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Evaluation of High-Tech Projects Failure Factors in Afghanistan

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Abstract
Afghanistan ranks among the unfortunate low-income countries lacking viable and consistent electronic government systems, policies, and infrastructure for project execution. Despite the country's adoption of technology, digital systems and ICT projects remain inefficient and prone to vulnerabilities, hindering the delivery of reliable services to both the Afghan government and its citizens. This research assesses various technology-based projects to uncover the underlying causes of failures. The study's main goals include pinpointing these root causes, exploring the link between policies and ICT initiatives, evaluating platforms and services, and offering recommendations to enhance the environment for the effective and timely execution of ICT projects. A focus on user-centered design is maintained throughout the research process, which employs a mixed-methods approach. This study provides valuable insights for both private and public sectors to implement projects more effectively. We aim for this research to shed light on the factors leading to failures during the planning, design, and implementation phases of projects, encouraging a reflective approach moving forward.

Keywords:
High-Tech Projects; ICT; e-Services; Infrastructure; Management.

1. INTRODUCTION

In 2002, Afghanistan began its journey of empowerment following nearly thirty years of war and destruction. The nation lacked advanced technology systems, with even the most basic ones almost entirely damaged during the conflicts. There was a clear recognition of the need to re-engineer high-tech systems and leverage the benefits of the latest technological advancements for the country's overall improvement and reconstruction. The introduction of IT was deemed essential for the revitalization of other sectors, including security, governance, economics, education, and health. Efforts were initiated to restore infrastructure to enhance service delivery, project implementation, and the application of information technology across both public and private sectors. The Ministry of Communication and Information Technology (MCIT) was tasked with leading the sector to stimulate and develop service delivery platforms. The communications revolution emerged as a significant success story for the country. The expansion of the information and communication technology (ICT) sector has profoundly influenced economic, educational, and service advancements. It has connected every part of the nation, improved governmental efficiency, and opened doors for the private sector and practitioners to compete by fostering innovative and valuable ideas.

This study aims to investigate the reasons for and difficulties with adopting e-Government projects and services delivery in Afghanistan. Although there is a broad agreement about the advantages of employing information and communication technology (ICT) to perform public services, there are still challenges in implementing government projects in Afghanistan. This research highlighted the key elements to be considered during the implementation of e-Government projects within the country. The research particularly focuses on Afghanistan and discusses its projects that had a chance of implementation in the country. Also, e-

Government is a needed feature in today's good governance across the globe to deliver their due duties more efficiently. The e-Government generally provides efficient, transparent, one-stop, 24/7citizencentric services with responsible, adoptable, and updatable technologies. The successful implementation of IT projects brings accountability, efficiency, and effectiveness in society. Hence, during the noted journey, the researcher has tried to get the complete picture of high-tech projects.

To gain a comprehensive understanding of the study, this research examines e-Government services in Afghanistan. The country has experienced various technological advancements, but there are still challenges related to implementation and management among stakeholders regarding communication and role definition (Nohzatullah Ahmadzai, 2015). Below, we present valuable information about the current status of e-Government and IT projects in Afghanistan.

A comparison of electronic government surveys reveals that Afghanistan's government development index was 168 and the e-Participation index was 127 in 2010. By 2012, these figures changed to 184 and 89, respectively. In 2014, the e-Participation index reached 152, while the government index was at 173. Moving to 2016, the e-Government index recorded 171 and the e-participation index noted 104. In 2018, the e-participation index improved to 145, with the government index at 177. The 2020 survey indicates an e-Government index of 169 and an e-participation score of 118. Thus, we can conclude that the e-Government development index showed stronger performance in 2010 and 2020 compared to earlier surveys. Additionally, the e-Participation index exhibited similar results in the 2012 and 2022 surveys (Nations, 2022). This data is illustrated in Figures 1, 2, 3, and 4.

Figure 1. Overall Information about Afghanistan (Nations, 2022)

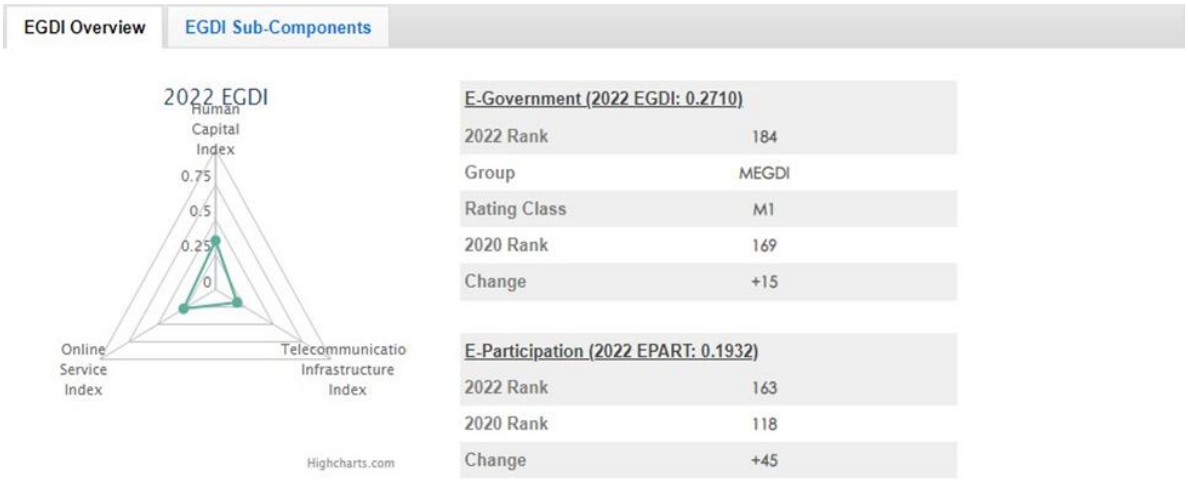
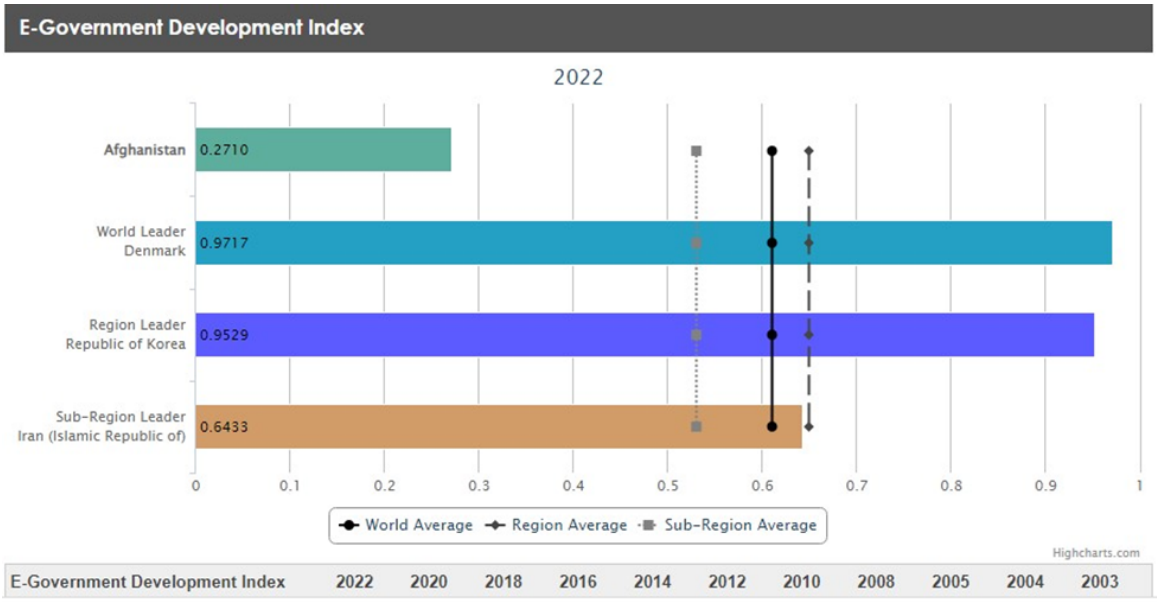
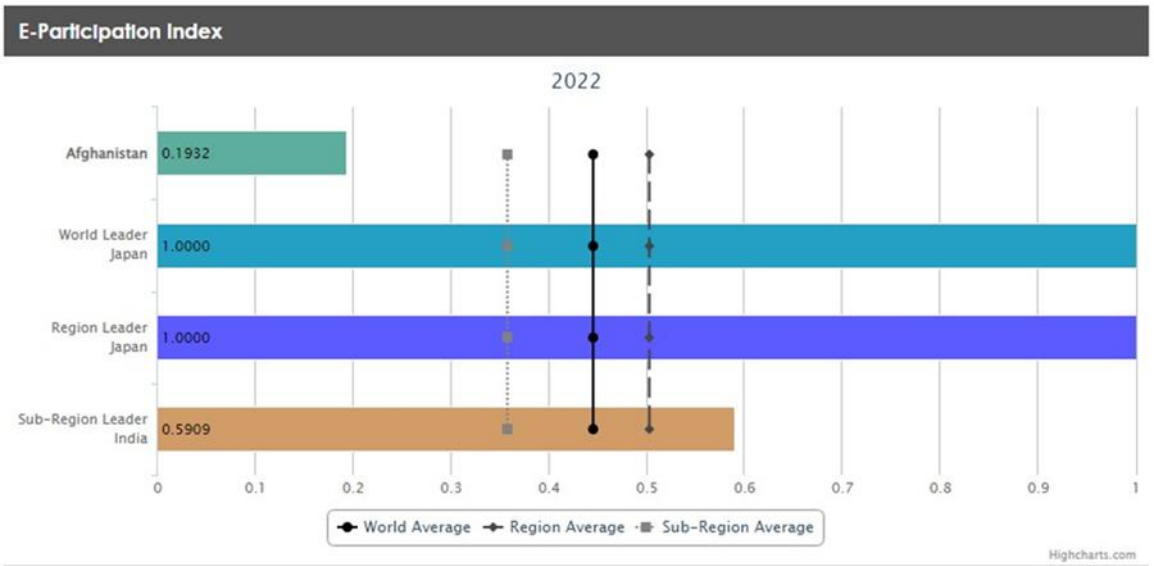


Figure 2. EGDI Overview (Nations, 2022)



E-Government Development Index	2022	2020	2018	2016	2014	2012	2010	2008	2005	2004	2003

Figure 3. e-Government Development Index (Nations, 2022)



E-Participation Index	2022	2020	2018	2016	2014	2012	2010	2008	2005	2004	2003
Afghanistan (Rank)	163	118	145	104	152	89	127	135	129	97	102
Afghanistan (Value)	0.19320	0.46430	0.32020	0.42373	0.13725	0.13160	0.05714	0.04545	0.01587	0.03278	0.03450

Figure 4. e-Participation Index (Nations, 2022)

2. RESEARCH METHOD

To complete this research, the researcher has applied both qualitative and quantitative methods. Moreover, personal observation and agility were a part of the research methodology. This study has discussed the noted research with different types of people, such as IT experts, policy makers, managers, government officials, and society to get their opinions and comments. This research has focused on Afghan dynamics to find a possible solution in order to shape the planning, design, and implementation phases of a high-tech project.

In this study, we have tried to get a comprehensive overview of the e-Government systems, services, and ICT projects in Afghanistan by using both qualitative and quantitative research methods. Here, the author came up with the research design for this study (Figure 5).

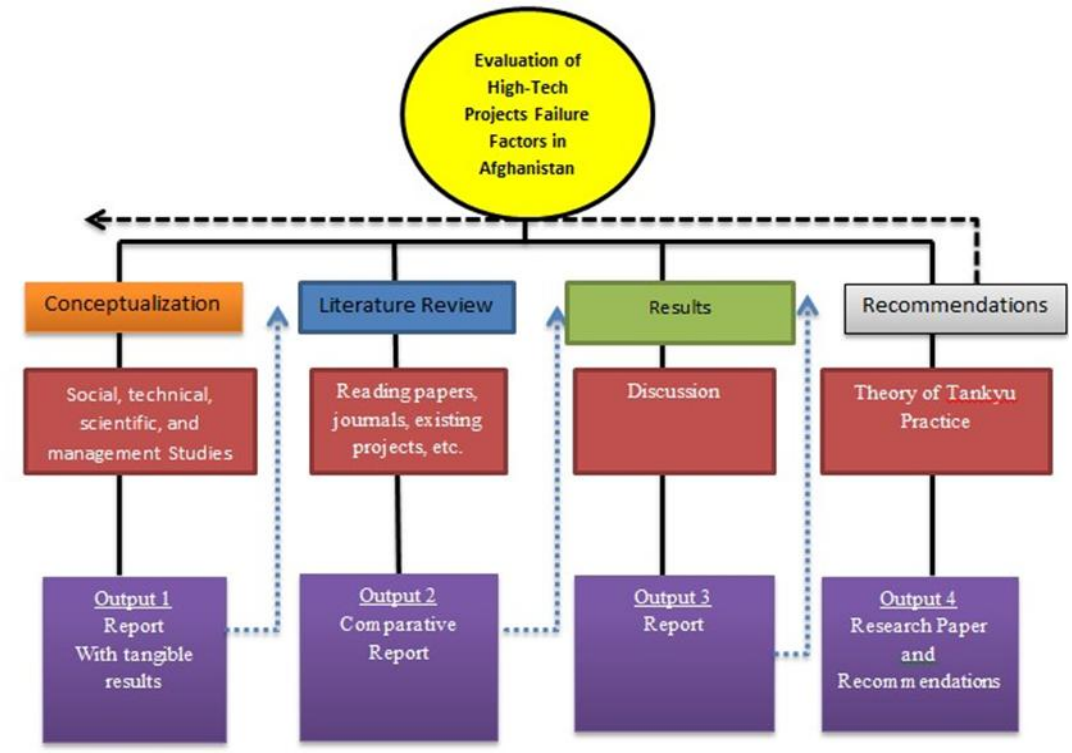


Figure 5. Research Methods

During data collection, the researcher targeted approximately 48 professional staff members of MCIT with e-Government experience and skills. We also aimed to include individuals from various age groups with diverse management and educational backgrounds relevant to ICT projects. Unfortunately, due to new government regulations, we were unable to engage the expert team of women to gather their ideas and feedback.

In terms of age and education, 23 participants had a bachelor's degree, with ages ranging from 18 to 30. Five participants held a master's or higher degree, and three participants received professional education. Among those aged 31 to 45, most had not completed a bachelor's degree (Figure 6). Overall, participants with bachelor's degrees contributed to the data collection.

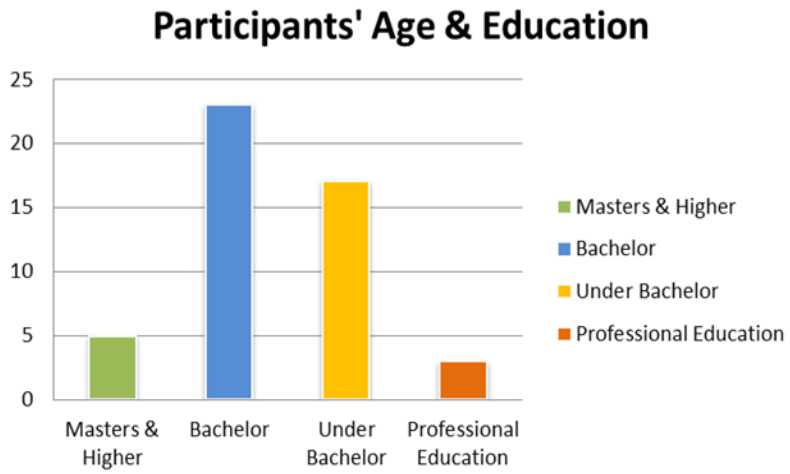


Figure 6. Participants' Age & Education Level

Additionally, this study surveyed participants regarding the delivery of e-Government services. The researcher gathered the following statistics (Figure 7) that will aid in the discussion section to formulate improved suggestions or recommendations. According to the figure below, 31% of respondents emphasized trust and availability, which are crucial for both the government and the public. Furthermore, 17% pointed out the importance of transparency in the services, while 21% of participants indicated the need for speedy services. Overall, trust and availability are highlighted as key user demands and received a positive response.

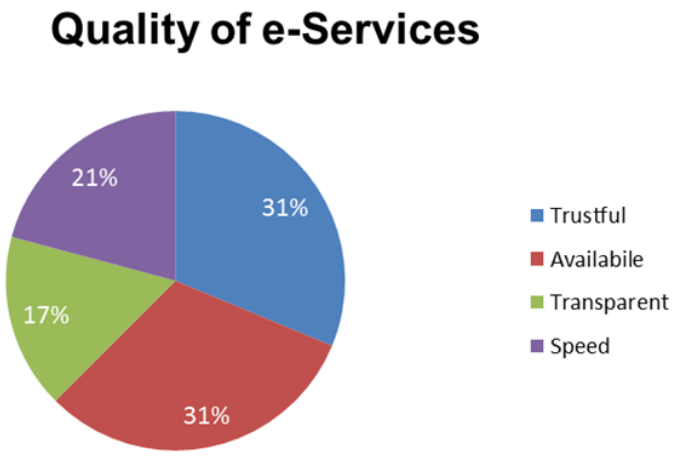


Figure 7. Quality of e-Government Services

Meanwhile, the author requested participants to provide their feedback regarding the impact of ICT technologies on project delivery. We have included the figures for your reference (Figure 8). Most participants agree that ICT can play a positive role in the implementation of projects and service delivery.

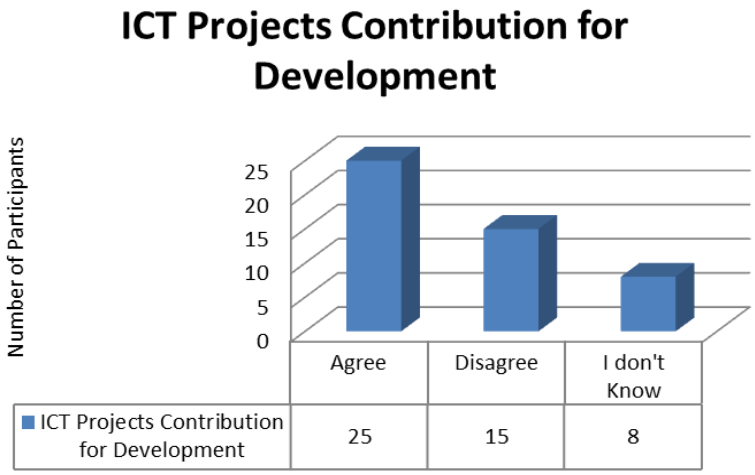


Figure 8. Contribution of ICT

Additionally, this study aimed to identify the key factors contributing to the failure of ICT projects in Afghanistan over the past few years. The results indicate that many respondents cited ICT infrastructure, skilled personnel, and public illiteracy as significant issues. Other contributing factors include inadequate planning, lack of maintenance, and political instability. To successfully implement IT projects on time, it is essential to address planning, infrastructure, maintenance, and capacity building.

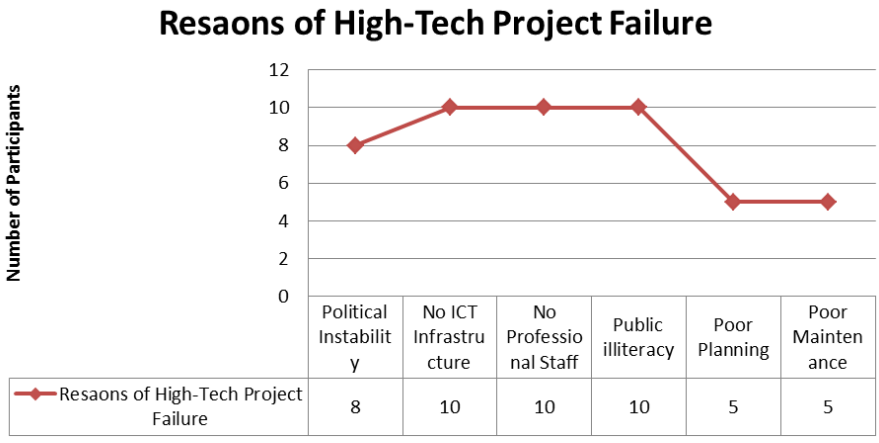


Figure 9. Main Reasons for Failures

At the end of data gathering, this study has asked the participants and experts to share their thoughts and feedback about ICT-based projects. As per the data, most of the projects have failed in Afghanistan (Figure 10).

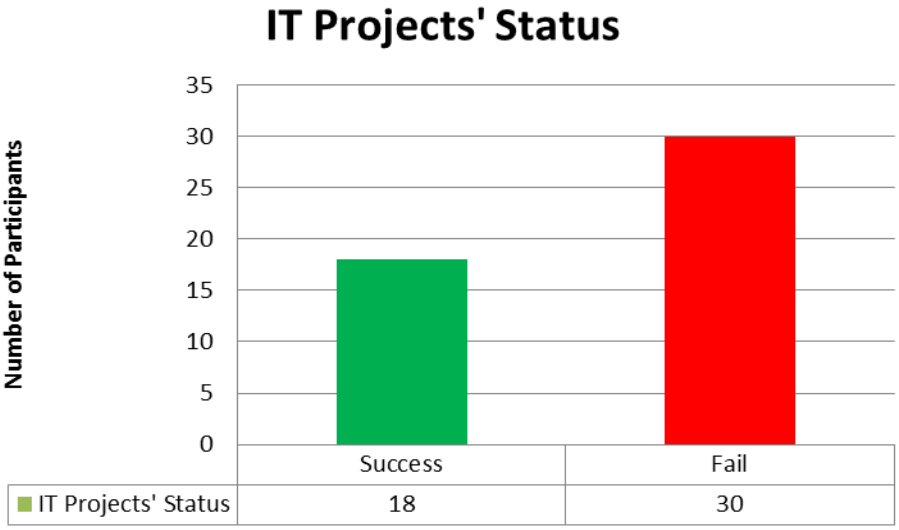


Figure 10. ICT Projects' Status in Afghanistan

3. RESULTS AND DISCUSSION

Following the presentation of our findings, we concluded that the quality of services must be reliable and accessible to both the government and society. Additionally, transparency and prompt delivery are critical demands from users. Therefore, it is evident that ICT-based projects need to focus on ensuring both availability and reliability. Furthermore, we inquired about the contribution of ICT projects to development. According to the results, most participants agreed that ICT projects can play a crucial role in societal development. Consequently, we acknowledged that ICTs have successfully transformed various sectors globally, leading us to concur that information technology can indeed enhance project outcomes.

Additionally, the researcher inquired about the reasons behind the failure of high-tech projects. The findings indicate a lack of professional staff, inadequate ICT infrastructure, and public illiteracy as significant factors. Participants also cited political instability and poor planning as contributing reasons for project failures. Overall, having a skilled workforce and effective planning is crucial.

We have inquired about the status of ICT-based projects in Afghanistan. According to the results, most projects have failed in recent years. Therefore, ICT experts, government agencies, and private sectors should consider the identified factors to prevent project failures. Overall, the evaluation results were positive, encouraging us to continue focusing on this topic regularly.

Based on the previous studies and data gathering, the researcher found that there are main reasons that should be considered in every single project. The reasons are listed below:

a. Low digital literacy and lack of knowledge on how to handle an ICT-based Project
b. Widespread corruption in projects
c. No implementation of operational plans to improve the project task
d. No inquiry, punishment about failed projects in the country
e. Over budget, time, and scope

The researcher came up with the following recommendations:

a. Mapping ICT infrastructure based on the international standards (Heeks, 2015)
b. The project team should be updated time to time with new management and implementation trainings
c. Regular monitoring and evaluation of project implementation
d. Proper planning & documentation of the projects
e. Controlling corruption in the projects by relevant parties

It is crucial to apply the Tankyu Practice (Sumitani, 2012) model during the planning, design, and implementation phases of projects. This approach involves engaging all stakeholders to develop more effective solutions for communities (Figure 11).

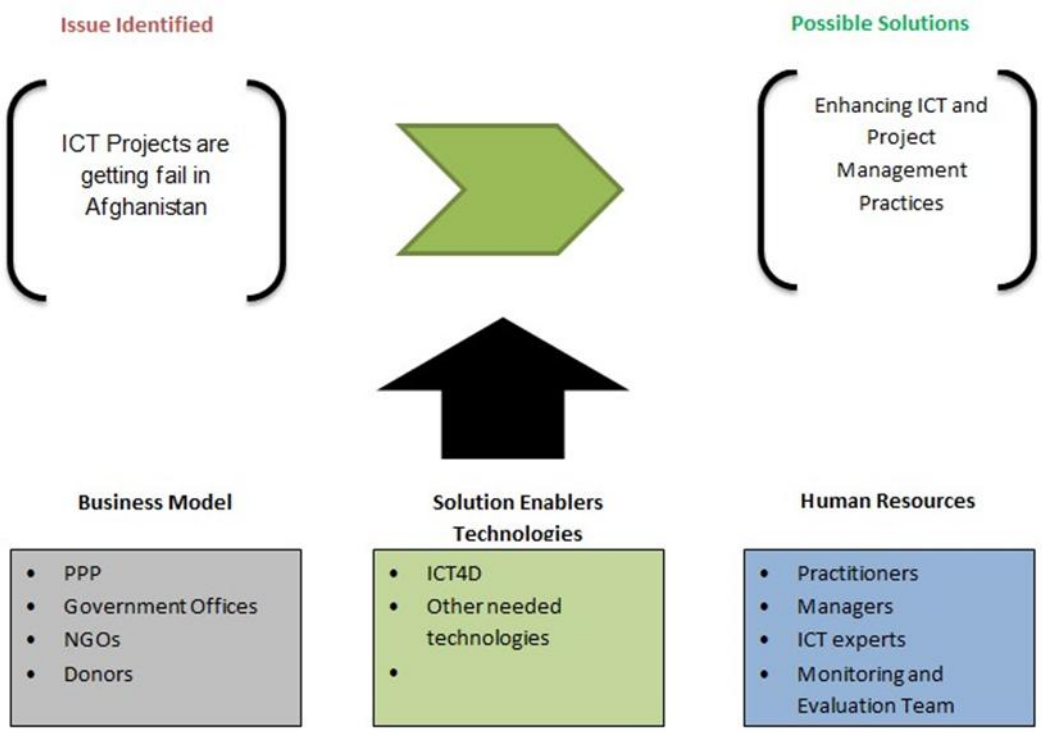


Figure 11. Tankyu Practice Model (Sumitani, 2012)

4. CONCLUSION

Information technology projects play a crucial role for the government and in a digital society. However, effectively implementing these projects is essential for developing services. In low-income countries like Afghanistan, the lack of a digital culture, skilled human resources, and adequate infrastructure hampers proper implementation of information technology initiatives. Therefore, this study aims to assess the current state of e-Government services and high-tech projects in Afghan government offices. It seeks to motivate managers and experts to adopt and promote technology-related skills to successfully implement projects across the country. Key aspects include careful planning, staff training, timely evaluations, and adherence to international sustainability standards throughout the project lifecycle.

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REFERENCES

Abu-Shanab, E., & Bataineh, L. Q. (2015). Challenges Facing E-government Projects: How to Avoid Failure? International Journal of Emerging Sciences (pp. 207-217). IJES.

Ahmadzai, N., & McKinnon, R. (2021). "Strategy, Policy, and Legal Barriers to E-Government Implementation in Afghanistan." International Journal of Public Administration, 44(10), 801–811.

Damoah, I. S. (2015). "An Investigation into the Causes and Effects of Project Failure in Government Projects in Developing Countries: Ghana as a Case Study." PhD Thesis, Liverpool John Moores University

Heeks, R. (2015). "Corruption as a Source of E-Government Project Failure in Developing Countries: A Theoretical Assessment." International Journal of Information Management, 36(1), 105–112.

John W. Creswell, J. D. (2018). Research Design Qualitative, Quantitative and Mixed Methods Approaches. Los Angeles: SAGE.

Khan, S., & Krishnan, S. (2019). "E-Government Project Failures in Developing Countries: An Analysis through Actor-Network Theory." Information Systems Frontiers, 21(4), 887–906

Khan, S., & Krishnan, S. (2019). "E-Government Project Failures in Developing Countries: An Analysis through Actor-Network Theory." Information Systems Frontiers, 21(4), 887–906.

Nations, U. (2022). UN E-Government Survey 2022. New York: UN.

Nohzatullah Ahmadzai, e. (2015). AN EMPIRICAL EXPLORATION OF PROJECTS FAILURE IN.

Proceedings of The IRES 30th International Conference (pp. 18-23). Tokyo: IRES.

Sumitani, T. (2012). "Tankyu (Inquiry) Practice. In A new practical method of problem solving. Japan: PHP Institute.