

Original Research Article

The Role of Administrative Process Engineering in Improving Project Management Stages: A Survey of the Opinions of a Sample of Employees in the Ibn Majid General Company

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Abstract: This study aims to seek to identify the role of administrative engineering processes and their dimensions (Technology, strategy, employees) in improving project management, and proposing new mechanisms aimed at overcoming the difficulties facing the researched company. The research included quantitative analysis of data relevant to the researched company. The study sought to test a number of hypotheses related to the influence relationships between the variables of the study represented by engineering operations. Administrative and project management. The data was processed through statistical methods using the program (SEM-PLS). The most important of these conclusions is that administrative engineering processes contribute to good communication to exchange information related to the service between employees and customers in an easy and simple way by providing the required forms and filling them out, which are easy to understand by customers and providing brochures. Definition, the most important recommendations: The necessity for the researched company to organize its resources and coordinate its activities in order to ensure the implementation of its operations in a way that achieves the strategic objectives previously determined for the project.

Keywords: Administrative; engineering processes; project management; Ibn Majid general company.

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INTRODUCTION

The industrial sector is one of the important sectors in the economies of countries, as it may witness a state of environmental instability as a result of the country's openness to global markets, in addition to the repercussions of the phenomenon of globalization that is afflicting some countries, especially third world countries in general and Iraq in particular (Siddiqui, 2012). Industrial companies face major competitive and technological challenges resulting from the rapid changes witnessed in the global environment, the intensification of competition for regional and international companies, as well as the financial, political, economic, security and health crises that the country is witnessing at the present time (Muhammad *et al.*, 2010). It affected all the activities of these companies in a negative way, which led to the public's reluctance to provide the services provided (Marsden & Andriof, 1998). These circumstances and challenges stimulated

the urgent need to review the regulatory framework and project management in a way that adapts to modern developments, as the researched company moved to re-engineer its operations to improve project management (Van Assche & Verschraegen, 2008). To employ these main foundations to employ resources (human, material and financial) in an optimal manner to achieve a balance between the needs of society and its capabilities, to achieve the desired goals of providing banking services efficiently and effectively (Sony & Naik, 2020). We proposed four sections that embody the first section, in the methodology of the study, while the second section presents the theoretical framing of re-engineering. Its operations and project management. The third section includes analyzing the research results and testing its hypotheses. As for the fourth and final section, it summarizes the most important conclusions and recommendations reached by the research.

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The study problem:

Thus, the features of the study problem become clear by framing it with the following question:

To what extent is it possible for the researched company to improve the role of this researched company in enhancing the coherence of its strategies to avoid paths of failure of its strategies in its competitive project management environment? From the main question, the following questions emerge:

1. What is the reality of administrative engineering operations in the company under study?
2. What is the reality of the relationship between administrative engineering processes and project management in the researched company under study?
3. How can administrative engineering processes improve the management of projects under study?

Importance of the study:

1. The importance of the study is evident for the industrial sector in the country, which is witnessing a noticeable decline compared to other regional sectors.

2. The study seeks to attempt to frame the knowledge contributions related to the topics of administrative engineering processes and project management within a theoretical framework that includes presenting theoretical contributions on the concept and dimensions.
3. The research attempts to measure and diagnose the dimensions of administrative engineering processes as they are necessities that the researched company must measure and know in light of dynamic environments.

Objectives of the study:

1. Knowledge of the intellectual and theoretical aspects of the study variables represented by administrative engineering processes and project management in the company under study.
2. Testing the type of relationship between the dimensions of administrative engineering processes in the company under study.
3. Knowing the influence relationships of administrative engineering processes in managing projects in the company under study.

Hypothesis outline for the study:

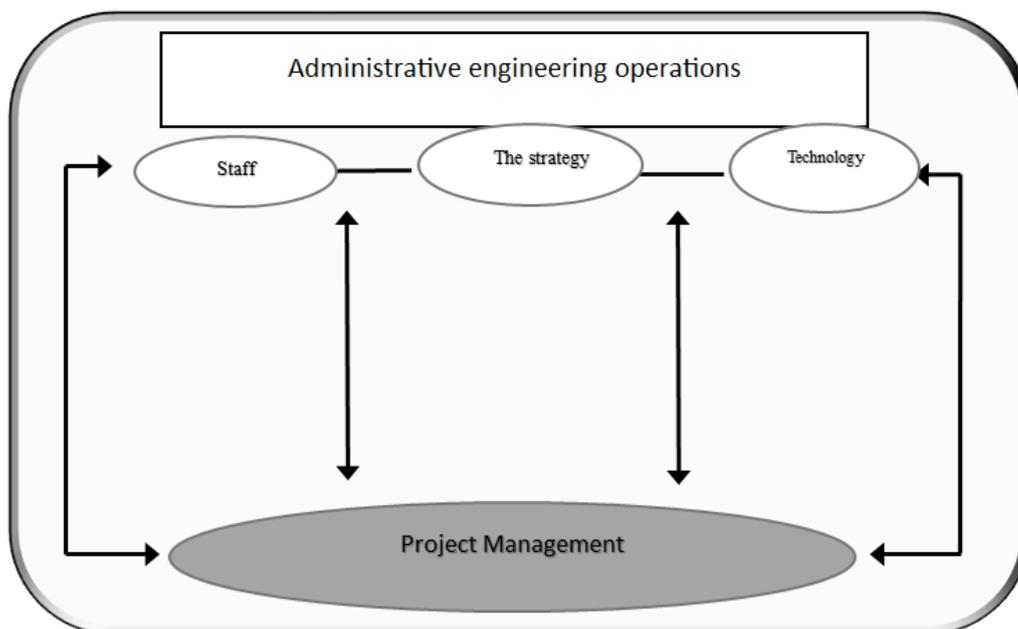


Figure 1: Hypothetical diagram

Research Assumes:

- The first main hypothesis: There is a positive correlation between administrative engineering processes as an independent variable and project management as a dependent variable.
- The second main hypothesis: There is a positive impact relationship between administrative engineering processes as an independent variable and project management as a dependent variable.

Data collection and analysis methods:

1. Continuous review of books, scientific journals, and publications related to the subject of study, administrative engineering processes, and the subject of project management.
2. Reviewing what was published on the Internet on the subject of administrative engineering processes and the subject of project management.
3. Questionnaire

Literature Review

The concept of process re-engineering:

Administrative schools of thought were the first to introduce the concept of re-engineering in the nineteenth century. They used the re-engineering process to find the best ways to perform work. This was done through the process of re-engineering procedures to maximize productivity. This approach continues to use new methods to improve processes, maximize outputs, and benefit from all available resources (Oberoi, 2013). According to Wogan et al. (2020), It is a fundamental rethinking and radical redesign of entire operations, eliminating steps that we do not need, reducing the volume of office work, and then improving cost, quality, time and service.

Principles of process reengineering:

Each approach has principles based on the researchers agreeing on the following principles for re-engineering banking operations:

1. Integrating a number of jobs into one job: This means replacing the performance of several jobs entrusted to one employee, or what is known as a work team, in the absence of an employee who possesses high skills. This in turn leads to reducing errors, facilitating the distribution of responsibilities, reducing time, and reducing costs (Bhaskar & Singh, 2014).
2. Employees are the ones who make decisions: It allows employees to make decisions, which contributes to reducing costs due to the speed of responding to customer requests. It also leads to consolidating employees' loyalty to the company by paying attention to its decisions by senior management in a way that achieves the principle of employee empowerment (George & George, 2023).
3. Obtaining sufficient information: Through re-engineering, you can obtain the original sources once in order to ensure their integrity and reduce their costs (Garcia-Garcia *et al.*, 2021).
4. Dealing with geographically dispersed resources in a centralized manner by taking advantage of the availability of modern technologies in terms of communication capabilities and obtaining information from its original source for once in order to ensure its safety and reduce its costs (Lundgren & McMakin, 2018).
5. Integrating the processes of collecting and operating information: Through this principle, new business rules and re-engineering are used that enable the individuals responsible for collecting information to operate that information as well. This is in contrast to the old rule that allowed the existence of two separate departments, one for collecting information and another for processing it (Bayomy *et al.*, 2021).

Dimensions of process reengineering:

First: the technological dimension

Technology is an integral part of any re-engineering effort, as it contributes greatly to making tasks easier, in addition to redesigning institutions, changing work methods, and achieving amazing and exciting improvements (Mohsin *et al.*, 2023). Technology enables change by enabling organizations to break traditional rules, giving innovative organizations the opportunity to gain a competitive advantage (Hojnik *et al.*, 2023). A basic foundation for an organization's competitive position, and essential for any reengineering process, information technology is an important factor that provides the basic infrastructure that links the parts of the organization together, and supports the process of innovation, organizational integration, and cross-functionality. The process of creativity and quantitative results cannot be achieved without possible technological solutions. Information technology also contributes to supporting process re-engineering by simplifying the use of complex analytical methods to support business and operations, preparing large amounts of detailed information about them, and enabling multiple groups to work automatically to achieve changes and quickly in results, in addition to allowing the use of knowledge and experience to coordinate actions. And control the inputs and outputs of the system (Aripin *et al.*, 2023).

The importance of information technology in administrative process engineering:

Information technology helps senior management in implementing the management engineering operations program through the points mentioned by the researchers, which are:

1. Transforming from an information system to an information network that helps many people do work,
2. Shifting from centralized decisions to decision networks, where each individual becomes responsible for decision making.
3. Sending instant reports without being in the office via the laptop.
4. Shift from personal customer communications to effective, objective communications
5. Completing work with movement, speed, flexibility and transparency.
6. Helping to get rid of rigid and old patterns.
7. Helping to integrate and integrate work procedures to form coherent, meaningful processes.

Second: The strategic dimension:

The strategy is about charting the future directions of the organization based on the resources available to it. It is the model that contains the overall goals and objectives of the organization. It also contains the philosophies, plans, and policies to achieve these goals, which the organization announces in order to clarify the type of work that the organization performs

(Mohsin *et al.*, 2022). He defined it as the organization's ability to respond to demands from various dynamic competitive environments, or as a model of important visions, goals, policies and plans that are defined in a manner. Its definition is to develop strategic plans for the organization and determine its long-term goals, in a way that ensures compatibility between the organization and its mission, and between the mission and the surrounding environment in an effective and efficient manner. It is also defined as achieving unique and valuable leadership positions that differ from what competitors offer in order to create a competitive advantage. This is achieved in the case of applying a process re-engineering program (Raeisi-Varzaneh *et al.*, 2023).

Third: The staff dimension:

Employees can be defined as the human element available to the organization, that is, all its employees, whether they are permanent or temporary employees, bosses or subordinates. Employees in organizations have come to be seen as their most important resources, so that the efficiency and effectiveness of these organizations depends on the efficiency of this element, To such an extent that many experts and practitioners in the field of management point out that achieving competitive advantage in modern organizations is not based solely on their possession of natural, financial, or technological resources, but rather is based primarily on their ability to provide special types of individuals that enable them to maximize the benefit from. The rest of the resources are available (Nikolova *et al.*, 2023), Empowering the importance of human resources within the organization, in its ability to mobilize other resources and direct them towards the organization's goal. Ensuring that the organization's resources are used effectively can only be done by individuals. Likewise, the existence of the organization and its continuity or demise is linked to the quality and behavior of the individuals employed by the organization. In order for the organization to ensure its survival, it must employ Competent and highly skilled people and managing them effectively." Achieving the effectiveness of human resources can only be achieved by placing the right person in the right place and at the right time to accomplish his work (Nikolova *et al.*, 2023).

Project Management

Project management has spread in recent years and has reached new heights of sophistication. It has emerged as a distinct field of management practices to meet the challenges of the new economic environment, the globalization process, rapid technological progress, and the quality concerns of stakeholders. Project management is a distinct management field that helps in dealing with projects, and with the increasing demand and pressure resulting from these projects, the International Standards Organization decided (Kuwornu *et al.*, 2023). To make these processes and concepts more understandable and accessible, enabling companies to collaborate more efficiently. This standard is considered

one of the modern specifications in management science, which summarizes rational practices in project management. This standard can be adopted in strategic projects, properly planned, and later linked to the quality management system (Sarker *et al.*, 2023).

The importance of project management: Project management is no longer a department with special needs. It has quickly become a standard way of doing business. The future heralds an increased importance and role of projects in contributing to the strategic direction of organizations

1. Define job responsibilities to ensure all necessary activities are accounted for. A project management approach can provide organizations with the opportunity to assign responsibilities to a specific task and remove unnecessary activities and tasks
2. Project management helps get more work done in less time and with fewer people
3. It reduces the need to prepare continuous reports because it clarifies the tasks and responsibilities of all administrative levels
4. It supports teachers with an effective set of methods to solve the problems they face during project implementation.

METHODOLOGY

After the necessary tests have been conducted to ensure the quality of the data collected, the amount of influence between the variables of the study will be identified, as the study aimed to know the role of operations in improving the stages of project management in the surveyed company. In order to test the impact hypotheses, the applied program will be used (SEM-PLS). Each hypothesis will begin and the correlation with the study variables will be tested. Then the extent to which the independent variable (administrative process engineering) explains the variance occurring in the dependent variable (project management) will be identified. Then the influence factor between the study variables will be estimated, as two hypotheses have been assumed. Two main ones are as follows:

First: The first main hypothesis: The researchers assumed that there is a significant and positive influence relationship between administrative engineering processes in project management. This assumes that management engineering processes are a real function of project management. Any increase in (administrative engineering processes) will lead to a similar increase in (project management), and the structural equation will be tested (SEM-PLS), The results are extracted through the statistical program (SMART PLS) according to the (simple regression method), where the effect factor (Beta) and the level of significance that appear on the arrow connecting the independent variable to the dependent variable are estimated, as shown in the figure (2) and the table (1). They are as follows:

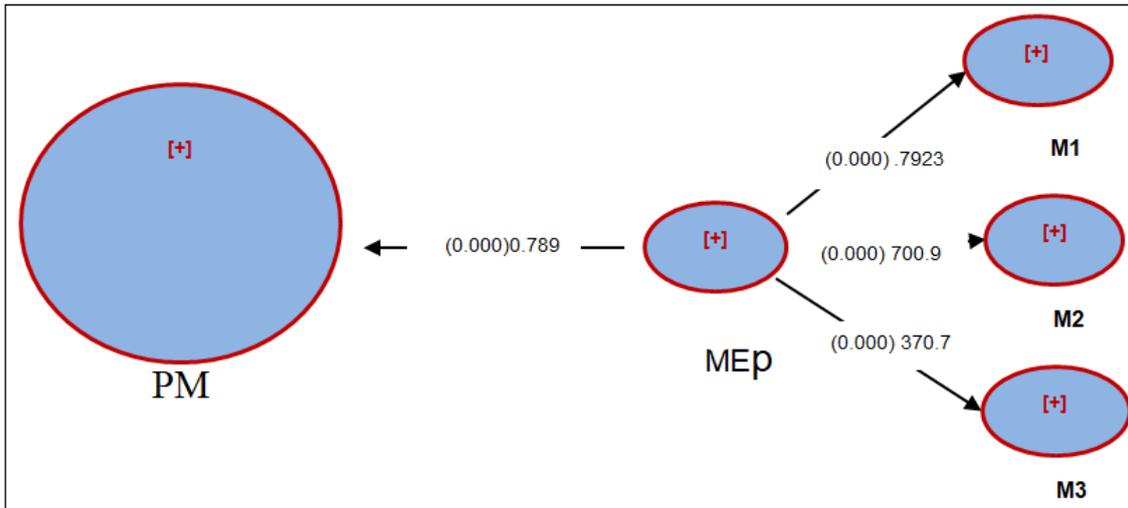


Figure 2: Test results of simple regression analysis of administrative engineering processes in project management

Table 1: Statistics of the impact factor test of administrative engineering processes in project management

	Original Sample (O)	R	Standard Deviation (STDEV)	R ²	T Statistics (O/STDEV)	P Values
MEP -> PM	0.795	0.820	0.091	0.61	8.980	0.000

According to the results of Table (1), it became clear that there is an influential relationship between administrative process engineering and project management. It reached (0.820), which is positive and acceptable at a significance level (0.05). As it became clear from Table (1), the coefficient of determination (R²) reached (0.62), which indicates that administrative engineering processes explain an amount of (0.61) of the variance occurring in the dependent variable, project management environment. The amount of effect was (0.796), meaning that any increase in the independent variable administrative engineering processes will lead to an increase in project management by (0.795). It is significant at a significance level of (0.05). According to these results, this hypothesis is accepted at the level of this study.

Second: The second main hypothesis: The researcher assumed that there is a significant correlation between administrative engineering processes and project management. This assumes project management. It is a real function of administrative engineering processes, and any increase in (the independent variable) will lead to a similar increase in (the dependent variable), The structural equation will be tested (SEM-PLS), and the results will be extracted through the statistical program (SMART PLS) according to the (simple regression method), as the influence factor (Beta) and the level of significance that appear on the arrow connected between the independent variable and the dependent variable are estimated as shown. In the figure (3) and table (2). They are as follows:

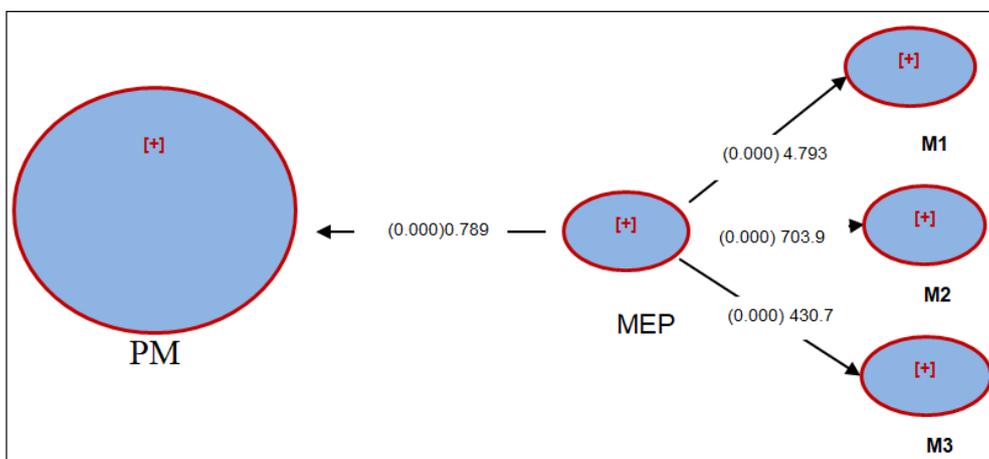


Figure 3: Test results of simple regression analysis of administrative engineering processes in project management

Table 2: Statistics of the impact factor test of administrative engineering processes in project management

	Original Sample (O)	R	Standard Deviation (STDEV)	R ²	T Statistics (O/STDEV)	P Values
MEP -> PM	-0.602	-0.628	0.079	0.34	-7.802	0.000

According to the results of Table (2), it became clear that there is a correlation between administrative engineering processes and project management. It reached (0.628), which is positive and acceptable at the level of administrative engineering processes. It explains (0.34) of the variance occurring in the project management variable. As for the amount of influence, the figure (3) showed that the influence factor reached (0.602), meaning that any increase in the administrative engineering processes variable will lead to an increase of (0.602) in project management. It is significant at a significance level (0.05). According to these results, this hypothesis is accepted at the level of this study.

CONCLUSIONS

- Information technology plays a vital and major role in administrative engineering processes through internal communication networks, and provides a database for collecting units that helps in the accuracy and speed of obtaining information and achieving integration and cohesion between the parts of a single work within the company in improving project management.
- Administrative engineering processes contribute to good communication to exchange service-related information between employees and customers in an easy and simple way by providing and filling out the required forms, which are easy to understand by customers and providing identification booklets.
- The leadership in the company realizes that change has become a necessity for its development, but it still follows some traditional methods and methods of management that show us the paradox between what exists in the minds of decision makers and implementation, while excluding workers' participation in planning the change and relying on the authority to force its acceptance.

RECOMMENDATIONS

- The necessity for the researched company to organize its resources and coordinate its activities in order to ensure the implementation of its operations in a way that achieves the strategic objectives previously determined for the project.
- Work to provide a work team that is skilled, efficient, and highly stable or slightly variable so that it does not affect the stability of the team. Thus, the researched company will be able to complete the work and deliver the project to the official body on time.

- The management of the researched company must make an independent effort outside its official job in service of the project to be implemented, and consider this effort as part of its project management program, in order to accelerate project implementation and achieve both strategic and operational objectives.

REFERENCES

- Siddiqui, K. (2012). Developing countries' experience with neoliberalism and globalisation. *Research in Applied Economics*, 4(4).
- Muhammad, M. Z., Char, A. K., bin Yaso, M. R., & Hassan, Z. (2010). Small and medium enterprises (SMEs) competing in the global business environment: A case of Malaysia. *International Business Research*, 3(1), 66.
- Marsden, C., & Andriof, J. (1998). Towards an understanding of corporate citizenship and how to influence it. *Citizenship Studies*, 2(2), 329-352.
- Van Assche, K., & Verschraegen, G. (2008). The limits of planning: Niklas Luhmann's systems theory and the analysis of planning and planning ambitions. *Planning theory*, 7(3), 263-283.
- Sony, M., & Naik, S. (2020). Industry 4.0 integration with socio-technical systems theory: A systematic review and proposed theoretical model. *Technology in society*, 61, 101248.
- Oberoi, R. (2013). Applying Business Process Re-Engineering to Public Sector as A New Public Management Strategy. *Jurnal Studi Pemerintahan*.
- Wogan, S. S., & Mnenga, S. H. I. I. W. U. A. (2020). Reengineering: A new paradigm shift for organizational repositioning.
- Bhaskar, H. L., & Singh, R. P. (2014). Business process reengineering: a recent review. *Global Journal of Business Management*, 8(2), 24-51.
- George, A. S., & George, A. H. (2023). A review of ChatGPT AI's impact on several business sectors. *Partners Universal International Innovation Journal*, 1(1), 9-23.
- Garcia-Garcia, G., Coulthard, G., Jagtap, S., Afy-Shararah, M., Patsavellas, J., & Salonitis, K. (2021). Business process re-engineering to digitalise quality control checks for reducing physical waste and resource use in a food company. *Sustainability*, 13(22), 12341.
- Lundgren, R. E., & McMakin, A. H. (2018). *Risk communication: A handbook for communicating environmental, safety, and health risks*. John Wiley & Sons.
- Bayomy, N. A., Khedr, A. E., & Abd-Elmegid, L. A. (2021). Adaptive model to support business process reengineering. *PeerJ Computer Science*, 7, e505.

- Mohsin, H. J., Hani, L. Y. B., Bani Atta, A. A., Al-Alawneh, N. A. K., Ahmad, A. B., & Samara, H. H. (2023). The impact of digital financial technologies on the development of entrepreneurship: Evidence from commercial banks in the emerging markets [Special issue]. *Corporate & Business Strategy Review*, 4(2), 304–312. <https://doi.org/10.22495/cbsrv4i2siart10>
- Mohsin, H. J., Al-Frijawy, J., Hameed, A. T., Hani, L. Y. B., & Al-Alawneh, N. A. K. (2022). Strategic Flexibility and its Impact on Raising the Performance of Banks. *Journal of Social Commerce*, 2(1), 11-23.
- Hojnik, J., Ruzzier, M., Ruzzier, M. K., Sučić, B., & Soltwisch, B. (2023). Challenges of demographic changes and digitalization on eco-innovation and the circular economy: Qualitative insights from companies. *Journal of Cleaner Production*, 396, 136439.
- Aripin, Z., Matriadi, F., & Ermeila, S. (2023). Innovation With Small Industry Players to Create Shared Value in The Experience of the Covid-19 Period In Indonesia. *Journal of Economics, Accounting, Business, Management, Engineering and Society*, 1(1), 50-62.
- Raeisi-Varzaneh, M., Dakkak, O., Habbal, A., & Kim, B. S. (2023). Resource scheduling in edge computing: Architecture, taxonomy, open issues and future research directions. *IEEE Access*, 11, 25329-25350.
- Nikolova, M., Nikolaev, B., & Boudreaux, C. (2023). Being your own boss and bossing others: The moderating effect of managing others on work meaning and autonomy for the self-employed and employees. *Small Business Economics*, 60(2), 463-483.
- Kuwornu, J. K., Khaipetch, J., Gunawan, E., Bannor, R. K., & Ho, T. D. (2023). The adoption of sustainable supply chain management practices on performance and quality assurance of food companies. *Sustainable Futures*, 5, 100103.
- Sarker, K. U., Hasan, R., Deraman, A. B., & Mahmmod, S. (2023). A Distributed Software Project Management Framework. *Journal of Advances in Information Technology*, 14(4), 685-693.

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