5: Impact of IT Governance on Strategic Plan (n=148)

Independent variable	Strategic Plan						
	B	T	p	F	A	R ²	AJR ²
Strategic alignment	-.646	6.415	.000	14.251	3.551	.285	.265
Performance measurement	.317	2.921	.000				
Value delivery	.285	2.681	.000				
Risk Management	.206	3.001	.004				

Source: Prepared by the researcher based on the outputs of the program (SPSS V.28)

4.3.3 Testing the third sub-hypothesis: There is a statistically significant impact of IT governance in human resources:

1. From the results of Table (6), an interpretation coefficient of (0.275), and a modified interpretation coefficient of (0.257), as (IT governance) was able to explain (25.7%) of the changes that occur in human resources, while the remaining percentage (74.3%) is attributed to other variables that were not included in the laboratory model.

2. The interpretation model is a statistically acceptable model that can be adopted in interpreting the improvement in human resources attributed to the governance of information technology in its combined dimensions, especially since the value of (F) calculated for the model (17.992) at the degrees of freedom (3,144,147), as it exceeds its scheduled value (3.9073) at the degree of freedom (147) and the probability value (0.05).

3. There was an adverse effect of the strategic compatibility dimension in human resources of (0.330), and although the strategic compatibility dimension showed statistical significance in its relationship with the approved variable (human resources), but this effect was negative, which indicates a lack of knowledge

of how to use it or apply it inaccurately, and this requires reviewing the mechanisms of strategic planning and implementation within the ministry, and there was an effect of after the delivery of the value of (0.305), and the impact of risk management of (0.347), which exceeds its tabular value (1.9767) With a degree of freedom (147) and a probability value (0.05), while there was no effect of the performance measurement dimension, as these results lead to the acceptance of the third sub-hypothesis of the main hypothesis (there is a statistically significant significant impact of IT governance in human resources), according to the following equation:

Human Resources (Y) = (2.780) - 0.330 * (IT Strategic Alignment) + 0.305 * (Value delivery) + 0.347 * (Risk Management)

Table 6 Impact of IT Governance on Human Resources (n=148)

Independent variable	Human Resources						
	B	T	P	F	A	R ²	AJR ²
IT strategic alignment	-.330	3.194	.002	17.992	2.780	.275	.257
Performance measurement	.067	.643	.054				
Value delivery	.305	2.890	.004				
Risk Management	.347	4.779	.000				

Source: SPSS V.28 Outputs

5.3.3 Testing the fourth sub-hypothesis: There is a statistically significant impact of IT governance on institutional resources and partnerships:

1. From the results of Table (7), an interpretation coefficient of (0.345), and a modified interpretation coefficient of (0.327), as (IT governance) was able to explain (32.7%) of the changes in institutional resources and partnerships, while the remaining percentage (67.7%) is attributed to other variables that were not included in the laboratory model.

2. The interpretation model is a statistically acceptable model that can be adopted in interpreting the improvement in institutional resources and partnerships attributed to the governance of information technology in its combined dimensions, especially since the value of (F) calculated for the model (18.843) at degrees of freedom (4,143,147), as it exceeds its scheduled value (3.9073) at the degree of freedom (147) and a probability value of (0.05).

3. There was an adverse effect of the strategic compatibility dimension in institutional resources and partnerships of (0.655), and although the strategic alignment dimension showed statistical significance in its relationship to the approved variable (institutional resources and partnerships), but this effect was negative, which indicates a lack of knowledge of how to use it or apply it inaccurately, and this requires reviewing the mechanisms of strategic planning and implementation within the ministry, and there was an effect of the performance measurement dimension of (0.309), and the effect of the value delivery dimension of (0.348), and the impact of the management of The risk is (0.480), which exceeds its tabular value (1.9767) with a degree of freedom (147) and a probability value of (0.05), as these results lead to the acceptance of the fourth sub-hypothesis of the main hypothesis (there is a statistically significant significant impact of IT governance in institutional resources and partnerships), according to the following equation:

Institutional Resources and Partnerships (Y)= (2.068) - 0.655 * (IT strategic alignment) + 0.309 * (performance measurement) + 0.348 * (value delivery) + 0.480 * (risk management)

Table 7 Impact of IT Governance on Institutional Resources and Partnerships (n=148)

Independent variable	Institutional Resources and Partnerships						
	B	T	p	F	α	R ²	AJR ²
Strategic alignment	-.655	4.945	.000	18.843	2.068	.345	.327
Performance measurement	.309	2.169	.032				
Value delivery	.348	2.484	.014				
Risk Management	.480	5.325	.000				

Source: Prepared by the researcher based on the outputs of the program (SPSS V.28)

6.3.3 Testing the fifth sub-hypothesis: There is a statistically significant impact of IT governance in operations:

1. From the results of Table (8), an interpretation coefficient of (0.313), and a modified interpretation coefficient of (0.394), as (IT governance) was able to explain (39.4%) of the changes that occur in operations, while the remaining percentage (60.6%) is attributed to other variables that were not included in the tested model.

2. The interpretation model is a statistically acceptable model that can be adopted in the interpretation of the improvement in the processes attributed to the governance of information technology in its combined dimensions, especially since the value of (F) calculated for the model (16.315) at the degrees of freedom (4,143,147), as it exceeds its scheduled value (3.9073) at the degree of freedom (147) and the probability value (0.05).

3. There was an adverse effect of the strategic compatibility dimension in operations of (0.642) and although the strategic compatibility dimension showed statistical significance in its relationship to the approved variable (operations), but this effect was negative, which indicates a lack of knowledge of how to use it or apply it inaccurately, and this requires a review of the mechanisms of strategic planning and implementation within the ministry, and there was an effect of the performance measurement dimension of (0.321), and the impact of the value delivery dimension of (0.434), and the impact of risk management of (0.198) which is It exceeds its tabular value (1.9767) with a degree of freedom (147) and a p-value of (0.05), as these results lead to the acceptance of the fifth sub-hypothesis of the main hypothesis (there is a statistically significant significant impact of IT governance in operations), according to the following equation:

$$\text{Operations (Y)} = (3.141) - 0.642 * (\text{IT strategic alignment}) + 0.321 * (\text{Performance measurement}) + 0.434 * (\text{Value delivery}) + 0.198 * (\text{Risk Management})$$

Table 8 Impact of IT Governance on Operations (n=148)

Independent variable	Operations						
	B	T	p	F	α	R ²	AJR ²
Strategic alignment	.642-	5.990	.000	16.315	3.141	.313	.294
Performance measurement	.321	2.782	.006				
Value delivery	.434	3.829	.000				
Risk Management	.198	2.720	.007				

Source: Prepared by the researcher based on the outputs of the program (SPSS V.28)

FOURTH THEME: CONCLUSIONS AND RECOMMENDATIONS

1.4: Conclusions

1. The results of the statistical analysis showed a remarkable relative importance of the study variables, represented in the governance of information technology and institutional excellence, and this reflects the awareness of the Ministry of Higher Education and Scientific Research of the importance of these variables, through the answers of the sample members, and the results showed that the approved variable (institutional excellence) came in first place in terms of relative importance by (81.08%), followed by the independent variable (information technology governance) by (75.73%), which indicates a high awareness by the sample members of the importance of these aspects in improving Ergonomics .

2. It was found that the Ministry resorted to strategic compatibility for information technology, but it had an adverse impact on institutional excellence, and this may be attributed to the lack of knowledge of how to use or apply it inaccurately or its incompatibility with the needs of employees.

3. Through the results of the analysis of the hypothesis test, it was found that the highest percentage of the modified interpretation coefficient was for the senior leadership, as the governance of information technology was able to explain (41.7%) of the changes that occur in the senior leadership, and this indicates the improvement of the quality of the decisions of the senior leadership in the ministry represented by the Minister and the opinion body, and the adoption of more efficient practices as a result of the existence of strong governance controls and standards.

4. The results of the hypothesis test analysis indicate that the impact of information technology governance on human resources is the least, as it showed the percentage of an adjusted interpretation factor for human resources (25.7%) because the ministry does not rely on performance measurement in improving its human resources, which led to a clear deficiency in the application of the third standard of the European model (human resources) and this is supported by the ministry's records, where it is possible through measuring the performance of employees, to determine who deserves to appreciate and value

their efforts, Which motivates them to be creative in their work and encourages the rest of the workers to innovate and achieve.

5. Through the results of the hypothesis test analysis, it was found that there is a significant impact of information technology governance in achieving all dimensions of institutional excellence in the Ministry of Higher Education and Scientific Research, as the ministry achieved a percentage of (40.1%), which indicates that the independent variables used in the model explain 40% of the changes in the approved variable and this shows the use of information technology governance affects an average percentage in achieving institutional excellence.

2.4 Recommendations

1. The need for the Ministry to pay attention to the governance of information technology and its fields and to promote the application of the standards of the European model because of their importance in achieving institutional excellence.

2. The Ministry of Higher Education and Scientific Research should pay extra attention to the strategic compatibility of information technology through its adoption of a specific methodology that achieves harmony between its overall strategy and the information technology strategy through its application of the following mechanisms:

a.Training leaders and employees in the Ministry on strategic alignment skills to raise awareness of the importance of linking the IT strategy with the overall performance strategy.

b .Prepare reports on the progress of IT strategic plans and monitor them.

T .Develop flexible and adaptable mechanisms in the implementation of strategies, allowing plans to be quickly adjusted according to the requirements of the changing work environment.

3. The Ministry should raise the level of its interest in the controls and standards of information technology governance and adopt more efficient practices as well as the implementation of the following tasks:

a. Adopting and disseminating the culture of quality in all directorates, sections and departments of the Ministry.

b. Encouraging intellectual, cognitive and cultural diversity in a way that increases the seizing of opportunities and innovating successful solutions.

c. Adopting a set of alternative and flexible solutions to address exceptional circumstances.

4. The Ministry of Higher Education and Scientific Research should pay attention to its human resources by resorting to adopting a specific methodology to increase the number of teachers holding scientific titles (professor) in line with international quality standards, with attention to the following:

a. Emphasis on communication and dialogue between employees and management, rewarding workers, valuing their efforts and caring for them.

B. Increasing the number of scientific delegations outside and inside Iraq in order to gain its human resources more experience, skill and knowledge.

c. Work on updating the performance evaluation forms for the Ministry's employees and formations in order to improve all its human resources at the level of senior leaders, teachers and workers.

5. The need for the Ministry to pay attention to its institutional excellence, through its focus on IT governance in general, as well as its adoption of strategic alignment for information technology, performance measurement, value delivery and risk management combined to improve institutional excellence, senior leadership, strategic plan, institutional resources, partnerships and operations, and its human resources.

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