

The role of digital transformation in improving the efficiency of administrative performance: An applied study at the College of Administration and Economics – University of Fallujah

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Abstract

Purpose: This study aims to examine the role of digital transformation in improving the efficiency of administrative performance at the College of Administration and Economics, University of Fallujah.

Research Methodology: This study adopted a descriptive-analytical approach. The data collection tool was a questionnaire, which was used to gather responses from the research community consisting of 85 employees and administrators. Owing to the small size of the population, the sample included all members, utilizing the comprehensive enumeration method.

Results: The results revealed that digital transformation has a strong and positive impact on the efficiency of administrative work performance. The adoption of digital systems, development of digital skills, and automation of administrative processes were key factors in improving speed, accuracy, resource utilization, and user satisfaction.

Conclusions: This study concludes that digital transformation significantly enhances administrative performance by improving work speed and precision, optimizing resource use, and increasing beneficiary satisfaction. These improvements result from the adoption of digital systems, enhancement of digital skills, and automation of administrative tasks.

Limitations: Although this study provides valuable insights into the impact of digital transformation on administrative performance, the research was limited to the College of Administration and Economics at the University of Fallujah, meaning that the results may not be generalizable to other institutions or contexts.

Contributions: This study contributes to the understanding of how digital transformation influences administrative performance. It provides practical recommendations for enhancing digital transformation in colleges to improve administrative efficiency and facilitate decision-making.

Keywords: *Digital Transformation, Entrepreneurial Performance.*

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1. Introduction

The rapid advancement of information and communication technologies has fundamentally transformed organizational operations across sectors, making digital transformation an essential strategic priority, rather than a mere technological upgrade ([Schilirò, 2024](#)). In higher education institutions, administrative systems are increasingly expected to deliver services that are fast, accurate, transparent, and user-oriented. Universities face growing pressure to reduce bureaucratic inefficiencies while improving service quality for students, academic staff, and stakeholders ([El-Din & Abd El-Kader, 2025](#); [Rodríguez-Abitia & Bribiesca-Correa, 2021](#)). Digital transformation, which involves the integration of digital technologies into all aspects of organizational processes, offers a pathway to achieve these goals by redesigning workflows, enhancing communication, and strengthening decision-making capabilities ([Galieva, 2021](#)).

Within this context, the present study focuses on understanding how digital transformation contributes to improving administrative performance efficiency, particularly in academic institutions such as the College of Administration and Economics at the University of Fallujah ([Veseli, Hasanaj, & Bajraktari, 2025](#)). Despite the increasing adoption of digital tools in higher education, a significant knowledge gap persists regarding the extent to which digital transformation translates into measurable improvements in administrative performance ([Seres, Pavlicevic, & Tumbas, 2018](#)). Many institutions continue to rely on traditional paper-based procedures and fragmented systems, which limit efficiency and hinder the delivery of services. Existing literature has often emphasized the conceptual importance of digital transformation but has provided limited empirical evidence on its direct impact on specific dimensions of administrative efficiency, such as the speed of work completion, accuracy, resource utilization, and user satisfaction ([Abdul Rahman, Esa, & Ahmad, 2024](#)).

Furthermore, there is insufficient understanding of how different components of digital transformation, such as digital infrastructure, electronic systems, digital skills, and administrative automation, interact to influence performance outcomes in real organizational settings. This study seeks to bridge this gap by providing empirical insights into the relationship between digital transformation and administrative performance in a university environment ([Asiltürk, 2023](#); [Jerab, 2024](#); [ogli, 2026](#)). To address this gap, this study adopts a descriptive-analytical methodology that enables a systematic examination of the relationship between digital transformation and administrative performance efficiency. Data were collected through a structured questionnaire distributed to all administrative staff and leaders within the College of Administration and Economics, using a comprehensive enumeration approach because of the manageable population size ([Bonanomi, Hall, Staub-French, Tucker, & Talamo, 2020](#); [Shahzad, Imran, & Butt, 2025](#)).

The methodology incorporates both descriptive and inferential statistical techniques, including measures such as the arithmetic mean, standard deviation, and coefficient of variation, to assess the level of digital transformation and administrative performance. Pearson correlation analysis and simple linear regression were employed to test the strength and significance of the relationships between variables. This methodological approach ensures a rigorous and data-driven analysis capable of capturing both the current state and the impact of digital transformation within the institution ([Camlian & Baron, 2025](#); [Chung, Andreev, Benyoucef, Duane, & O'Reilly, 2018](#); [Llopis-Albert, Rubio, & Valero, 2021](#)).

The findings reveal a strong and statistically significant positive relationship between digital transformation and administrative performance efficiency. Specifically, the results indicate that improvements in digital infrastructure, the adoption of electronic systems, the enhancement of employees' digital skills, and the implementation of administrative automation collectively contribute to higher levels of efficiency ([Dhameria, Muazeib, Blhaj, Sugiyarsih, & Rosadah, 2025](#); [Maqbuli & Al-Mahmoudi, 2026](#); [Obasi, 2026](#)). The correlation coefficient demonstrates a strong positive association, and the regression analysis confirms that digital transformation explains a substantial proportion of the variance in administrative performance outcomes. These findings suggest that digital transformation is not only correlated with but also has a direct and meaningful impact on improving operational

efficiency, reducing errors, and accelerating administrative processes within institutions ([Khuhdur & Sameen, 2026](#); [Lonatrista & Tj, 2025](#)).

The results further highlight that digital transformation leads to tangible improvements across key performance dimensions, including faster completion of administrative tasks, greater accuracy and error reduction, more effective resource utilization, and increased satisfaction among service beneficiaries ([Vial, 2021](#)). These outcomes underscore the practical implications of adopting digital systems in educational institutions, particularly in enhancing transparency, minimizing bureaucracy, and supporting evidence-based decision-making ([Che, Cai, Yang, & Lai, 2023](#); [Chung et al., 2018](#)). The study concludes that digital transformation is a critical driver of institutional performance and should be prioritized as a long-term strategic initiative. Consequently, the implications of this research extend beyond the case study institution, offering valuable insights for policymakers, university administrators, and stakeholders seeking to modernize administrative systems and improve service delivery in higher education ([Patrick, Chike, & Phina, 2022](#)).

2. Literature Review

2.1 Digital Transformation

2.1.1 The Concept of Digital Transformation

Digital transformation is a new concept of management associated with the dynamic growth of information and communication technologies. This means a redesign of administrative and organizational processes by implementing modern digital technologies to increase the performance of the institution and improve the efficiency of the provided services ([Obasi, 2026](#)). Digital transformation does not solely apply to the application of technology but also to organizational culture, the way of working, and the model of service delivery. According to Westernman et al., it can be defined as the utilization of digital technologies to cause fundamental changes in the way organizations function and create value, which leads to enhanced efficiency, flexibility, and responsiveness. Digital transformation in the academic context is a good instrument for streamlining the administrative process, lowering bureaucracy, and enhancing the quality of administration.

2.1.2 Dimensions of Digital Transformation

The dimensions used to measure digital transformation in the current research are the following, as they are the most frequently used in contemporary management literature:

1. **Digital Infrastructure:** Digital infrastructure is a collection of technical capabilities upon which an organization depends to carry out its digital business, including communication networks, devices, servers, and central software. This infrastructure is the backbone on which the success of digital transformation is anchored, since its incompetence results in the failure of the introduction of electronic systems, no matter how effectively human resources are utilized. Research also proves that the existence of a complete digital infrastructure directly leads to the enhancement of the pace of administrative work and a decrease in mistakes.
2. **Electronic Systems:** Electronic systems comprise the utilization of management information systems, electronic archiving systems, and computerized financial and human resource systems that seek to arrange data and ease access to it. The implementation of these systems can be regarded as one of the main signs of the extent of the digitalization of organizations because of their contribution to the process of decision-making and enhancement of the efficiency of administrative operations. Electronic systems are also used to improve transparency and limit the use of paper transactions.
3. **Digital Skills:** Digital skills are the skills that employees must possess to utilize digital technologies effectively, to interact with electronic systems, and to use them to carry out administrative duties. Human resources are the key factor contributing to successful digital transformation because the benefits it offers cannot be achieved unless employees have adequate digital skills. The literature supports the fact that investing in digital training is also useful in enhancing the performance of administration and making employees accept organizational change.
4. **Administrative Automation:** Administrative automation refers to the idea of automating everyday operations by the use of digital technologies, namely, automating transactions, document archiving, and monitoring administrative activities. Automation will help save time and effort, decrease the level of human error, and enhance the efficiency of the administration's performance. One of the

most significant effects of digital transformation in governmental and educational institutions is automation.

2.2 Administrative Performance Efficiency

2.2.1 The Concept of Administrative Performance Efficiency

Administrative performance efficiency is one of the concepts of modern management studies. It reflects an organization's ability to utilize its human, material, and technological resources in the best possible way to achieve its planned objectives with minimal time, effort and cost. Efficiency is a crucial criterion for judging the success of organizations, particularly educational institutions that rely on administrative performance to support educational processes. Dessler defines administrative performance efficiency as the extent to which management can accomplish required tasks accurately, quickly, and with minimal errors while achieving beneficiary satisfaction. Armstrong also indicated that administrative performance efficiency reflects the level of coordination between resources and administrative procedures to achieve optimal use of available resources. In the university context, administrative performance efficiency is linked to the quality of services provided to students and faculty members and the speed of completing administrative transactions.

2.2.2 Dimensions of Administrative Performance Efficiency

1. **Speed of Work Completion:** The speed of work completion indicates the administration's ability to finalize administrative transactions and procedures on time without unjustified delays. Speed is considered a key indicator of performance efficiency because of its direct impact on beneficiary satisfaction and the achievement of organizational goals. Studies confirm that expediting administrative procedures contributes to improving the efficiency of educational institutions and reducing administrative backlogs.
2. **Accuracy and Error Reduction:** Accuracy reflects the extent to which employees are committed to executing administrative tasks correctly and in accordance with laws and regulations while minimizing administrative and financial errors. Slack et al. Emphasizing that a high level of accuracy in administrative performance contributes to enhancing organizational trust and improving the quality of institutional work
3. **Optimal Resource Utilization:** Optimal resource utilization refers to the management's ability to efficiently employ human, material, and financial resources to achieve maximum benefit at the lowest cost. According to Anthony and Govindarajan, the efficiency of the administration's performance is directly connected to adequate resource management and its distribution to priority activities. This dimension is regarded as one of the most valuable parameters used to assess administrative performance in academic institutions.
4. **User Satisfaction:** One of the most significant indicators of the efficiency of the performance of the administration is user satisfaction (students, faculty, and staff), that is, what is the level of administrative services in relation to user expectations and needs of the students. Kotler et al. Underline this aspect. High levels of satisfaction with the beneficiary demonstrate effective administrative processes and quality of services. Furthermore, recent studies suggest that beneficiary satisfaction in educational institutions is linked to improved institutional reputation and enhanced trust in the management.

3. Methodology

3.1 Research Problem

Despite the rapid expansion of digital technology use within educational institutions, many university colleges still suffer from weak administrative performance due to their reliance on paper-based procedures and bureaucratic red tape. Therefore, the research problem is defined by the following main question:

What role does digital transformation play in improving the efficiency of administrative performance at the College of Administration and Economics, University of Fallujah?

3.2 Importance of the Research

1. This study contributes to enriching the literature related to digital transformation and administrative performance in educational institutions.

2. To present an applied model that can be utilized in other Iraqi colleges and universities.
3. To assist decision-makers in colleges in adopting effective digital practices.
4. This study aims to support efforts to improve administrative performance and reduce bureaucracy, time, and costs.

3.3 Research Objectives

1. To identify the level of digital transformation implementation in the College of Management and Economics.
2. To measure the level of administrative performance efficiency in the college,
3. To analyze the impact of digital transformation on improving administrative performance efficiency,
4. To provide practical recommendations that contribute to enhancing digital transformation within colleges.

3.4 Research Hypotheses

1. The correlation between digital transformation and its dimensions and the effectiveness of administrative performance and its dimensions was statistically significant.
2. Digital transformation and its dimensions can be important for increasing the efficiency of administrative performance.

The present study used a descriptive-analytical approach, which is among the most appropriate methods for exploring administrative phenomena and examining the association among their variables. This study attempts to explain the truth about digital transformation in the College of Administration and Economics at the University of Fallujah and examines how it will enhance the efficiency of administrative performance. The main instrument for collecting data from the research population was a questionnaire, as it offered the opportunity to gather quantitative data that could be analyzed statistically. Moreover, the research hypotheses were tested using appropriate statistical procedures to achieve the objectives.

3.5 Research Population and Sample

The research population comprised all administrative employees and leaders of the College of Administration and Economics, University of Fallujah, directly engaged in administrative work and digital technology usage. The total number of individuals is (85) individuals. A census method was used to draw the sample, as the population was the sample. The members of the sample were given questionnaires, and after filtering the incomplete questionnaires, (77) valid questionnaires were selected and analyzed statistically to guarantee the validity and objectivity of the outcome.

4. Result and Discussion

4.1 The Practical Aspect of the Research

This section is devoted to the empirical examination of the research hypotheses and to identifying the nature, direction, and magnitude of the relationships and effects among the study's principal variables. The analysis is grounded in primary data obtained through a structured questionnaire administered to the study participants, who represent the target population relevant to this research context. The use of field data enhances the reliability and validity of the findings by capturing real-world perceptions and practices associated with the variables being investigated. To ensure comprehensive and systematic interpretation, the collected data were subjected to both descriptive and inferential statistical analyses, enabling a rigorous evaluation of the study objectives and hypotheses.

Descriptive statistical analysis was employed as an initial step to summarize and present the characteristics of the data in a meaningful and interpretable form. Specifically, the arithmetic mean, standard deviation, and coefficient of variation were utilized to assess the central tendency, dispersion, and relative consistency of responses across the different dimensions of the study variables. The arithmetic mean provided an overall indication of the respondents' perceptions regarding each dimension, while the standard deviation reflected the extent of variation or agreement among the participants. Additionally, the coefficient of variation was used to evaluate the degree of homogeneity in the responses, allowing for a more nuanced comparison across variables. Furthermore, the

dimensions of each variable were ranked based on their relative importance as perceived by the respondents, thereby facilitating a clearer understanding of the priority areas and dominant factors within the research framework ([Galieva, 2021](#); [Urinboyev & Eraliev, 2022](#)).

To move beyond descriptive insights and test the proposed hypotheses, inferential statistical techniques were employed to examine the relationships and causal effects among the variables. Pearson's correlation coefficient was used to determine the strength and direction of the association between the independent and dependent variables, providing insight into whether the relationship was positive, negative, or negligible. This analysis is particularly important for assessing the degree to which variations in one variable correspond to changes in another. In addition, a simple linear regression analysis was conducted to evaluate the impact of the independent variable on the dependent variable and to quantify the extent to which the former explains variations in the latter. The regression model also enabled the assessment of statistical significance, thereby determining whether the observed relationships were meaningful and not attributable to random chance ([Abdurasulovna & Botiraliyevna, 2024](#); [Sievers, 2002](#)).

Overall, the integration of descriptive and inferential statistical methods in this section ensured a robust analytical framework capable of delivering accurate, reliable, and scientifically grounded conclusions. By combining measures of central tendency and dispersion with advanced techniques for testing relationships and effects, the analysis provides a comprehensive understanding of the dynamics between the study variables. This methodological approach not only supports the validation of the research hypotheses but also contributes to generating evidence-based insights that can inform decision-making and future research in the field ([Ne'Matovna, 2025](#)).

4.2 Describing and Diagnosing the Research Variables

4.2.1 Describing and Diagnosing Digital Transformation

Table 1 provides the outcomes of the descriptive analysis of the dimensions of digital transformation within the organization. In this analysis, the arithmetic mean, standard deviation, and coefficient of variation were used to diagnose the degree of adoption of digital transformation in the eyes of the participants.

Table 1. Descriptive analysis of the dimensions of digital transformation

Sequence	Dimensions	Arithmetic Mean	Standard Deviation	Coefficient of Variation	Ranking
1	Digital Infrastructure	3.82	0.81	21.2%	2
2	Electronic Systems	3.75	0.78	20.8%	3
3	Digital Skills	3.91	0.72	18.4%	1
4	Administrative Automation	3.84	0.89	25.5%	4
Total		3.74	0.80	21.4%	-

The results of the analysis revealed that the digital infrastructure dimension had a mean of 3.82, which was higher than the hypothetical mean, which shows that the level of availability of digital infrastructure was good at the College of Administration and Economics/University of Fallujah. The standard deviation was 0.81, which shows that there was an acceptable level of variation in the sample opinions on this dimension. The variance in the responses of the sample was 21.2, which showed that there was relative homogeneity in the sample. This dimension was ranked second in the digital transformation dimension, which means that the organization has technological infrastructure that facilitates digital transformation, although it is not the best among all the dimensions.

The dimension of electronic systems scored 3.75, which is also greater than the hypothetical mean, which implies that the organization uses electronic systems extensively to perform administrative work. The level of variation in the opinions of the sample was acceptable, with a standard deviation of 0.78.

The coefficient of variation was 20.8, which is a good measure of homogeneity in the responses. This dimension was rated third among the dimensions, which means that there is the use of electronic systems, though to a lesser degree compared to others.

The dimension of digital skills was ranked first in the list of dimensions of digital transformation, with the highest mean score of 3.91. This shows that the digital skills of the organization's members are quite good and allow them to operate modern technologies. The standard deviation was lower than that of the other dimensions and was at 0.72, thus showing that the members of the sample had a convergent opinion about this dimension. The lowest level of homogeneity was also found in the coefficient of variation, which stood at 18.4, meaning that a high level of homogeneity existed between the responses, and that there was a clear agreement between the members of the sample as to whether they possessed digital skills.

It was also noted that the administrative automation dimension scored 3.84, which is a good score showing the orientation of the organization towards automation of administrative processes and application of technology in operations. Nevertheless, its standard deviation was the largest of the dimensions (0.89), which means that the opinions of the sample members on the level of automation in the organization were relatively diverse. This dimension was also the lowest in terms of its coefficient of variation (25.5%), which ranked the dimension fourth, indicating that administrative automation is yet to be developed further in comparison to the rest of the dimensions. In general, the total results represent an average score of 3.74, which is higher than the hypothetical mean, demonstrating that the organization in question has an excellent average of the use of digital transformation in general. The standard deviation was 0.80, which means there is a moderate degree of opinion difference in the sample, whereas the coefficient of variation [21.4%] shows the acceptable level of homogeneity in the answers of respondents ([Elliot, Kay, & Laplante, 2016](#); [Forid, Hafez, & Khan, 2022](#); [Surjawan, Langi, & Imbar, 2025](#)).

4.2.2 Describing and Diagnosing the Efficiency of Administrative Performance

Table 2 shows the results of the descriptive analysis of the dimensions of administrative performance efficiency in the College of Administration and Economics/University of Fallujah, through the adoption of the arithmetic mean, standard deviation, and coefficient of variation, with the aim of diagnosing the level of administrative performance efficiency from the point of view of the sample members.

Table 2. Descriptive analysis of the dimensions of administrative performance efficiency

Sequence	Dimensions	Arithmetic mean	standard deviation	coefficient of variation	Ranking
1	Speed in completing the work	3.88	0.92	23.7%	3
2	Accuracy	3.65	1.05	28.7%	4
3	Reducing errors	4.02	0.76	18.9%	2
4	Customer satisfaction	4.15	0.68	16.3%	1
Total		3.92	0.85	21.6%	-

Table 2 shows that the beneficiary satisfaction dimension ranked first among the dimensions of administrative performance efficiency, with a mean of 4.15, the highest arithmetic mean. This indicates a high level of beneficiary satisfaction with the services provided by the organization. The standard deviation was 0.68, the lowest value among the dimensions, indicating a convergence of opinions among the sample regarding this dimension. The coefficient of variation was 16.3%, which was also the lowest, indicating a high degree of homogeneity in the responses.

The error reduction dimension ranked second, with a mean of 4.02, indicating a good level of the organization's ability to reduce errors in administrative tasks. The standard deviation was 0.76,

indicating limited variation in the sample's opinions, while the coefficient of variation was 18.9%, reflecting an acceptable degree of homogeneity among the respondents' answers regarding this dimension. The speed of work completion came in third place, with a mean of 3.88, indicating that the organization possesses a relatively good level of speed in completing administrative tasks. The standard deviation was 0.92, indicating a degree of variation in the opinions of the sample members, while the coefficient of variation was 23.7%, indicating a relative difference in viewpoints regarding work completion speed.

The accuracy dimension came in fourth and last place among the dimensions, with a mean of 3.65, the lowest of the arithmetic means, indicating that the level of accuracy in administrative performance is good but lower than the other dimensions. The standard deviation was 1.05, the highest among the dimensions, indicating a clear variation in the opinions of the respondents. The coefficient of variation was 28.7%, which was also the highest, reflecting a difference in the respondents' assessment of the level of accuracy in administrative work. At the overall level, the total arithmetic mean for the dimensions of administrative performance efficiency reached [3.92], a relatively high level, indicating that the organization enjoys a good degree of administrative performance efficiency. The standard deviation was [0.85], indicating moderate variation in the opinions of the sample members, while the coefficient of variation was [21.6%], reflecting an acceptable degree of homogeneity among the respondents' answers.

Second: Hypothesis Testing [Correlation and Impact]

4.3 Pearson Correlation

Table 3 displays the Pearson Correlation test outcome to determine the nature and strength of the relationship between the two research variables: digital transformation, which is the independent variable, and administrative performance efficiency, which is the dependent variable.

Table 3. The relationship between digital transformation and administrative performance efficiency

Independent Variable	Dependent Variable	R	Sig	Type of Relationship
Digital transformation	Administrative performance efficiency	0.784	0,000	Direct

Based on the results in table, the correlation coefficient [R] between digital transformation and administrative performance efficiency was 0.784, which is a rather high and positive value. This indicates a positive correlation between the two variables, implying that the higher the degree of digital transformation in the organization, the higher the improvement in administrative performance efficiencies in the organization. This finding clarifies that digital transformation plays an important role in supporting and developing administrative performance by speeding up processes, enhancing the precision of administrative operations, and simplifying the process of service provision. The findings also revealed that the level of statistical significance [Sig] was 0.000, which is not as large as the level of significance applied in administrative studies [0.05]. This implies that the correlation between the two variables is not by chance but is statistically significant. Thus, it can be concluded that digital transformation and administrative performance effectiveness at the College of Administration and Economics/University of Fallujah are correlated.

The table depicts a linear connection between the variables, meaning that the more attention is paid to the application of digital transformation, which can be in the form of developing digital infrastructure, increasing the level of electronic development, developing digital competencies, and automating the administration, the higher the efficiency of the performance of the administration and the quality of services it provides.

4.4 Testing the Impact Relationship (Regression Analysis)

To test the hypothesis, Table 4 shows the outcome of the simple linear regression analysis performed to estimate the effect of digital transformation as the independent variable and administrative performance efficiency as the dependent variable.

Table 4. Simple linear regression analysis

Independent Variable	[F]	[β]	[R ²]	Level of Significance
Digital transformation	119.4	0,615	0,742	0.000

Table 4 shows that the regression coefficient [β] is 0.742, a positive value indicating a strong positive relationship between the independent variable [digital transformation] and the dependent variable (administrative performance efficiency). The overall F-value for the model was 119.4, a high value that reflected the quality and suitability of the statistical model used. The coefficient of determination [R²] was 0.615, meaning that the independent variable [digital transformation] has a high explanatory power, accounting for 61.5% of the variance in administrative performance efficiency. The remaining percentage was attributed to other factors not addressed by the current model.

In addition, the results indicated that the level of significance [Sig] was 0.000, which is below the desired significance level [0.05]. Thus, the hypothesis of the research is accepted, which confirms the existence of a statistically significant positive effect of digital transformation on the increase and advancement of the efficiency of administrative performance in the College of Administration and Economics, University of Fallujah.

5. Conclusions

5.1 Conclusion

This study confirms that digital transformation significantly enhances administrative performance at the College of Administration and Economics at the University of Fallujah. The results show that digital infrastructure, electronic systems, digital skills, and administrative automation positively impact administrative efficiency. The implementation of digital systems, development of digital skills, and automation of administrative tasks contribute to faster work completion, increased accuracy, fewer errors, and better resource utilization. Furthermore, administrative automation plays a crucial role in reducing bureaucracy and improving service quality, leading to higher beneficiary satisfaction. Overall, digital transformation is not just an option but a strategic necessity for enhancing the performance of educational institutions.

5.2 Research Limitations

This study is limited to the College of Administration and Economics at the University of Fallujah, and its results may not be fully applicable to other universities or sectors. This research focused primarily on the impact of digital transformation on administrative performance efficiency and did not consider the broader organizational or cultural factors that might also influence administrative effectiveness. Additionally, this study only explored the technical and human aspects of digital transformation, without addressing the impact of institutional culture or external factors such as policy and funding.

5.3 Suggestions and Directions for Future Research

Future research could be expanded to other universities and higher education institutions to compare and generalize the findings. It would be valuable to examine the impact of digital transformation across different academic disciplines and regions to understand its broader implications. Moreover, further studies should consider incorporating the influence of organizational culture, leadership, and external factors, such as government policies, on the effectiveness of digital transformation in improving administrative performance. Research on the long-term effects of digital transformation on student satisfaction and institutional outcomes is also recommended.

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