

Midocean University

Faculty of Management

Department/Specialization: Public Health Management

Assessing the Impact of Digital Transformation on Project Success: Evidence from Saudi Organizations

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5 Chapter 5:

5.1 Conclusions

Based on the findings of this study, it is safe to conclude that the digital transformation plays a significant role in making projects successful in the context of any organization in Saudi Arabia. The results of this study indicate the following important conclusion about the role of digital transformation in project success in the Saudi organizational context.

First, digital transformation positively and meaningfully impacts project success among Saudi organizations. The regression results are consistent with the findings that organizations that have advanced further in the implementation and integration of digital technologies in their processes are likely to achieve better results from their projects, such as improved quality of the results, more satisfied stakeholders and more effective project implementation. This conclusion is consistent with the Technology–Organization–Environment (TOE) Framework of Tornatzky and Fleischer (1990), which suggests that the operational and performance impacts of technology on organizations will be measurable if the technology is successfully linked to the organization's environment and organizational structure.

Second, digital transformation creates significant improvements in project efficiency and effectiveness. The digital technology adoption/efficiency/effectiveness sub-scale is highly correlated with digital technology adoption ($r = 0.649$), which validates that digitally advanced firms have a better ability to meet project schedules and budgets, and to handle unforeseen project challenges. This is in line with Nwankpa and Roumani (2016), which showed that companies that have higher IT capability can use the digital technologies more effectively to streamline processes and deliver better performance outcomes.

Third, the communication and collaboration aspects of digital transformation are a meaningful route in how digital adoption enhances project outcomes. Collaborative digital tools and inter-departmental digital connectivity were most positively rated by the respondents, and there was a significant correlation between these two elements and the satisfaction of the stakeholders and overall contribution of the project (DT4: $M = 4.23$, DT2: $M = 3.95$). In line with Sebastian et al. (2017) who found that digitally-enabled coordination is at the core of project and transformation success in large organisations.

Fourth, management support did not moderate the relationship between digital transformation and project success statistically in the sense that digital transformation was more strongly linked to project success the higher the levels of management support in this study ($r = 0.705$ with Project Success; $B = 0.514$ in the full model). The result indicates that in the Saudi organizations, management acts as an independent and parallel supporter of the project success and is not a "conditioned amplifier" of the effect of digital technology. This is in line with Dynamic Capabilities Theory (DCT) (Teece, Pisano, & Shuen, 1997), which states that organizational leadership and adaptability are not only associated with, but also interact with, technological capability to shape the performance results. Another possible explanation is that the proportion of high baseline levels of management support ($M = 4.06$) across the sample might reduce the range of variation required to find a moderating interaction effect.

Fifth, the results of this study contribute to the empirical evidence base of the relevance and applicability of digital transformation as a project success driver in the context of Saudi Arabia, which is a less studied area. The findings build on the existing literature on digital transformation and organizational performance in developing and emerging economies and underscore the critical role of digital programs and projects in Saudi Vision 2030.

5.2 Theoretical Implications

This study contributes theoretically in several aspects to the digital transformation, project management and organizational behavior in Saudi context.

First, the study validates the TOE Framework (Tornatzky & Fleischer, 1990) for the relationship between digital transformation and project success, from an empirical perspective. The results showed that the organizational level technology adoption leads to better project performance outcomes, extending the previous applications of TOE Framework from technology adoption to project delivery effectiveness. This will help to make the framework more useful as a lens to see digital transformation outcomes at the project level.

Second, through the embedding of digital technologies in organizational processes, the study supports the Resource Based View (RBV) (Barney, 1991) by showing that these digital technologies are valuable resources and become performance enhancing tools to achieve better project outcomes. The explained variance of 41.0% ($R^2 = 0.410$) for Digital alone; 58.7% when combined with Management Support, is consistent with the fact that the two

factors, Digital and Management Support, together provide a strong foundation for competitive project performance.

Thirdly, the non-significant moderation result for H4 provides a nuanced contribution to the literature. However, instead of digital transformation being facilitated by management controls, it is found that management can be a strategic capability as well—echoing the Dynamic Capabilities Theory (Teece et al., 1997) where management and digital transformation seem to act independently of each other. Theoretically, the distinction is useful in the development of models of project success and the conditions that lead to it in digitally advanced organizations and highlights the importance of considering more granularly the mechanisms through which leadership impacts project outcomes.

5.3 Practical Recommendations

For the conclusions of this study, the following recommendations are made to the organizational leaders, project managers, and Saudi Arabia's policy makers.

1. Prioritise and expedite investment in digital project management tools that directly benefit project management processes such as digital project planning tools, real-time communication platforms and systems for inter-departmental collaboration. The relatively low mean for DT1 ($M = 3.72$) reflects the lack of consistency in formalizing the application of digital tools in project management. This should be an area of focus to be improved.
2. Key to improving adherence to schedule, Project managers and IT leaders should do so by using digital tools, because PS1 ($M = 3.72$) was the lowest-rated Project Success item and had the greatest variability. This can be directly tackled by digital monitoring, automated scheduling, and progress tracking systems.
3. Digital skills need to be continually developed across all levels of the organization. DT6 ($M = 4.02$) shows that training is valued but could be improved, especially for smaller companies (those under 100 employees) whose digital transformation maturity might not be as advanced.
4. Senior leadership should be actively supporting digital transformation projects and activities in a visible and consistent way and focus on formalizing digital transformation strategies that reflect organisational and project goals. MS1 ($M = 3.87$) had the lowest

rating for the management support rating and the highest rating variation, indicating the visibility of the top management commitment varies and should be explicitly discussed.

5. Saudi Vision 2030 organizations need to view digital transformation as an ongoing capacity for the organization. Continuous investments in scalable digital infrastructure, data analytics and cloud-based collaboration tools will ensure long-term enhancements to project success.
6. Public sector organisations (PSEs) should learn from industry best practice in the use of digital tools in the delivery of projects, as both sectors indicated they had a high level of perception of the value of digital transformation, but there may be disparities in the rate of adoption of digital tools formally within each sector.
7. The relationship between digital transformation projects and measurable project success indicators should be formalized through a policy process in project management offices (PMOs) and senior leadership, to allow organizations to assess the return on digital investment on a project level.
8. The respondent's consensus for MS6 ($M = 4.15$) and MS7 ($M = 4.18$) to formalize practices of innovation and incorporate them into project management methodologies should be extended in organizations to establish a culture of innovation and continuous improvement within project activities.
9. Saudi Arabia's policymakers and regulators should create enabling conditions and incentives for private and public sector organizations to embrace and incorporate digital technologies into project management, in line with Saudi Vision 2030 and the national digitalisation strategy.

Organizations need to do regular evaluation of the effect of DT initiatives on project results to continuously search for gaps and improve digital strategies, through KPIs including project schedule adherence, budget efficiency, stakeholder satisfaction, and quality indicators.

5.4 Limitations of the Study

This study contributes valuable empirical evidence on the association between digital transformation and project success in the Saudi organizations, but there are some limitations to be noted while interpreting the results.

The study used a self-administered questionnaire, and the sample size was 100, adequate for regression analysis but insufficient to allow detection of the effects of smaller interactions, such as the interaction hypothesized in H4. Future research with larger samples of participants might be better suited to identify moderating effects.

Secondly, the cross-sectional design of the study resulted in data being gathered at one point in time, making causal statements about the long-term impacts of digital transformation on project success impossible. A longitudinal study would better reflect the dynamic and evolving digital transformation.

Third, the study was conducted in Saudi Arabia, and the results might not be applicable in other countries or cultures with distinct digital maturity, cultures, and management practices.

Fourth, all variables were recorded as self-perceived perceptions using a likert scale and this may suffer from social desirability bias, especially with regards to management support. Triangulating survey information with organizational documents and/or qualitative interviews may be useful for future studies.

Fifth, the study's sample was mainly female (72.0%) and relatively young (69.0% aged 40 or below), which may not be representative of the overall population of professionals engaged in digital transformation and project management in the Saudi organizations.

5.5 Directions for Future Research

Based on the findings and limitations of this study, the following directions for future research are proposed.

1. Future research needs to replicate this study with larger and more diverse sample sizes and across a wider range of industries and regions in Saudi Arabia to enhance the generalizability of the findings and compare the relationships found across industry types and organizational sizes.
2. To capture the causal sequence that goes from investments in digital transformation to better project success over time, beyond simply taking a snapshot in time as this study did, longitudinal research designs should be used.
3. Future research needs to investigate possible mediating variables like digital skills in organization, digital agility, and digital leadership that might explain the pathways

how the digital transformation impacts project success and thus develop comprehensive models of the DT – project success relationship.

4. H4 was not significant, and should be explored further. Future research can test whether moderating effect of management support is moderated by digital maturity, industry type, and organizational size, and examine for smaller interaction effects using moderating regression or structural equation modelling with larger samples
5. This study would benefit from a quantitative approach and a complementary qualitative approach such as case studies and interviews with project managers and digital transformation leaders in Saudi organizations, which would enrich the quantitative findings and provide deeper and more contextually rich insights into the experience and management of digital transformation at the project level.
6. Future studies should explore the influence of the other moderating or contextual factors such as organizational culture, change management capability, regulatory environment, sector type (public versus private) on the relationship between digital transformation and project success in the Saudi context.

5.6 Chapter Summary

The conclusions, theoretical and practical implications, recommendations, limitations, and future research directions from this study were presented in this chapter. The overall finding is that digital transformation positively and significantly affects the success of projects in Saudi organizations, which is achieved through enhancing operational efficiency, communication and collaboration, and project quality. Even though it was not a strong moderator, management support was validated as one of the strongest direct antecedents of project success, along with digital transformation.

The results coincided with the TOE Framework, Resource Based View and Dynamic Capabilities Theory and enhanced their application in the context of project management in Saudi Arabia, and added to the limited empirical evidence in the region regarding digital transformation and project outcomes. The practical recommendations provide valuable guidance for project leaders, organizational managers, and policymakers who aim to reap the maximum project performance benefits from digital transformation, while staying aligned with Saudi Vision 2030.

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7 APPENDIX

Survey Link:

https://docs.google.com/forms/d/1KhomeS-UoSZ6sqM8obqr9FEb26VAaR_F_a69QnG56T4/edit#responses

- **Section A: Demographic Information**

Q1. Gender

- Male
- Female
- Prefer not to say

Q2. Age

- 20–30 years
- 31–40 years
- 41–50 years
- Above 50 years

Q3. Highest Educational Qualification

- Diploma
- Bachelor's Degree
- Master's Degree
- Doctorate (PhD)
- Other

Q4. Current Job Position

- Project Manager
- IT Manager
- Team Leader

- Project Team Member
- Engineer
- Executive/Director
- Other

Q5. Years of Professional Experience

- Less than 5 years
- 5–10 years
- 11–15 years
- More than 15 years

Q6. Organization Type

- Public Sector
- Private Sector

Q7. Organization Size

- Less than 100 employees
- 100–249 employees
- 250–499 employees
- 500 or more employees

• **Section B: Digital Transformation (Independent Variable)**

Please indicate your level of agreement with the following statements.

No.	Statement
DT1	My organization has adopted digital technologies to improve project management processes.
DT2	Digital tools enable more effective communication among project team members.
DT3	Digital transformation has improved project planning and scheduling within my organization.

No.	Statement
DT4	Digital technologies have enhanced collaboration between different departments involved in projects.
DT5	My organization regularly invests in new digital technologies to improve project performance.
DT6	Employees receive adequate training to effectively use digital technologies.
DT7	Digital systems improve access to project information and documentation.
DT8	Digital transformation has increased operational efficiency in project execution.

- **Section C: Project Success (Dependent Variable)**

Please indicate your level of agreement with the following statements.

No.	Statement
PS1	Projects in my organization are usually completed within the planned schedule.
PS2	Projects are generally completed within the approved budget.
PS3	Projects consistently achieve their intended objectives.
PS4	Stakeholders are satisfied with project outcomes.
PS5	Project quality meets organizational expectations.
PS6	Digital technologies have improved overall project performance.
PS7	Project teams respond effectively to unexpected project challenges.
PS8	Overall, digital transformation has contributed to project success in my organization.

- **Section D: Management Support (Moderating Variable)**

Please indicate your level of agreement with the following statements.

No.	Statement
MS1	Top management actively supports digital transformation initiatives.
MS2	Senior management provides sufficient financial resources for digital transformation.

No.	Statement
MS3	Management encourages employees to adopt new digital technologies.
MS4	Organizational leaders communicate a clear vision for digital transformation.
MS5	Management provides adequate training for digital transformation initiatives.
MS6	Managers encourage innovation and continuous improvement in project work.
MS7	Top management actively resolves challenges related to digital transformation.
MS8	Strong management support improves the success of digitally enabled projects.