



Beyond the Iron Triangle in Nigeria's ICT Sector: A Qualitative Study of Adaptive Project Leadership and Success

Christian Osita Godson¹, Otabil Osi-Ansah²

Department of Project Management York St. John University,
York United Kingdom

Abstract – Traditional project success measures centred on time, cost and scope are increasingly inadequate in volatile and complex environments. This study examines how project management practice and project success are conceptualised and evaluated within Nigeria's ICT sector, where rapid technological change intersects with infrastructural constraints and socio-political uncertainty. Drawing on a qualitative exploratory case study, data were generated via semi-structured interviews with fifteen senior ICT project professionals across public agencies, multinational firms, indigenous start-ups, and regulatory bodies, complemented by analysis of project artefacts including project charters, risk logs, stakeholder matrices, and post-implementation reviews. Reflexive thematic analysis reveals five interdependent dimensions shaping effective project delivery: sustained stakeholder engagement enacted as ongoing co-creation; continuous strategic and societal alignment; resilience through adaptive governance and iterative delivery practices; multidimensional success criteria incorporating legitimacy and long-term value; and contextual adaptability grounded in local cultural and institutional conditions. The study extends “beyond the iron triangle” perspectives on project success by providing empirical evidence from a Global South digital economy and reframes the project manager as an adaptive leader who integrates stakeholder governance, resilience, and contextual intelligence to support legitimate and sustainable digital innovation outcomes.

Keywords – adaptive project leadership; stakeholder engagement; project success; resilience; contextual intelligence; hybrid methodologies; Nigeria; ICT projects.

I. INTRODUCTION

Project management has long been defined by the “iron triangle” of time, cost, and scope (Barnes, 1979). While effective for stable technical environments, this model is increasingly inadequate for contemporary project settings characterised by volatility and institutional complexity (Cicmil et al., 2006; Söderlund, 2011). Projects now operate within dynamic socio-technical systems where stakeholder interests, organisational priorities, and external conditions continually evolve (Bennett & Lemoine, 2014).

Accordingly, project success has expanded beyond delivery efficiency to encompass strategic contribution, legitimacy, and sustainability (Turner & Zolin, 2012; Silvius & Schipper, 2014). This shift has redefined the project manager's role from operational controller to strategic and relational actor (Müller et al., 2018), aligning with broader developments in complexity-informed leadership and adaptive governance (Snowden & Boone, 2007; Williams, 2005).

Stakeholder-centric perspectives further challenge linear planning by conceptualising projects as socially embedded processes of value co-creation (Lalonde, 2010), where technical success may coexist with social contestation (Miraftab, 2009). Simultaneously, global disruptions and digital transformation have intensified calls for resilient and adaptive delivery models (Boin & van Eeten, 2013; Lehtinen et al., 2019), increasingly operationalised through agile and hybrid methodologies (Conforto et al., 2016).

This study examines how these dynamics manifest within Nigeria's ICT sector and develops a framework of project

success centred on stakeholder co-creation, strategic–societal alignment, resilience, multidimensional evaluation, and contextual adaptability.

Research gap and contribution

Empirical research on project success and leadership remains concentrated in Global North contexts and traditional sectors. Digitally driven projects in institutionally volatile environments remain under-theorised.

By analysing senior practitioners' experiences in Nigeria's ICT sector, this study contributes a context-sensitive framework that extends “beyond the iron triangle” theorisation of project success and advances understanding of adaptive project leadership in Global South digital economies.

Research questions

RQ1. How is project success conceptualised beyond time, cost, and scope?

RQ2. How is stakeholder engagement sustained across project lifecycles?

RQ3. What resilience practices support delivery under institutional and technological uncertainty?

RQ4. How does context shape leadership and methodological choice?

II. LITERATURE REVIEW

Traditional foundations

Project management's origins in military–industrial planning embedded time, cost, and scope as dominant success criteria (Morris, 1994; Kerzner, 2009). While



effective for bounded technical projects, this logic constrains innovation and undervalues broader project outcomes (Atkinson, 1999; Shenhar & Dvir, 2007).

Complexity and context

Contemporary projects exhibit structural and relational complexity that undermines linear planning assumptions (Cicmil et al., 2006; Winter et al., 2006). Success is increasingly defined in terms of relevance, legitimacy, and long-term value (Turner & Zolin, 2012), requiring context-sensitive and “glocal” adaptations of global standards (Thomas & Mengel, 2008; Müller, 2015).

Stakeholder co-creation

Stakeholder theory reframes projects as arenas of negotiated value creation (Freeman, 1984). Inclusive governance enhances legitimacy (Miraftab, 2009; Alnhari & Qureshi, 2024), while salience-based prioritisation (Mitchell et al., 1997) must be balanced with critical awareness of power asymmetries (Eslerod & Jepsen, 2013).

Strategic alignment

Projects derive value from alignment with organisational and societal objectives (Turner, 2009). Fragmented governance risks strategic drift (Pellegrinelli, 2011), positioning project managers as boundary-spanning integrators (Martinsuo & Lehtonen, 2007; Aubry et al., 2010). ESG considerations further expand alignment criteria (Porter & Kramer, 2011).

Resilience

Resilience emphasises adaptive capacity rather than risk avoidance (Boin & van Eeten, 2013). Agile practices support iterative learning (Highsmith, 2002), while psychological safety enables organisational adaptation (Edmondson, 1999). However, resilience remains unevenly distributed and normatively contested (Davoudi et al., 2012).

III. METHODOLOGY

This study adopts a constructivist–interpretivist paradigm (Lincoln & Guba, 1985; Schwandt, 2000) and a qualitative exploratory case study design (Yin, 2018).

Data were generated through semi-structured interviews with fifteen senior ICT project professionals across public, private, and regulatory organisations in Lagos, Abuja, and Port Harcourt, complemented by analysis of project artefacts. Reflexive thematic analysis was conducted using NVivo 14 following Braun and Clarke’s (2006, 2021) framework. Credibility was supported through triangulation and peer debriefing. Ethical approval, informed consent, and anonymisation were maintained throughout.

IV. FINDINGS

The analysis indicates that project management practice in Nigeria’s ICT sector is being reshaped by volatility,

institutional uncertainty, and rapid technological change. Five interdependent dimensions characterised effective delivery: sustained stakeholder engagement, continuous strategic alignment, resilience through adaptive capacity, multidimensional success evaluation, and contextual adaptability.

Stakeholder engagement as ongoing co-creation

Stakeholder engagement was consistently described as a continuous governance process rather than episodic consultation. Participants emphasised engaging end users, regulators, community representatives, and cross-sector partners across the lifecycle to anticipate constraints and co-produce culturally and operationally viable solutions (P4). However, engagement was frequently mediated by power asymmetries, with participants noting that marginalised stakeholders may remain underrepresented despite formal mechanisms (P9). Effective engagement therefore combined formal prioritisation tools (e.g., salience-based approaches) with relational capabilities such as political sensitivity and emotional intelligence, positioning stakeholder work as strategic co-creation rather than transactional communication.

Strategic alignment as a dynamic and interpretive process

Participants reported persistent tension between immediate delivery imperatives and alignment with broader organisational and national ICT development priorities, including digital inclusion, public-sector reform, and economic diversification. Projects were described as vulnerable to “strategic drift” when treated as isolated technical exercises. To mitigate this, organisations increasingly used feedback loops and adaptive governance to recalibrate objectives as policies and stakeholder expectations shifted. ESG concerns (especially data protection, digital equity, and energy efficiency) were frequently cited as emergent alignment criteria, indicating that alignment was experienced as ongoing interpretation rather than a one-time planning event.

Resilience through adaptive capacity

Resilience emerged as a core delivery capability in a context shaped by regulatory changes, infrastructural instability, and market volatility. Participants reported increased use of iterative delivery cycles, modular design, and flexible governance arrangements to absorb disruption and maintain momentum. Psychological safety was repeatedly identified as enabling adaptation: teams that could surface problems, experiment, and learn from failure were better positioned to respond to shocks, whereas fear of speaking up produced “silent collapse”. Resilience was thus understood as both structural (methods and governance) and cultural (learning orientation and trust).

Success redefined beyond time–cost–scope

Participants viewed the iron triangle as necessary but insufficient for evaluating outcomes. Success was increasingly assessed through long-term usability, institutional trust, stakeholder satisfaction, and broader



social impact. As one participant noted, delivery efficiency was undermined when solutions were rejected, contested, or politically sensitive. Several organisations had expanded post-project evaluation to include user adoption, regulatory compliance, and reputational effects, while ethical issues (particularly privacy and inclusion) were treated as performance criteria rather than externalities.

Contextual adaptability and local translation of methods

A consistent theme was the need to localise project management approaches rather than “copy-paste” external frameworks. Cultural norms, informal power structures, and regulatory ambiguity required contextual intelligence in communication, negotiation, and risk interpretation. Hybrid approaches (combining predictive planning with agile execution) were commonly used to balance global standards with local operational constraints, suggesting that method selection was treated as situational and pragmatic rather than doctrinal.

V. DISCUSSION

Collectively, the findings show a clear shift from technocratic, control-oriented project management towards socially embedded and adaptive practice in Nigeria’s ICT sector. Stakeholder engagement functioned as continuous co-creation and negotiation, extending stakeholder theory by demonstrating how influence and legitimacy are actively produced through sustained governance under conditions of asymmetrical power. Strategic alignment likewise operated dynamically: project objectives were repeatedly recalibrated in response to shifting policy directions and stakeholder expectations, linking alignment to interpretive work rather than static planning.

Resilience was not framed as risk minimisation but as adaptive capacity embedded in both delivery systems and team culture. Iterative governance and modular design supported operational flexibility, while psychological safety enabled learning and timely problem escalation. These findings reinforce the coupling of agility and resilience in turbulent digital environments. In parallel, project success was defined through multidimensional criteria that incorporated legitimacy, adoption, and ethical compliance, challenging dominant evaluative models centred on time–cost–scope. Finally, contextual adaptability shaped both leadership behaviour and methodological choice, with hybrid approaches reflecting “glocal” translation of global standards into locally workable practice.

Overall, effectiveness in this context was less a function of methodological purity than of the capability to integrate stakeholder governance, strategic–societal alignment, resilience, broader success criteria, and contextual intelligence into coherent decision-making.

Theoretical contributions

This study makes four contributions to project management scholarship.

First, it extends “beyond the iron triangle” research by empirically showing how multidimensional success criteria are operationalised in a Global South ICT context characterised by institutional volatility and infrastructural constraints. Legitimacy, adoption, and long-term value functioned as central evaluative logics, not secondary outcomes.

Second, it advances stakeholder perspectives by evidencing engagement as sustained co-creation rather than episodic consultation. Stakeholder relations evolved across the lifecycle and required continuous sense-making, negotiation, and governance, particularly where power asymmetries shaped voice and influence.

Third, it strengthens resilience theorisation by distinguishing resilience-as-capability (learning orientation, psychological safety, adaptive leadership) from resilience-as-design (flexible governance, iterative delivery, modular architectures). This distinction clarifies how resilience differs from conventional risk management and becomes a strategic property of projects under persistent disruption.

Fourth, it theorises contextual intelligence as a core leadership competence mediating methodology selection and adaptation. By linking cultural fluency and institutional navigation to workable hybridisation of methods, the study offers a basis for more context-sensitive models of project practice.

Limitations and future research

This study has limitations. The qualitative, sector-specific design limits statistical generalisability, though transferability is supported through contextual detail. The sample is concentrated in major urban ICT hubs, potentially underrepresenting peripheral contexts. Participants were senior professionals, which may privilege managerial perspectives over frontline staff and end users. Social desirability bias cannot be fully excluded despite confidentiality safeguards.

Future research could employ longitudinal designs to examine how adaptive practices evolve across project cycles, extend comparative analysis to other African ICT ecosystems, and test relationships among stakeholder co-creation, resilience, contextual intelligence, and project outcomes using mixed methods.

VI. CONCLUSION

This study examined how project management is being reconfigured in Nigeria’s ICT sector under conditions of complexity, uncertainty, and heightened societal expectations. The findings indicate that time–cost–scope metrics remain relevant but are insufficient for capturing



performance in digitally driven, institutionally volatile environments. Effective delivery depended on sustained stakeholder co-creation, continuous strategic and societal alignment, resilience through adaptive capacity, multidimensional success evaluation, and contextual intelligence enabling local translation of methods. By grounding these dynamics in a Global South ICT setting, the study contributes to more inclusive theorisation of project success and offers a foundation for strengthening both scholarship and practice in complex digital ecosystems.

REFERENCES

1. Alnhari, A., & Qureshi, M. R. J. (2024). Stakeholder engagement and co-creation in complex project environments: A systems perspective. *International Journal of Project Management*, 42(1), 45–60. <https://doi.org/10.1016/j.ijproman.2023.12.005>
2. Atkinson, R. (1999). Project management: Cost, time and quality, two best guesses and a phenomenon—It's time to accept other success criteria. *International Journal of Project Management*, 17(6), 337–342. [https://doi.org/10.1016/S0263-7863\(98\)00069-6](https://doi.org/10.1016/S0263-7863(98)00069-6)
3. Aubry, M., Müller, R., Hobbs, J. B., & Blomquist, T. (2010). Project management offices in transition. *International Journal of Project Management*, 28(8), 766–778.
4. Barnes, M. (1979). Construction project management. *International Journal of Project Management*, 1(1), 17–19.
5. Bennett, N., & Lemoine, G. J. (2014). What VUCA really means for you. *Harvard Business Review*, 92(1/2), 27–42.
6. Boin, A., & van Eeten, M. J. G. (2013). The resilient organization. *Public Management Review*, 15(3), 429–445. <https://doi.org/10.1080/14719037.2013.769856>
7. Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>
8. Braun, V., & Clarke, V. (2021). Thematic analysis: A practical guide. SAGE.
9. Cicmil, S., & Hodgson, D. (2006). Making projects critical: An introduction. In S. Cicmil & D. Hodgson (Eds.), *Making projects critical* (pp. 1–25). Palgrave Macmillan.
10. Cicmil, S., Williams, T., Thomas, J., & Hodgson, D. (2006). Rethinking project management: Researching the actuality of projects. *International Journal of Project Management*, 24(8), 675–686. <https://doi.org/10.1016/j.ijproman.2006.08.006>
11. Conforto, E. C., Salum, F., Amaral, D. C., da Silva, S. L., & de Almeida, L. F. M. (2016). Can agile project management be adopted by industries other than software development? *Project Management Journal*, 47(3), 21–34. <https://doi.org/10.1177/875697281604700303>
12. Davoudi, S., Shaw, K., Haider, L. J., Quinlan, A., Peterson, G. D., Wilkinson, C., & Porter, L. (2012). Resilience: A bridging concept or a dead end? *Planning Theory & Practice*, 13(2), 299–333. <https://doi.org/10.1080/14649357.2012.677124>
13. Edmondson, A. (1999). Psychological safety and learning behavior in work teams. *Administrative Science Quarterly*, 44(2), 350–383.
14. Eskerod, P., & Jepsen, A. L. (2013). *Project stakeholder management*. Gower.
15. Freeman, R. E. (1984). *Strategic management: A stakeholder approach*. Pitman.
16. Highsmith, J. (2002). *Agile software development ecosystems*. Addison-Wesley.
17. Kerzner, H. (2009). *Project management: A systems approach to planning, scheduling and controlling* (10th ed.). Wiley.
18. Lalonde, P.-L. (2010). Stakeholder management in project contexts: A structured literature review. *International Journal of Managing Projects in Business*, 3(2), 246–262.
19. Lehtinen, J., Aaltonen, K., & Rajala, R. (2019). Stakeholder management in complex product systems. *Industrial Marketing Management*, 83, 107–123.
20. Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. SAGE.
21. Martinsuo, M., & Lehtonen, P. (2007). Program and its initiation in practice. *International Journal of Project Management*, 25(4), 337–349.
22. Mitchell, R. K., Agle, B. R., & Wood, D. J. (1997). Toward a theory of stakeholder identification and salience. *Academy of Management Review*, 22(4), 853–886.
23. Miraftab, F. (2009). Insurgent planning: Situating radical planning in the global south. *Planning Theory*, 8(1), 32–50.
24. Morris, P. W. G. (1994). *The management of projects*. Thomas Telford.
25. Müller, R. (2015). *Project governance*. Routledge.
26. Müller, R., Drouin, N., & Sankaran, S. (2018). *Organizational project management: Theory and implementation*. Edward Elgar.
27. Pellegrinelli, S. (2011). What's in a name: Project or programme? *International Journal of Project Management*, 29(2), 232–240.
28. Porter, M. E., & Kramer, M. R. (2011). Creating shared value. *Harvard Business Review*, 89(1/2), 62–77.
29. Schwandt, T. A. (2000). Three epistemological stances for qualitative inquiry. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (pp. 189–214). SAGE.



30. Shenhar, A. J., & Dvir, D. (2007). Reinventing project management. Harvard Business School Press.
31. Silviu, A. J. G., & Schipper, R. (2014). Sustainability in project management. *Social Business*, 4(1), 63–96.
32. Snowden, D. J., & Boone, M. E. (2007). A leader's framework for decision making. *Harvard Business Review*, 85(11), 68–76.
33. Söderlund, J. (2011). Pluralism in project management: Navigating the crossroads of specialization and fragmentation. *International Journal of Management Reviews*, 13(2), 153–176.
34. Thomas, J., & Mengel, T. (2008). Preparing project managers to deal with complexity. *International Journal of Project Management*, 26(3), 304–315.
35. Turner, R. (2009). *The handbook of project-based management* (3rd ed.). McGraw-Hill.
36. Turner, R., & Zolin, R. (2012). Forecasting success on large projects. *Project Management Journal*, 43(5), 87–99.
37. Williams, T. (2005). Assessing and moving on from the dominant project management discourse in the light of project overruns. *IEEE Transactions on Engineering Management*, 52(4), 497–508.
38. Winter, M., Smith, C., Morris, P., & Cicmil, S. (2006). Directions for future research in project management. *International Journal of Project Management*, 24(8), 638–649.
39. Yin, R. K. (2018). *Case study research and applications* (6th ed.). SAGE.