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Innovative approaches to administrative process engineering for optimal project management quality

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Abstract

This study aims to find the relationship between the application of administrative process engineering methods and innovative management. It shows the importance of the role of innovative engineering methods in managing the quality of projects within the Iraqi Ministry of Planning. A random, irregular sample was used on the employees of the Ministry of Planning. Using statistical tests, the analysis showed the existence of a statistically significant relationship between administrative processes and management quality in the projects of the Ministry of Planning. The distinguished role played by process engineering has a positive impact on the quality provided in the project. Among the recommendations presented by the study is the need to intensify programs and training courses on how to achieve optimal quality through administrative process engineering.

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Keywords: administrative process engineering, project management, quality, continuous improvement, innovation

Introduction

Administrative procedures entail aspects of the organisation that can affect most of the vital performance indicators relating to a project such as timely and on cost project completion, quality product yield, and clients' satisfaction. Understanding the potential of the administrative process engineering to meet the goals towards project management excellence, the present study therefore looks into the effects of adopting the management process engineering methods to the quality of project management. The purpose of the research is to explore the correlation between the application of the modern administrative engineering technologies and methods, such as the daily enhancement of the administrative activities, implementing innovative thoughts into the administrative procedures, and optimizing the application of Information and Communication Technologies, and the improvement of the quality of the project management. Thus, through analyzing these factors, the research will aim to determine the extent to which the application and implementation of innovative administrative process engineering paradigms impacts on the performance achievements of project management as well as its effectiveness to facilitate the realization of noteworthy project goals.

Objectives and Importance

This research aims at filling a gap of knowledge on the correlation between administrative process engineering new age approaches and the quality of project management. Through identifying the effects of the advanced administrative engineering tools/techniques on the general sectors of project management, the completion rate of the projects and the output of the deliverables with regard to the satisfaction of the stakeholders, this research would endeavor to add its own part in the continuous improvement of the theories and practice of project management performance. That is why the importance of this research is found in its capability to offer detailed recommendations for administrations, which may help them improve the performance of

their undertakings. In this respect, the study is useful since it outlines the way innovative administrative engineering approaches result in enhanced project management quality. Through specifying the exact process by which innovative administrative engineering approaches improve the aspect of project management quality, the study offers a convenient pedagogy for implementing effective strategies and increasing organizational efficiency.

Research problem

The research problem under investigation in this study is based on the pilot phase between conceptional, theoretical and technical administrative process engineering methods on the one hand and on their possibilities of application on the other hand in order to reach the best possible project management quality. Although the application of administrative engineering in Integrated Project Delivery (IPD) has been investigated in other papers in terms of the productivity of tools and techniques, the exact nature of the enhancement of project management performance is still inconclusive. This lack of empirical evidence thus greatly limits the ability of organizations to correctly adopt and fine tune these methods resulting in possibly sub-optimal project management performance being experienced in organizations. Therefore, this research aims to partially fill this gap by studying the link between the application of advanced methods in administrative process engineering and the improvement of the project management quality in a given institutional setting, with a view to providing an explanation of those solutions and their significance for organizations' success.

Hypothesis

There is no statistically significant effect of innovative management process engineering methods on project management quality.

Literature Review

The literature review reveals a growing body of research exploring the impact of administrative process engineering on project management quality. The works of Al-Khathlan (2021) ^[1], Assaf (2017) ^[2], and El-Zubair *et al.* (2021) ^[6] emphasize the importance of revamping the business procedures for enhancing the organizational performance in the case of governmental organizations and universities. These investigations reveal the importance of the concepts of improvement abyssal, innovativeness in managerial activities, and efficiency of the use of ICT in improving project management performance. According to Aubry and Brunet, 2016, organizational design in public administration involves PMOs as key constituents for enhancing the quality of project management. Chen and Reyes (2017) ^[4] elaborate a quality management structure for organizations to follow, when it comes to developing product and services innovations while Ćutić and Pađen (2019) ^[5] investigate the perceptions on government administration project management practices. In addition, other scholars such as Flyvbjerg (2013) ^[7]; Ingason (2015) ^[8]; Love & Irani (2003) ^[11]; and Mosadeghrad (2012) ^[12] also stress on the issues of best practices, quality assurance, and information system management. According to Ismail and Ghalayini (2024) ^[9], Kanan (2020) ^[10], and Stefanos (2021) ^[13] – works that focus on the utilization of re-engineering in administrative

processes – work pressure and the improvement of organizational yields are treated as research topics. This study that is carried out by Strautmann in 2023 aims at establishing the correlation between the different project management strategies and the project success together with administrative expenses in manufacturing industries. Last but not the least, Zenkoufi (2022) ^[15] (p. 125-127) focuses on the mere fact of change in re-engineering administrative practices and pinpoints on the change aspect of such methods. Though many academic papers present a multitude of views on various dimensions of the administrative process engineering and its impact toward the improvement of the project management quality, there is still a need for a more valid perspective toward understanding the correlation between such innovative administrative engineering mechanisms and their tangible impacts toward project management real-world outcome. This study seeks to bridge this gap by investigating the impact of these methods within a specific institutional context, providing valuable practical insights for organizations seeking to optimize their administrative processes and achieve greater project success.

Spatial and temporal limits

In this research, the spatial context is constrained to the context of the Iraqi Ministry of Planning and this involves investigating and relating the administrative procedures and project management practices of this organization. Such geographic limitation enables efficient exploration of the context of the analyzed ministry, which in turn offers understanding of the general framework of potential and actually faced problems and opportunities of administrative process engineering in the context of the Iraqi governmental sphere. About the time dimension, the study targets the current administration practices and the project management quality within the Iraqi MoP. It is carried out within a specific time frame, which helps in taking a cross-sectional sample of the current state and creates a bench mark for comparison in the future. Despite this work's focus on the particular spatial and temporal context, its general suggestions and conclusions are expected to be useful for other government institutions in Iraq and possibly other contexts with similar problems related to enhancing the quality of project plans and managing organizational processes efficiently.

Methodology

This study will employ a quantitative research design to investigate the impact of innovative administrative process engineering methods on project management quality within the Iraqi Ministry of Planning. Information will be gathered using a questionnaire consisting of 14 questions constructed for the purpose of the study. Sample for the study will be 287 employees and senior managers from the ministry that are involved in planning and managing projects. The questionnaire will measure the implementation of administrative engineering tools and techniques involving the application of continuous improvement processes and methodologies, innovation on administrative processes and Information and Communication Technologies. Also, it will assess the degree of project management quality by facts such as project delivery within time and cost estimates, quality of the output, and satisfaction of stakeholders. The data will then be processed utilizing statistical tools such as SPSS to establish the correlation between the use of new

administrative process engineering methods in the improvement of the quality of project management. To achieve the aforementioned objective for this study, the following analytical tools will be applied in this analysis: Descriptive statistics, correlational analysis, and a regression analysis will also be conducted to test the hypothesis formulated in this study and to determine the level of contribution of the innovative administrative engineering approaches toward the enhancement of project management performance. The study will aim to contribute data that will be useful to administrations and managers who wish to improve their administrative functions to enhance project outcomes.

Population and sample

The target research community, therefore, is the Iraqi Ministry of Planning. This ministry responsible for developmental planning and the guideline of development project in Iraq which makes it to be the appropriate sample for comparing and contrasting the effects of administrative engineering methodology on the level of project management. The target population of the research includes the group of senior managers and employees of the ministry who are engaged in planning and controlling projects. Based on the purposive sampling technique selected as such to captured the characteristic and need for this study. Hence, 287 options refer to the overall selected number of employees and managers.

The justification of choosing the research community as the Iraqi Ministry of Planning is scientifically justified since the ministry plays a middleman between the central and provincial governments on development corridors across the country. The administrative engineering does encompass with several types of projects, and a deeper understanding of this ministry's involvement in a number of projects will greatly enhance the analysis of the impact of these approaches on the quality of project management. Furthermore, the specification of this institution will help the study to obtain a clear understanding of the real-life application of such approaches and their results. Additionally, the purposive technique was employed to guarantee the selection of participants with knowledge and experience in the study's objectives. Managers and employees responsible for planning and managing projects are apt to furnish relevant information as they observe the ministry's business and affairs more than anyone else. That targeted approach increases the external validity of the study by identifying subjects who are likely to have valuable insights into the matter at hand. The minimum target of 280 employee and managers recruited to participate in the research also means that the study covers the majority of the ministry's human resource, thus adding to the strength and validity of the results obtained.

Discussion and results

The theoretical framework of the variables and the relationship between them

Administrative Process Engineering, is conceptualized as a multi-dimensional construct encompassing a range of methods and tools aimed at improving administrative efficiency and effectiveness. This framework draws on the work of Al-Khathlan (2021) ^[1], Assaf (2017) ^[2], and El-Zubair *et al.* (2021) ^[6], who emphasize the critical role of re-engineering administrative processes in improving

organizational efficiency and effectiveness. It incorporates three key dimensions

1. **Continuous Improvement Methodologies:** This dimension is premised on the aspect of TQM and Lean Management where it entails identification and eradication of waste in the process of administration. These are activities such as process mapping, identification and examination of the core cause of the issue, change management strategies (Al-Khathlan, 2021; Love & Irani, 2003) ^[1, 11].
2. **Innovation in Administrative Processes:** This dimension is centered at looking for new ways and means of doing the work and seeking ways of eliminating wasted efforts. This encompasses experimenting with the existing and novel technologies, reconsideration of existent business procedures, and the cultivation of the improvement mindset (Assaf, 2017; Chen & Reyes, 2017) ^[2, 4].
3. **Effective Utilization of Information and Communication Technologies (ICT):** This dimension reveals that there is a need to use ICT to improve information processing and communication as well as support decision making in the context of the administration. This entails the use of Management Information Systems or MIS, project tracking tools among other technology applications in project management (El-Zubair *et al.*, 2021; Ingason, 2015) ^[6, 8].

The measure of interest is the dependent variable, Project Management Quality which is defined as various aspects of success of a project. This is an aspect of quality control in project management which Flyvbjerg (2013) ^[7] also postulates as being very important. This framework encompasses:

1. **Project Completion on Time and Within Budget:** This dimension quantifies the capacity of the project in fulfilling such established time and budget requirements which give an illustration on the efficiency that was displayed in the management process (Mosadeghrad, 2012) ^[12].
2. **Quality of Deliverables:** This dimension focuses on evaluating the output of a project against the established quality and quality standard to show the efficiency in meeting the laid project's goals and objectives (Love & Irani, 2003) ^[11].
3. **Stakeholder Satisfaction:** On this dimension, the project measures the level of satisfaction among the various stakeholders such as the project clients and sponsors, project team, and other parties. It captures the extent up to which the project deliverables are useful and appropriate to the needs of all the stakeholders (Flyvbjerg, 2013) ^[7]. The research hypotheses underpinning the theoretical framework that has been submitted for consideration suggest that there is a positive correlation between the degree of the administrative process engineering, and the quality of the project management. The critical indicators entail vitality of continuous improvement methodologies, innovations on administrative practices and ITC utilisation hence enhancing results on project performance due to measly efficient; effective and satisfying procedures. This is also supported by Kanan (2020) ^[10], Ismail & Ghalayini (2024) ^[9], and STEFANOS (2021) ^[13], who have made effort to apprise the correlation between re-engineering of one's

administrative processes and more organisational productivity.

Moreover, the research also recognizes that the administrative process engineering interacts with other practices in project management such as the impacts of best practices, quality assurance, and information systems as factors (Love & Irani, 2003; Ingason, 2015) ^[8, 11]. These interrelationships would be as follows: The study will aim at identifying these interrelationships by looking at how corresponding methods in the field of administrative engineering enhance the efficiency and success of project management within the MoP-Iraq. It will help to bring broader and more balanced view of how such understanding can be useful in addressing administrative work and enhance the quality of project management in the environment that represents actual business.

Study tool

The research instrument is a questionnaire designed to measure the study variables and consists of three sections. The first section includes the personal information of the participants, which comprises gender, educational qualification, and job position. The second section contains seven items measuring the independent variable: Administrative Process Engineering. These items gather information on the application of administrative engineering tools and methods, including the use of continuous improvement techniques, innovation in administrative processes, and training and development of employees through professional training programs and the qualifications and experience of the staff. It also addresses information and communication technologies, such as the use of management information systems and the application of technology in project management. The responses to the items for the variables are based on a five-point Likert scale.

Validity and reliability of the questionnaire

Face validity is a measure of the quality of a questionnaire that refers to the extent to which the instrument appears to measure what it intends to measure, as perceived by experts in the field. If the questionnaire's questions are carefully constructed, clear, and appropriate for measuring the specified variables, it indicates face validity. In this study, face validity was ensured through specific steps:

1. Experts with extensive experience in the field were selected to guarantee their ability to assess the alignment of the questionnaire's questions with the research objectives and defined variables.
2. The questionnaire was presented to the experts to verify the clarity of its questions and its adherence to the research objectives.
3. Feedback from the experts was collected regarding the questionnaire's questions in terms of clarity, consistency, and alignment with the research objectives.
4. The questionnaire was modified based on the experts' feedback to ensure clarity and alignment of the questions with the research objectives.

Table 1: Questionnaire reliability results

Reliability Statistics		
Variable	N of Items	Cronbach's Alpha
Administrative Process Engineering	7	.801
Project Management Quality	7	.823

All	14	.890
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Source: Prepared by the researcher based on sample data and SPSS27 program

The internal consistency of the instrument used in this study, which is a questionnaire, was conducted through Cronbach's Alpha coefficient. This coefficient helps to estimate how well the items of one scale are matching with each other regarding the construct that has been being measured. The results depicted in table 2 reveals Cronbach's Alpha for the scale of Administrative Process Engineering to be at .801, while for the Project Management Quality scale it was .823. The joint alpha for all the items was .890. These values are regarded as good, implying that the items within each scale are highly associated and do capture the intended constructs. This high level of internal consistency means that there is reliability and validity of the questionnaire used in this study hence enhancing the credibility of the data collected for the analysis that will be conducted.

Table 2: Results of the internal consistency validity of the questionnaire

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.841
Bartlett's Test of Sphericity	Approx. Chi-Square	1859.194
	df	91
	Sig.	.000

Source: Prepared by the researcher based on sample data and SPSS27 program

Convergent validity and discriminant validity of the questionnaire was established based on the Kaiser Meyer Olkin Measure of sampling adequacy test and Bartlett's test of sphericity. Blindman has used the KMO measure of sampling adequacy, which stood at .841. Total sampled value will be 841 which highly supports the sampling adequacy for factor analysis. This value gives an indication that the data is right for factor analysis because the items' correlation coefficients are high enough for factor analysis. Before factoring, Bartlett's test of sphericity was conducted to determine the suitability of the data to the factor analysis, and the result showed that $\chi^2 = 1859.194$ ($df = 91$, $p < .001$), this revealed that the correlation matrix is not an identity matrix as all the correlation coefficients are not equal to zero which is a good read feat for factor analysis. The results in combination also substantiate the internal consistency validity of the questionnaire and therefore it can be stated that the items included in the questionnaire are basically measuring the same or similar construct.

Demographic information analysis

This study provides a careful analysis of demographic data for employees of the Iraqi Ministry of Planning, who participated in its survey. These data help us understand the composition of the sample in terms of gender, educational qualifications, and job positions. The results of the analysis highlight some distinctive characteristics of the sample, such as a high percentage of bachelor's degree holders and a reasonable gender balance, indicating an effort to include women in management and leadership roles. We will discuss our findings from the demographic analysis in detail in the next paragraph.

Table 3: Specifications of respondents by gender

Gender		
	N	%
Male	156	54.4%

Female	131	45.6%
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Source: Prepared by the researcher based on sample data and SPSS27 program

Table 3 presents the gender distribution of the respondents, revealing that 54.4% of the participants were male, while 45.6% were female. This indicates a relatively balanced representation of both genders in the sample, with a slight majority of male participants. From an administrative perspective, this suggests that the Iraqi Ministry of Planning, while still exhibiting some degree of gender disparity, has made efforts to incorporate women into project planning and management roles.

Table 4: Specifications of respondents by Educational Qualification

Educational Qualification		
	N	%
High School Diploma	3	1.0%
Bachelor's Degree	260	90.6%
Master's Degree	19	6.6%
PhD or Higher	5	1.7%

Source: Prepared by the researcher based on sample data and SPSS27 program

Table 4 shows the educational qualifications of the respondents. A vast majority, 90.6%, hold a Bachelor's degree, indicating a highly educated workforce within the Iraqi Ministry of Planning. This high level of education is a positive sign for the organization, as it suggests a skilled and knowledgeable workforce capable of handling complex project management tasks. While 6.6% hold Master's degrees and 1.7% have a PhD or higher, the relatively low representation of these higher-level qualifications suggests a potential area for development. Encouraging further education and professional development for employees could lead to a more diverse and capable workforce, enhancing the Ministry's capacity for innovation and effective project management. The presence of a small number of individuals with High School Diplomas (1.0%) may also indicate the need to assess potential gaps in training and skill development for those employees, ensuring they have the necessary knowledge and expertise to contribute effectively

to the organization's projects.

Table 5: Specifications of respondents by Job Position

Job Position		
	N	%
Senior Manager	98	34.1%
Project Manager	111	38.7%
Employee	78	27.2%

Source: Prepared by the researcher based on sample data and SPSS27 program

The respondents' job positions are presented in Table 5, showing that the sample covers employees of various rank in the Ministry of Planning. Hierarchical analysis of the answers shows that 38, 7% of the respondents are Project Managers, which denotes a greater concern with project management in the organization. The rather significant percentage of Senior Managers (34. 1%) can be considered crucial to get insight into the working of such influential company representatives, with visions and final decision-makers involved in the management of projects. The addition of Employees with 27. 2% highlights certain key observations by the people directly involved in project execution and contribution, thus they offer insights on what needs and opportunities exist in the field of project management. The gender and position diversity of the participants mean that all aspects of the administrative work and project management within the Ministry can be reviewed from different angles which gives depth to the results of the research and paints an accurate picture of the work done in the Ministry.

Descriptive Statistics and Graphical Analysis

After examining the characteristics of the sample through analysis of demographic data, we now move on to provide an overview of the quantitative data collected by the study. In this paragraph, we will present descriptive statistics and graphs, which help us understand the trends and distribution of data related to administrative process engineering practices and the quality of project management in the Iraqi Ministry of Planning. We will highlight average response scores and standard deviations, as well as display graphs that more clearly illustrate key data trends.

Table 6: Descriptive statistics for Administrative Process Engineering

Paragraph	N	Mean	Std. Deviation	Results
Our department regularly applies continuous improvement techniques (like process mapping, root cause analysis, and change management) to enhance project management	287	3.5645	1.08156	Agree
Innovation (new ideas and methods for streamlining administrative tasks) in administrative processes is encouraged and implemented in our department.	287	3.7979	1.25196	Agree
Employees are provided with professional training programs (focused on areas like project planning, risk management, and communication) to develop their skills.	287	3.6829	.94267	Agree
The qualifications and experience of the staff are adequate for their roles in project management, ensuring competency through recruitment, selection, and internal training	287	3.4634	1.06003	Agree
Information and communication technologies, such as management information systems, are effectively used (for task management, project tracking, and communication) in project management	287	3.5714	.96854	Agree
Technology applications in project management have significantly improved the quality of project outcomes (by enhancing efficiency, collaboration, and decision-making).	287	3.7282	1.17193	Agree
Administrative engineering tools and methods (like process analysis, workflow optimization, and standardized templates) are essential for our project management practices.	287	3.6411	.89684	Agree
Administrative Process Engineering	287	3.6356	.71583	Agree

Source: Prepared by the researcher based on sample data and SPSS27 program

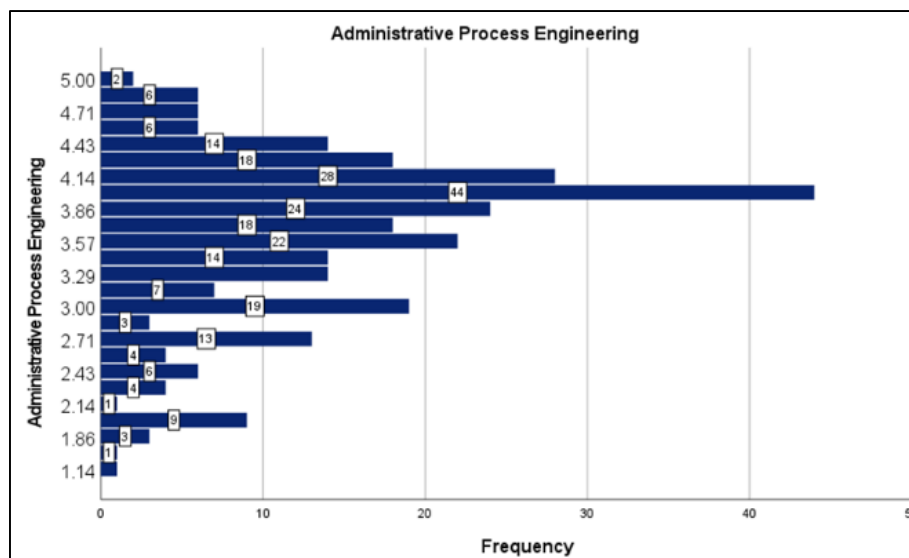
Descriptive analysis of the variable "Administrative Engineering for Operations" indicates that there is a high level of approval for the use of these methods in the Iraqi

Ministry of Planning. The average score on all scale items was 3.6356 on a 5-point scale, which indicates that employees in general highly agree on applying process

management engineering methods in their work. However, when looking at the scale items individually, we notice slight differences in the level of agreement. While the degree of approval for the use of continuous improvement techniques, innovation of administrative processes, and use of information and communications technology indicates strong agreement on the application of these methods, the degree of approval for the adequacy of employee qualifications and experience appears slightly lower.

The highest levels of agreement indicate that MoP staff believe that using continuous improvement techniques (such as process mapping, root cause analysis, and change management) helps improve project management. They also see that innovation in administrative processes (such as new ideas and ways to simplify administrative tasks) is encouraged and applied in their department.

On the other hand, lower approval scores indicate that employees are not completely sure of the adequacy of employees' qualifications and experience to perform project management tasks. These results reflect a great interest by the Iraqi Ministry of Planning in applying process management engineering methods to improve project management. This is through its commitment to applying continuous improvement techniques, encouraging innovation in administrative processes, and making effective use of information and communications technology. The study results highlight some of the challenges facing the Ministry, such as the need for additional training for employees, the development of uniform rules for procedures and directives, and the integration of experience gained from previous projects into future projects.



Source: Prepared by the researcher based on sample data and SPSS27 program

Fig 1: The trend of the answers for Administrative Process Engineering

Table 7: Descriptive statistics for Project Management Quality

Paragraph	N	Mean	Std. Deviation	Results
Projects are consistently completed on time and within budget.	287	3.4181	1.10913	Agree
The quality of project deliverables meets the required standards.	287	3.5366	.98123	Agree
Project management processes are well-documented and followed	287	3.6063	1.05199	Agree
There is a clear understanding of roles and responsibilities among project team members.	287	3.3833	1.20000	Neutral
Communication among project stakeholders is effective and timely.	287	3.5575	1.23866	Agree
Risk management strategies are effectively implemented in our projects.	287	3.7178	1.20044	Agree
Lessons learned from past projects are systematically incorporated into future projects.	287	3.5401	.97035	Agree
Project Management Quality	287	3.5371	.77469	Agree

Source: Prepared by the researcher based on sample data and SPSS27 programme

The descriptive analysis of the “quality of project management” variable indicates that there is a high level of satisfaction with the performance of project management in the Iraqi Ministry of Planning, with some points that deserve attention. The average score on all scale items was 3.5371 on a 5-point scale, which indicates that employees generally agree on the quality of project management in the ministry. When looking at the scale items individually, we notice slight differences in the level of agreement:

The results show strong agreement on the effectiveness of implementing risk management strategies (3.7178) and on integrating experiences gained from previous projects into future projects (3.5401). It also shows strong agreement that

project management processes are well documented and followed. **(3.6063)** These results indicate that the Ministry of Planning recognizes the importance of managing risks and learning from previous mistakes, and that it seeks to document processes to ensure their efficiency.

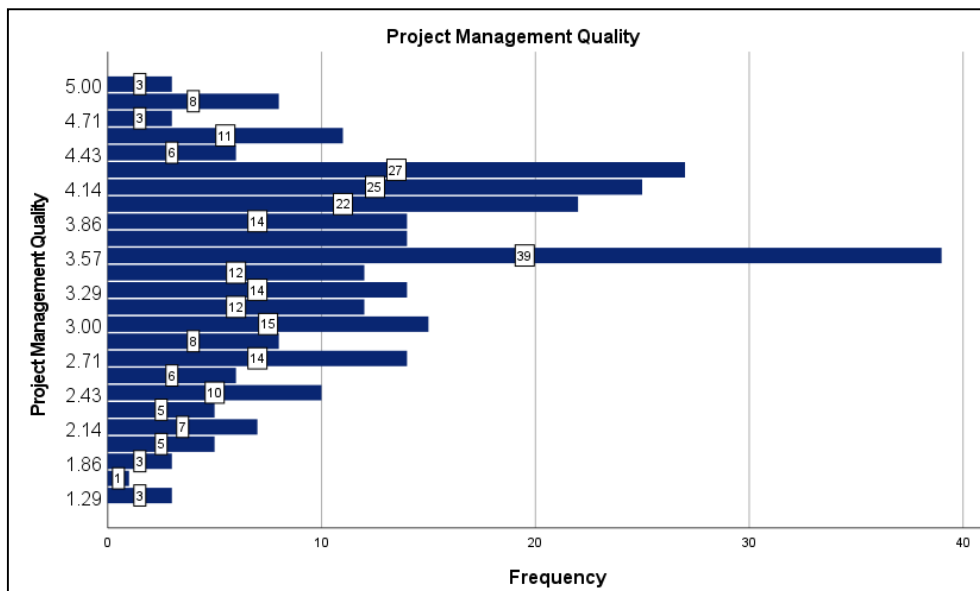
The results indicate that there is hesitation or uncertainty about clarity of roles and responsibilities among project team members. **(3.3833)** and This hesitation indicates that there is room for improvement in clearly defining roles and responsibilities, and communicating effectively among team members.

These results show that the Iraqi Ministry of Planning is making progress in improving the quality of project

management, with some points worthy of attention: The Ministry's commitment to implementing risk management strategies and quality assurance procedures in projects is important to ensure the success of projects. Paying attention to documenting project management processes also helps ensure consistency and repeatability in processes, and learning from previous experiences. The results indicate that there is a gap in clarity of roles and responsibilities among project team members. This gap may lead to a lack of

coordination between team members and delays in executing tasks.

These results show that there is room to improve the quality of project management in the Ministry of Planning. Challenges can be overcome by Enhance clarity of roles and responsibilities: The Ministry can develop clearer systems of roles and responsibilities among project team members and ensure that all individuals understand their roles and obligations.



Source: Prepared by the researcher based on sample data and SPSS27 program

Fig 2: The trend of the answers for Project Management Quality

Hypothesis testing

After providing an overview of the data through descriptive statistics and graphs, we now reach the stage of testing the main hypothesis of the study. In this paragraph, we will use appropriate statistical tools to test the existence of a statistically significant relationship between the application

of innovative administrative process engineering methods and the quality of project management in the Iraqi Ministry of Planning. We will present the results of the hypothesis testing, focusing on the p value and the correlation coefficient, in addition to discussing the implications of these results in light of the context of the study.

Table 9: Results of testing the hypothesis

Model Summary ^b						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	F-Statistics (Sig)	Durbin-Watson
1	.748 ^a	.559	.558	.51506	361.9 (0.000)	1.978

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.594	.158		3.768	.000
	Administrative Process Engineering	.809	.043	.748	19.026	.000

a. Dependent Variable: Project Management Quality

Source: Prepared by the researcher based on sample data and SPSS27 program

The hypothesis test results indicate a statistically significant relationship between innovative administrative process engineering methods and project management quality within the Iraqi Ministry of Planning. The strong correlation ($R = .748$), high R-squared value (.559), and statistically significant F-statistic ($p < .001$) all support this conclusion. The regression analysis further reveals that the implementation of innovative administrative process engineering methods accounts for 55.9% of the variation in project management quality within the Ministry.

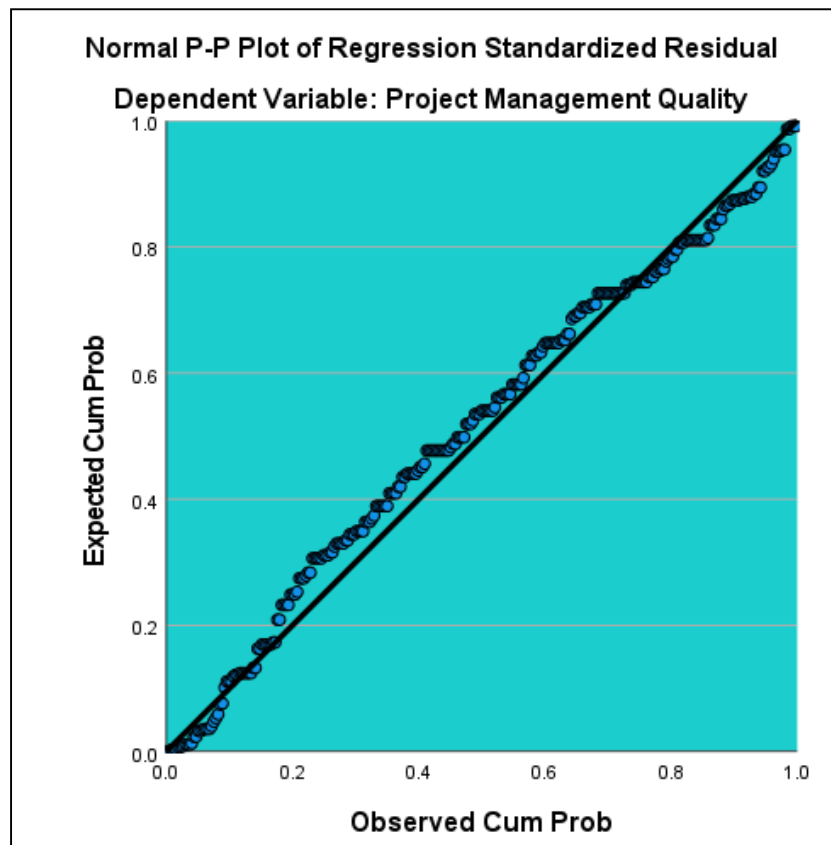
Specifically, the regression coefficient ($B = .809$, $p < .001$) suggests a positive and significant relationship between the two variables. This means that for every unit increase in the application of innovative administrative process engineering methods, project management quality increases by 0.809 units

These findings support the argument that adopting innovative administrative process engineering methods leads to significant improvements in project management quality. The Ministry's commitment to continuous improvement

methodologies, innovation in administrative processes, and effective utilization of ICT seems to be translating into better project outcomes, reflected in improved project completion rates, higher quality deliverables, and greater stakeholder satisfaction.

The Durbin-Watson statistic of 1.978 falls within the acceptable range of 1.5 to 2.5, suggesting that there is no significant autocorrelation in the residuals. This indicates that the model's predictions are reliable and not influenced by

serial correlation, strengthening the validity of the findings. The strong positive relationship between administrative process engineering methods and project management quality suggests that the Ministry is on the right track in adopting these approaches. The positive impact on key project management indicators such as on-time and within-budget completion, quality deliverables, and stakeholder satisfaction indicates that the Ministry is reaping the benefits of a more efficient and effective administrative system.



Source: Prepared by the researcher based on sample data and SPSS27 program

Fig 3: Model Fit

The provided graph shows a P-P plot (Normal P-P Plot of Regression Standardized Residual) that tests whether the residuals from the regression model are normally distributed. This is done by plotting points representing the cumulative distribution of the normal distribution variable (Expected Cumulative Probability) on the vertical axis against the cumulative distribution of the residuals variable (Observed Cumulative Probability) on the horizontal axis. Looking at the graph, we see that the points are closely aligned along a diagonal line, indicating that the residuals of the regression model are closely approaching a normal distribution. Therefore, we can confidently conclude that the assumptions of the regression model are met, and the results obtained from the hypothesis test are considered reliable and valid.

Conclusions and Recommendations

This study concludes that there is a statistically significant and positive relationship between the implementation of innovative administrative process engineering methods and project management quality within the Iraqi Ministry of Planning. The findings highlight the positive impact of adopting continuous improvement methodologies, fostering innovation in administrative processes, and effectively

utilizing information and communication technologies on project outcomes. The Ministry's efforts in these areas are reflected in enhanced project completion rates, improved quality of deliverables, and increased stakeholder satisfaction. These findings strongly suggest that the Ministry's commitment to these approaches is contributing to a more efficient and effective project management system. However, the study also identifies a potential area for improvement: the clarity of roles and responsibilities among project team members. Addressing this gap through improved communication and training initiatives could further enhance team cohesion and effectiveness. Additionally, further research is recommended to explore the specific effects of various administrative engineering methods on different project management outcomes. This would provide more granular insights and aid in the development of tailored strategies for optimizing administrative processes and achieving optimal project management quality within the Ministry and potentially in other governmental institutions across Iraq. Furthermore, the study recommends the Ministry to consider:

- **Investing in comprehensive training programs:** While the current training programs are perceived positively,

expanding the scope and accessibility of training for all staff, including those with High School Diplomas, could contribute to a more skilled and knowledgeable workforce.

- **Developing standardized procedures and guidelines:** The Ministry could benefit from creating a framework of documented best practices and standardized guidelines for project management, further enhancing consistency and efficiency.
- **Leveraging technology for knowledge management:** The Ministry could utilize technology to create a centralized knowledge repository that captures lessons learned from past projects, making it accessible to all staff and facilitating the continuous improvement process.
- **Enhancing communication channels:** The Ministry could explore ways to improve communication among project stakeholders through the use of technology and regular meetings, ensuring everyone is aligned and informed.

By implementing these recommendations, the Iraqi Ministry of Planning can further optimize its administrative processes, achieve greater project success, and contribute significantly to the nation's development goals.

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