

Stakeholder Perspectives & Alignment Dynamics regarding Value for Money Assessment for Public-Private Partnership Infrastructure Projects

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Abstract

Public-Private Partnerships (PPPs) have become a dominant vehicle for infrastructure delivery worldwide, yet achieving Value for Money (VfM) in such arrangements remains contested terrain, largely because the stakeholders involved hold fundamentally different conceptions of what value means. This study considers stakeholder alignment dynamics in VfM assessment across the full lifecycle of PPP infrastructure projects, addressing a significant gap in understanding how diverse stakeholder perspectives converge or diverge at each phase of project development. Employing a convergent parallel mixed-methods design, the research analysed quantitative survey data collected from 307 stakeholders comprising public sector representatives, private developers, financiers, and community leaders alongside qualitative information derived from 15 semi-structured interviews with senior PPP practitioners. Quantitative data were examined using the Relative Importance Index (RII) and Spearman's rank correlation, while interview transcripts were subjected to Braun and Clarke's (2006) six-phase thematic analysis framework. The findings disclose distinct priority structures across stakeholder categories: public sector entities foreground strategic policy alignment and long-term socioeconomic benefits (RII = 0.908 and 0.852, respectively), while private partners centre on profitability and risk mitigation (RII = 0.898 and 0.85, respectively). Community stakeholders assign greatest importance to service quality and affordability (RII = 0.920 and 0.900), and financiers emphasise project bankability above all other criteria (RII = 0.910). Despite these contrasting priorities, Spearman correlation analysis reveals a notably strong overall alignment across lifecycle stages, with average correlation coefficients exceeding 0.94. The procurement and contract design stage, however, exhibits the lowest inter-stakeholder convergence of any project phase, with

correlation coefficients ranging from 0.941 to 0.953, reflecting the adversarial dynamics and information asymmetries that characterise competitive procurement. The research concludes with an evidence-based framework of five strategies for enhancing stakeholder alignment: early and continuous engagement protocols, transparent and balanced procurement processes, multi-dimensional VfM assessment frameworks, adaptive contract management, and systematic capacity building. These findings deliver policymakers and PPP practitioners concrete, empirically grounded tools for developing more inclusive and impactful VfM assessment mechanisms.

Keywords: Value for Money; Public-Private Partnership; Stakeholder Engagement; Infrastructure Projects; Project Lifecycle; Sustainability Assessment

I. Introduction

Public-Private Partnerships have become one of the most widely adopted procurement mechanisms for infrastructure delivery across both developed and developing economies, offering governments a means to address persistent infrastructure deficits while operating within increasingly constrained fiscal environments (Hodge & Greve, 2017; Cui et al., 2018). The scale of unmet infrastructure need is staggering: the World Bank estimates that developing countries alone require approximately one trillion US dollars annually in infrastructure investment, and PPPs are expected to play an ever-greater role in closing this gap (World Bank, 2024; Rozenberg & Fay, 2019). Against this backdrop, the concept of Value for Money has assumed central importance as the analytical and normative standard by which PPP arrangements are justified, evaluated, and ultimately held accountable to the public interest.

VfM assessment serves as the cornerstone of PPP project appraisal, providing the evidential

basis for determining whether partnering with the private sector delivers superior outcomes compared to conventional public procurement (Zhao, 2022; Grimsey & Lewis, 2004). Yet the concept of VfM is far from straightforward. It is irreducibly contested, shaped by the diverse interests and value systems of the multiple stakeholders who participate in, are affected by, or exercise oversight over PPP infrastructure projects. Public sector agencies approach VfM through the lens of policy objectives and public welfare; private partners evaluate it primarily in terms of profitability and risk-adjusted returns; financiers assess it through the lens of bankability and debt serviceability; and community stakeholders judge it by the quality, affordability, and accessibility of the services that projects ultimately deliver (Osei-Kyei & Chan, 2015; Anderson & Ratiu, 2019).

The complexity introduced by this multiplicity of perspectives is compounded by the fact that PPP projects unfold across extended lifecycles spanning planning and initiation, procurement and contract design, construction, operation and maintenance, and eventual asset transfer, during which stakeholder priorities shift, power dynamics evolve, and the salience of different value dimensions changes (Yuan et al., 2018; Hueskes et al., 2017). Despite extensive scholarship on PPP success factors, risk management, and governance, the dynamics of stakeholder alignment in VfM assessment across these lifecycle stages remain insufficiently understood. Misalignment among stakeholders has been identified as a significant driver of PPP project failure, leading to conflicts, cost overruns, delays, and, ultimately, the denial of vital infrastructure services to populations that depend on them (Busco et al., 2024; United Nations Development Programme, 2024). The OECD (2017) has emphasised that stakeholder consensus is a prerequisite for PPP success, yet systematic guidance on evaluating and improving alignment across project lifecycles remains limited.

This study tackles these gaps by pursuing three interconnected objectives: first, to characterise how stakeholder priorities in VfM assessment differ across key stakeholder groups; second, to trace how these priorities evolve across the stages of the PPP project lifecycle; and third, to identify evidence-based strategies capable of enhancing stakeholder alignment and thereby improving project outcomes. By generating empirical evidence on stakeholder alignment dynamics, the research contributes to the development of more encompassing and practically effective VfM assessment frameworks that can accommodate diverse stakeholder perspectives

without sacrificing analytical rigour or project viability.

II. Literature Review

2.1 *The Evolution of Value for Money in PPP Infrastructure Projects*

The intellectual history of VfM assessment in PPP projects charts a trajectory from narrow financial accountancy to multidimensional evaluation of public benefit. Early PPP frameworks, prevalent through the 1990s and into the early 2000s, anchored VfM assessment almost exclusively in quantitative financial analysis: cost-benefit analysis, net present value calculations, and comparisons against a Public Sector Comparator (PSC) a hypothetical estimate of what equivalent public procurement would cost (Grimsey & Lewis, 2004; Morillos & Amekudzi, 2008; Liu et al., 2015). These approaches enabled governments to construct a fiscal justification for private sector involvement, primarily on the grounds of expected cost savings and risk transfer.

However, this financial-centric paradigm attracted sustained criticism for its methodological limitations and normative myopia. Scholars noted the PSC's sensitivity to discount rate assumptions, the difficulty of accurately quantifying risk transfer, and the tendency of those frameworks to obscure rather than illuminate the full range of value that infrastructure projects generate (Hodge & Greve, 2007; Budayan et al., 2025). Grimsey and Lewis (2004) noted that a mechanistic focus on cost savings could produce procurement decisions that were financially defensible but socially suboptimal. Flyvbjerg et al. (2002) documented systematic patterns of cost underestimation in public infrastructure projects, casting doubt on the reliability of the financial projections on which VfM comparisons depend.

Contemporary VfM frameworks have responded to these critiques by accepting a more holistic conception of value. The UK Treasury (2018) defines VfM as the optimum combination of whole-life costs and quality to meet the user's requirement, explicitly acknowledging qualitative dimensions alongside financial efficiency. The European PPP Expertise Centre (EPEC, 2015) advocates for assessments that integrate financial viability with social and environmental sustainability. Liu et al. (2018) identify five key dimensions of VfM in PPP projects to include economic efficiency, service effectiveness, risk management, innovation capacity, and sustainability, while Song et al. (2018) emphasise the importance of lifecycle costing and long-term value creation over the truncated time horizons that

short-term cost comparisons imply. Almarri (2023) has extended this framework to the context of smart city PPPs, demonstrating how VfM factors interact in technology-intensive infrastructure environments.

Despite these conceptual advances, significant difficulties remain in operationalising comprehensive VfM assessments. The quantification of intangible benefits such as community well-being, environmental preservation, social equity, and democratic accountability remains technically and politically contested (Sansiviero et al., 2025; Hueskes et al., 2017). Zhao et al. (2023) argue that VfM assessment frameworks have to be understood as context-dependent procurement tools that reflect not only technical analysis but also the institutional and political environments in which they are deployed. This observation stresses the importance of understanding how different stakeholders, operating within different institutional contexts, construct their assessments of value.

2.2 Stakeholder Theory and Its Application to PPP Projects

Freeman's (1984) foundational articulation of stakeholder theory that organisations must consider the stakes of all parties affected by their decisions, not merely their shareholders, provides the conceptual anchor to understand the multi-actor dynamics of PPP infrastructure projects. In the PPP context, the stakeholder landscape is both broad and heterogeneous, encompassing government agencies, private developers, construction contractors, financiers, service users, community groups, civil society organisations, and regulatory bodies (Akintoye et al., 2003; Best et al., 2019). These actors differ not only in their interests and objectives but also in their power, legitimacy, and urgency. The three dimensions of stakeholder salience identified by Mitchell et al. (1997) profoundly shape the dynamics of VfM assessment.

Osei-Kyei and Chan (2015) identify stakeholder management as one of the most critical success factors for PPP projects, finding that deliberate engagement strategies that operate during the project lifecycle rather than episodically at predetermined consultation points are associated with significantly better project outcomes. Yang et al. (2016) corroborate this finding, demonstrating that stakeholder relationships characterised by trust, candid communication, and joint problem-solving contribute to improved project performance and reduced disputes. These conclusions align with what Koppenjan and Enserink (2009) describe as the shift from a 'principal-agent' model of PPP governance, in which the public sector acts as a distant principal contracting with a private agent, to a 'network

governance' model that acknowledges the interdependence of multiple actors across project lifecycles.

Nonetheless, stakeholder engagement in PPP projects confronts structural challenges that are difficult to resolve through good intentions alone. Power imbalances between private sector partners and community stakeholders, between financiers and government agencies, between technically sophisticated project developers and less-resourced civil society organisations frequently result in the domination of certain interests and the marginalisation of others (Busco et al., 2024; Koppenjan&Enserink, 2009). El-Gohary et al. (2006) observe that divergent stakeholder expectations create inherent tensions that, if unaddressed, can generate conflict and project dysfunction. Jefferies et al. (2002) further note that different stakeholders operate under incommensurable time horizons, financiers seeking predictable medium-term returns, private operators managing decade-long performance contracts, and communities experiencing infrastructure services across generational timescales, complicating any simple notion of shared interest.

2.3 Alignment Dynamics in VfM Assessment

Alignment dynamics, as conceptualised by Ke et al. (2010), refer to the degree of convergence or divergence among stakeholder priorities during processes of collaborative assessment and decision-making in PPP projects. The achievement of alignment is considered important not merely as a process virtue but as a substantive predictor of project success: research consistently finds that stakeholder alignment reduces conflicts, improves decision quality, and contributes to better project outcomes (Javed et al., 2013; Carbonara & Pellegrino, 2018). Yet alignment is analytically challenging to study because it cannot be assumed to be static; it evolves as projects move through their lifecycle, as stakeholder relationships develop or deteriorate, and as the specific decisions that stakeholders must make change in character.

Several bodies of research illuminate particular facets of this alignment challenge. Ke et al. (2010) investigate alignment between government and private sector objectives, finding that clear contractual mechanisms and well-designed risk-sharing arrangements are the most effective facilitators of convergence. Osei-Kyei and Chan (2017) focus on alignment between project outcomes and broader stakeholder expectations, emphasising the role of transparent communication and participatory decision-making in maintaining congruence over time. Yuan et al. (2018) examine

how alignment dynamics shift as projects transition from planning through construction to operations, finding that the nature of alignment challenges and the strategies best suited to addressing them differ substantially across these phases.

Procurement and contract design have been identified in recent scholarship as a particularly acute site of alignment challenge. Aben et al. (2021) demonstrate that information asymmetries between public and private parties during procurement, which are, in a sense, structurally inherent to competitive bidding, create governance challenges that neither purely contractual nor purely relational mechanisms can fully resolve. This insight is especially relevant to VfM assessment, since the procurement stage is where the financial and contractual structures that will govern a project for decades are negotiated and finalised, and where different stakeholders' interests are most directly in tension.

Despite these contributions, existing research leaves important gaps. Most studies focus on dyadic or bilateral relationships, particularly public-private alignment, rather than the complex multi-stakeholder dynamics of real-world PPP projects, in which four, five, or more distinct stakeholder groups must simultaneously navigate their differences (Hueskes et al., 2017). Quantitative empirical evidence on how multiple stakeholder perspectives interact across the full PPP lifecycle is particularly sparse, and practical evidence-based strategies for enhancing alignment at the specific lifecycle stages where divergence is most pronounced remain underdeveloped. This study is designed to address these gaps.

III. Research Methodology

3.1 Research Design and Philosophical Underpinning

This study adopts a pragmatic mixed-methods research design, integrating quantitative and qualitative approaches in a convergent parallel structure (Creswell & Plano Clark, 2017). In this design, quantitative and qualitative data are collected concurrently, analysed independently, and subsequently integrated to yield a more complete understanding than either method could achieve alone. The pragmatic philosophical orientation underpinning this design is particularly appropriate for research into stakeholder alignment dynamics in PPP projects, since these are complex social phenomena that resist reduction to either purely numerical or purely interpretive accounts (Ayegba, 2025; Mubanga et al., 2025). The quantitative strand provides statistical evidence on stakeholder priorities and alignment patterns at a level of

generalisability appropriate for policy analysis; the qualitative strand offers the contextual depth and explicit understanding of underlying mechanisms that questionnaire data cannot supply. Triangulation of findings across both strands strengthens the validity and confirmability of conclusions (Noyes et al., 2019).

3.2 Data Collection

3.2.1 Quantitative Data Collection

A structured questionnaire was developed through a multi-stage process that combined an extensive literature review with preliminary consultations with five senior PPP experts. The instrument comprised three principal sections: respondent demographic information and PPP project experience; stakeholder perspectives on VfM assessment criteria; and VfM assessment priorities across the five stages of the PPP project lifecycle. All criteria were rated on a five-point Likert scale, anchored at 1 (not important) and 5 (extremely important).

The target population consisted of stakeholders with direct involvement in PPP infrastructure projects in Nigeria, with particular attention to regions characterised by relatively mature PPP markets. Stratified purposive sampling was employed to ensure proportionate representation across four stakeholder categories (Etikan et al., 2016): public sector representatives ($n = 89$, 29.0%), comprising officials from infrastructure ministries, dedicated PPP units, and regulatory agencies; private sector partners ($n = 102$, 33.2%), drawn from construction firms, project developers, and operational companies; financiers and investors ($n = 68$, 22.1%), including representatives of commercial banks, development finance institutions, and investment funds; and community stakeholders ($n = 48$, 15.6%), encompassing civil society representatives, user associations, and local government officials.

A total of 450 questionnaires were distributed through online platforms, email invitations, and attendance at PPP conferences and professional workshops during the period January to August 2025. Following the exclusion of incomplete responses, 307 valid questionnaires were retained, yielding a response rate of 68.2%, which falls well within the range considered acceptable and indeed excellent for academic survey research (Menachemi, 2011).

3.2.2 Qualitative Data Collection

Semi-structured interviews were conducted with 15 key informants selected through purposive sampling based on at least 10 years' direct

experience in PPP project development, financing, or oversight. The interview sample was constituted to reflect the survey's stakeholder typology: four public sector officials, four private sector executives, three financiers, and four civil society representatives. Individual interviews lasted 25-30 minutes, were audio-recorded with participants' informed consent, and were subsequently transcribed verbatim. The interview protocol explored four thematic areas: participants' personal experiences with VfM assessment processes; their perceptions of stakeholder alignment and divergence; the specific challenges encountered in building consensus; and the strategies they considered most effective for enhancing alignment. The semi-structured format facilitated consistency across interviews while affording the flexibility to probe emerging themes and pursue unanticipated lines of inquiry (Kallio et al., 2016).

3.3 Data Analysis

Two complementary analytical techniques were applied to the quantitative data. The Relative Importance Index (RII) was calculated to rank VfM assessment criteria and stakeholder priorities, using the formula $RII = \sum w / (A \times N)$, where w denotes the weight assigned by each respondent on the one-to-five scale, A represents the maximum possible weight (five), and N is the total number of respondents (Aibinu & Al-Lawati, 2010). RII values range from 0 to 1, with higher values indicating greater perceived importance. Spearman rank correlation analysis was subsequently employed to examine alignment patterns among stakeholder perspectives and across project lifecycle stages, a non-parametric technique appropriate for ordinal Likert data (Hauke and Kossowski, 2011). Correlation coefficients were interpreted using conventional benchmarks: 0.80 to 1.00 indicates very strong alignment, 0.60 to 0.79 strong alignment, 0.40 to 0.59 moderate alignment, and so on. All quantitative analyses were conducted using IBM SPSS Version 26.0.

Interview transcripts were analysed using thematic analysis following the six-phase framework developed by Braun & Clarke (2006): familiarisation with data, generation of initial codes, searching for themes, reviewing candidate themes, defining and naming finalised themes, and

producing the report. NVivo 12 software facilitated the systematic management of codes and themes. To establish inter-coder reliability, two members of the research team independently coded a randomly selected subset of transcripts; Cohen's kappa coefficient of 0.82 indicated substantial agreement (McHugh, 2012), providing confidence in the rigour of the thematic coding process.

3.4 Validity, Reliability, and Ethical Considerations

Multiple strategies were deployed to strengthen research quality. Construct validity was established through an extensive literature review that informed instrument design and expert validation by five PPP specialists prior to data collection. Content validity was further ensured through pilot testing with 20 respondents, whose feedback informed minor refinements to item wording. Internal consistency reliability was confirmed by Cronbach's alphas exceeding 0.70 for all constructs, a threshold conventionally regarded as satisfactory for social science research. Triangulation of quantitative and qualitative findings enhanced the credibility and confirmability of the overall conclusions (Creswell & Plano Clark, 2017).

Ethical approval was obtained from the institutional review board prior to data collection. All participants provided written informed consent, were assured of confidentiality and anonymity in the reporting of findings, and were explicitly informed of their right to withdraw at any point without consequence. Research data were stored securely and accessed exclusively by members of the core research team.

IV. Results and Discussion

4.1 Stakeholder Perspectives on VfM Assessment Criteria

Analysis of the survey data in Table 1 reveals sharply distinct priority structures across the four stakeholder categories, patterns that reflect not idiosyncratic individual preferences but the systematic differences in institutional role, organisational mandate, and accountability relationships that distinguish these groups from one another.

Table 1: Stakeholder Perspectives on VfM Assessment in PPP Infrastructure Projects

Code	Stakeholder Perspective	VfM Priorities	RII	Rank
PSP	Public Sector Perspective			
PSP1		Alignment with policy objectives	0.908	1

PSP4	Long-term socioeconomic benefits	0.852	2
PSP2	Cost savings compared to traditional procurement	0.844	3
PSP3	Risk transfer to the private sector	0.834	4
PRSP	Private Sector Perspective		
PRSP1	Profitability and return on investment	0.898	1
PRSP2	Clear risk allocation and mitigation strategies	0.856	2
PRSP4	Long-term contractual stability	0.836	3
PRSP3	Opportunities for innovation	0.816	4
EUP	End-Users and Community Perspective		
EUP1	Quality of service delivery	0.920	1
EUP2	Affordability and accessibility of services	0.900	2
EUP4	Environmental and social impact	0.822	3
EUP3	Job creation and local economic benefits	0.818	4
FIP	Financier and Investor Perspective		
FIP1	Project bankability and financial viability	0.910	1
FIP2	Risk-adjusted returns	0.848	2
FIP3	Clear regulatory framework and government support	0.822	3
FIP4	Exit options and asset liquidity	0.800	4

4.1.1 Public Sector Priorities

Public sector respondents assigned the highest importance to strategic alignment with policy objectives (RII = 0.908), a finding that corroborates Liu et al.'s (2018) argument that PPP projects must be evaluated against the full breadth of public policy goals rather than reduced to financial comparators. As one senior infrastructure official articulated during the interview: 'For us, VfM is not simply about saving money. It is about achieving policy outcomes, whether that means reducing carbon emissions, creating employment, or improving regional connectivity.' Long-term socioeconomic benefits ranked second among public sector priorities (RII = 0.852), reflecting the enduring public sector obligation to maximise social welfare and contribute to sustainable development trajectories (Hueskes et al., 2017; Hodge & Greve, 2017).

Notably, cost savings relative to traditional procurement, the criterion that dominated early VfM frameworks, ranked third among public sector respondents (RII = 0.844), while risk transfer to the private sector ranked fourth (RII = 0.834). This ordering suggests a significant evolution in public-sector conceptions of VfM: financial efficiency

remains important, but it has been repositioned as one consideration among several rather than the primary justification for private-sector involvement. This important view aligns with the critique developed by Hodge & Greve (2007), who argued that the early emphasis on PSC-based cost comparisons produced a distorted picture of the genuine value generated by PPP arrangements.

4.1.2 Private Sector Priorities

Private sector respondents exhibited the priority ordering that commercial logic would anticipate: profitability and return on investment ranked first (RII = 0.898), reflecting fiduciary obligations to shareholders and the fundamental condition that PPPs must offer private partners commercially viable returns if they are to attract participation at all (Ke et al., 2010). However, the high ranking assigned to clear risk allocation and mitigation strategies (RII = 0.856) signals a more sophisticated understanding than simple profit maximisation: private partners recognise that sustainable returns depend on well-structured contracts that distribute risks to the parties best positioned to manage them, rather than leaving

contractors exposed to uncontrollable project hazards (Carbonara & Pellegrino, 2018).

Long-term contractual stability ranked third (RII = 0.836), a priority that interviewees contextualised in relation to the particular exposure of long-duration PPP contracts to political risk, which commonly span 20 to 30 years. One private sector executive observed: 'Political risk is our most serious concern. We need confidence that governments will honour their commitments across electoral cycles and changes in administration.' This concern is well documented in the PPP literature; Cui et al. (2018) identify government stability and policy continuity as critical determinants of the private sector's willingness to participate in infrastructure PPPs. The comparatively lower ranking of innovation opportunities (RII = 0.816) may reflect the tension between the entrepreneurial risk appetite that genuine innovation requires and the inherently risk-averse character of long-duration infrastructure contracts, where predictability is prized over novelty.

4.1.3 Community Stakeholder Priorities

Community stakeholders demonstrated the most distinctive priority profile of any group, assigning overwhelming importance to service quality (RII = 0.920) and affordability and accessibility (RII = 0.900). These priorities reflect, in the most direct sense, the reason for infrastructure projects: the delivery of services that meet human needs effectively and equitably (Osei-Kyei & Chan, 2017). Interview data amplified this statistical finding with characteristic directness. A civil society representative stated: 'Communities do not engage with complex financial models. They care about whether services are reliable, whether they can afford them, and whether they actually address their needs.'

Environmental and social impacts ranked third among community priorities (RII = 0.822), reflecting growing public awareness of the potential for large infrastructure projects to generate significant negative externalities if poorly managed, a concern that Song et al. (2018) connect to the broader global trend toward sustainability integration in infrastructure governance. Job creation and local economic benefits ranked fourth (RII = 0.818), indicating that communities are not indifferent to the economic opportunities that infrastructure projects can generate but that they subordinate these considerations to the more immediate concerns of service quality and

affordability. The overall pattern is consistent with Hueskes et al.'s (2017) argument for more inclusive VfM frameworks that give systematic attention to distributional effects and social equity dimensions of infrastructure delivery.

4.1.4 Financier and Investor Priorities

Financiers, as the providers of the capital that makes PPP projects possible, necessarily approach VfM through the lens of project bankability, the aggregate of financial, legal, contractual, and regulatory characteristics that determine whether a project is capable of attracting and sustaining debt financing. Project bankability and financial viability accordingly ranked first among financier priorities (RII = 0.910), consistent with the primacy of debt serviceability in project finance analysis (Zhang, 2005). Risk-adjusted returns ranked second (RII = 0.848), reflecting the sophisticated analytical frameworks that institutional financiers apply to evaluate infrastructure investment opportunities, which consider not only expected returns but also their variability and downside risk.

The third-ranked priority, clear regulatory frameworks and government support (RII = 0.822), highlights financiers' sensitivity to the institutional quality of the environments in which PPP projects are embedded. Stable, transparent, and credible regulatory frameworks reduce policy uncertainty and sovereign risk, directly enhancing the bankability of projects (Cui et al., 2018). Exit options and asset liquidity ranked fourth (RII = 0.800), reflecting the portfolio management requirements of institutional investors, particularly those operating under regulatory capital constraints, for whom the ability to divest infrastructure assets in a liquid secondary market represents an important risk management tool.

4.2 VfM Assessment Priorities Across Project Lifecycle Stages

Beyond the between-group differences examined above, the survey data in Table 2 reveal substantial variation in VfM assessment priorities across project lifecycle stages. This evolution reflects fundamental shifts in what is at stake for stakeholders at each phase, from the strategic and analytical questions that dominate project conception, through the contractual and financial negotiations of procurement, to the operational performance challenges of the delivery phase.

Table 2: VfM Assessment Criteria Across PPP Project Lifecycle Stages

Code	VfM Priorities at lifecycle Stages	RII	Rank
PIS	Planning & Initiation Stage		
PIS1	Strategic alignment with public objectives	0.857	1
PIS2	Accuracy of demand forecasts	0.845	2
PIS3	Potential for innovation in project design	0.811	3
PIS4	Robustness of the business case	0.794	4
PCDS	Procurement & Contract Design Stage		
PCDS2	Transparency of the procurement process	0.899	1
PCDS1	Competitiveness of bidding process	0.851	2
PCDS3	Effectiveness of risk allocation	0.820	3
PCDS4	Alignment of contractual incentives with desired outcomes	0.790	4
PCDS5	Flexibility of contract to adapt to future changes	0.783	5
CDS	Construction & Development Stage		
CDS2	Cost management and budget adherence	0.903	1
CDS1	Adherence to construction timelines	0.876	2
CDS3	Quality control and adherence to specifications	0.869	3
CDS5	Effectiveness of project governance and communication	0.809	4
CDS4	Implementation of proposed innovations	0.789	5
OMS	Operation & Maintenance Stage		
OMS2	Service quality and user satisfaction	0.865	1
OMS1	Operational efficiency	0.855	2
OMS5	Cost-effectiveness of maintenance practices	0.853	3

OMS3	Achievement of key performance indicators	0.825	4
OMS4	Adaptability to changing user needs and technologies	0.789	5
TCCS	Transfer/Contract Completion Stage		
TCCS3	Overall achievement of project objectives	0.897	1
TCCS1	Condition of asset at handover	0.897	1
TCCS4	Financial performance over the project lifecycle	0.866	2
TCCS2	Smoothness of the transition process	0.815	3
TCCS5	Legacy impact on the community and environment	0.814	4

4.2.1 Planning and Initiation Stage

At the project planning and initiation stage, strategic alignment with public objectives emerged as the most critical VfM criterion (RII = 0.857), consistent with the foundational role of this phase in establishing the project rationale and the public-interest justification for private-sector involvement (Liu et al., 2015). The high importance assigned to demand forecast accuracy (RII = 0.845) reflects hard-won lessons from a long international history of PPP project failures attributable to overly optimistic demand projections, a phenomenon documented with particular rigour by Flyvbjerg et al. (2002) in their influential study of systematic optimism bias in public works planning. The ranking of innovation potential in third place (RII = 0.811) suggests that the planning stage offers the greatest opportunity for incorporating genuinely innovative design solutions, before the constraints of procurement competition and construction risk management narrow the space for creativity. Business case robustness (RII = 0.794) anchors the planning stage analytically, providing the evidential foundation on which financing decisions and political approvals depend (Morillos&Amekudzi, 2008).

4.2.2 Procurement and Contract Design Stage

The procurement and contract design stage presents a distinctive VfM priority profile, led by the paramount importance assigned to transparency of the procurement process (RII = 0.899), the highest-ranking criterion across any single lifecycle stage in the entire study. This finding reflects deep-seated concerns among all stakeholder groups about

the risks of corruption, unfair competition, and political interference that pervade PPP procurement in many jurisdictions, and corroborates the emphasis on transparent, competitive procurement in major international PPP guidelines (OECD, 2017; World Bank, 2020). Competitiveness of the bidding process ranked second (RII = 0.851), recognising that competitive tension is the principal mechanism through which procurement delivers VfM, driving innovation and cost efficiency while maintaining quality standards (Ke et al., 2010).

Effectiveness of risk allocation (RII = 0.820) and alignment of contractual incentives with desired outcomes (RII = 0.790) both ranked highly, underscoring the sophisticated recognition among practitioners that contract design is not merely a legal formality but the mechanism through which VfM is either secured or squandered over a project's full operational lifetime (Carbonara & Pellegrino, 2018). The importance attached to contract flexibility (RII = 0.783), though ranking fifth of five criteria at this stage, reflects the considerable practical challenge of designing instruments that can accommodate the inevitable changes in circumstances, technology, user needs, and market conditions that a twenty-to-thirty-year contract will encounter without compromising the bankability on which financing depends (Cruz & Marques, 2013).

4.2.3 Construction and Development Stage

The construction and development stage is characterised by the importance of practical delivery concerns, with cost management and budget adherence ranked first (RII = 0.903). This finding reflects the capital-intensive nature of infrastructure

construction and the well-documented tendency for cost overruns to undermine both project viability and the VfM case that justified the PPP arrangement in the first place (Flyvbjerg et al., 2002). Adherence to construction timelines ranked second (RII = 0.876), given that schedule delays impose dual costs, increasing financing charges and deferring service delivery to users who depend on the infrastructure. Quality control and specification adherence (RII = 0.869) ensure that what is built in the construction phase will perform as intended across the operational lifetime that follows, making them direct antecedents of long-term VfM (Osei-Kyei & Chan, 2017).

Effective project governance and communication ranked fourth (RII = 0.809), reflecting the coordination demands imposed by the complex multi-party arrangements that characterise PPP construction in which public clients, private developers, construction contractors, and specialist subcontractors must operate as an integrated system while managing different contractual relationships and risk exposures (Yang et al., 2016). The relatively lower ranking of innovation implementation (RII = 0.789) during construction may reflect a rational risk-management preference for proven technologies and methods in high-stakes capital delivery contexts, even among stakeholders who enthusiastically endorsed innovation at the planning stage.

4.2.4 Operation and Maintenance Stage

The operation and maintenance stage marks the transition from project development to service delivery, and the priority hierarchy shifts accordingly. Service quality and user satisfaction ranked first (RII = 0.865), representing the ultimate test of whether a PPP project delivers the public benefits that justified its existence (Hueskes et al., 2017). Operational efficiency (RII = 0.855) and cost-effective maintenance (RII = 0.853) ranked closely behind, reflecting the long-term sustainability challenge of maintaining service quality within the cost constraints established by the project's financing structure. Achievement of key performance indicators ranked fourth (RII = 0.825), recognising the crucial role of objective, measurable performance standards in translating contractual commitments into accountable service delivery (Liu et al., 2018).

Adaptability to changing user needs and technologies ranked fifth (RII = 0.789), highlighting the inherent tension between the contractual certainty that financiers and operators require and

the practical necessity of updating service delivery models to reflect evolving user expectations and technological possibilities over contract durations that may span a generation (Yuan et al., 2018). This tension is among the most structurally difficult challenges in PPP contract design, and the modest ranking of adaptability as important, but subordinated to performance and efficiency, suggests that practitioners currently tend to prioritise contractual predictability over flexibility in the operational phase.

4.2.5 Transfer and Contract Completion Stage

At the transfer and contract completion stage, overall achievement of project objectives and condition of the asset at handover shared the top rank (both RII = 0.897), reflecting the dual imperative of demonstrating comprehensive project success and ensuring that public assets are returned in a condition suitable for continued service delivery without requiring immediate reinvestment. Financial performance over the project lifecycle (RII = 0.866) provides a retrospective assessment of economic value creation, enabling policy learning about the actual rather than projected fiscal and social returns on PPP investments (Hodge & Greve, 2017). Smoothness of the transition process (RII = 0.815) and legacy impacts on community and environment (RII = 0.814) round out the priority hierarchy, the latter criterion signalling growing recognition that infrastructure projects should be evaluated not only by their performance during the contract period but by their enduring contribution or harm to the communities and ecosystems they affect (Hueskes et al., 2017).

4.3 Stakeholder Alignment Dynamics Across Lifecycle Stages

Spearman's rank correlation analysis of stakeholder perspectives across the five lifecycle stages in Table 3 reveals a pattern that is simultaneously reassuring and instructive. Across all stages and all stakeholder groups, correlation coefficients exceed 0.94, indicating very strong positive associations between the priority rankings assigned by different stakeholder categories and the lifecycle-stage priority hierarchies identified in the aggregate data. This high level of concordance suggests that, despite the significant differences in the specific criteria that each group emphasises, stakeholders share substantial common ground regarding the broad landscape of what VfM assessment should address and which considerations deserve priority attention at each project phase.

Table 3: Correlation Analysis of Stakeholder Perspectives and PPP Project Lifecycle Stages

Stakeholder	PIS	PCDS	CDS	OMS	TCCS
PSP	0.961	0.950	0.954	0.964	0.959
PRSP	0.963	0.953	0.955	0.964	0.961
EUP	0.946	0.941	0.946	0.949	0.953
FIP	0.959	0.951	0.950	0.958	0.953

Note: All correlations are significant at the 0.01 level (2-tailed). PSP = Public Sector Perspective; PRSP = Private Sector Perspective; EUP = End-Users and Community Perspective; FIP = Financier and Investor Perspective; PIS = Planning & Initiation Stage; PCDS = Procurement & Contract Design Stage; CDS = Construction & Development Stage; OMS = Operation & Maintenance Stage; TCCS = Transfer/Contract Completion Stage.

However, a comprehensive examination of the correlation matrices reveals that this broad agreement conceals meaningful variation at the stage level. The procurement and contract design stage consistently yields the lowest correlation coefficients across all stakeholder groups, with values ranging from 0.941 to 0.953, lower than the 0.946 to 0.964 range observed for other lifecycle stages. This pattern suggests that the procurement phase is characterised by relatively greater divergence in stakeholder priorities, a finding that interview data illuminate with considerable explanatory richness. A senior public sector official captured the structural dynamic at work: 'During procurement, tensions arise naturally because we are selecting winners and losers. Private bidders are competing, not collaborating, which makes alignment more challenging.' A private sector executive elaborated: 'The procurement stage feels adversarial. Everyone is protecting their position, and transparency sometimes conflicts with legitimate commercial confidentiality.'

The slightly lower correlation coefficients exhibited by community stakeholders across all lifecycle stages, ranging from 0.941 to 0.953, consistently at the lower end of the distribution, warrant specific attention. This pattern suggests that community perspectives are somewhat less well represented in mainstream VfM assessment frameworks than those of other stakeholder groups. Interview data suggest that this reflects a structural problem of inclusion rather than simply different priorities: community stakeholders are often engaged too late in project development processes, after fundamental decisions about project structure and objectives have already been made. As one civil

society representative stated with evident frustration: 'We are often consulted after major decisions have been finalised. Our priorities around affordability and social impact seem like afterthoughts rather than core considerations.' This finding is consistent with the concerns raised by Koppenjan&Enserink (2009) regarding the systematic marginalisation of community voices in PPP governance.

The planning and initiation stage and the operation and maintenance stage exhibit the highest average correlation coefficients across all stakeholder groups (approximately 0.957 and 0.959, respectively). The logic underlying these patterns is compelling: during planning, stakeholders can more readily achieve consensus around broad strategic objectives before the competing financial and contractual interests that characterise later stages have fully crystallised. During operations, all stakeholders share a fundamental interest in the successful delivery of services, public agencies because service performance is their mandate, private operators because it determines their payment, financiers because it underpins debt service, and communities because they depend on it for creating powerful structural incentives for convergence around operational excellence and user satisfaction.

4.3.1 Specific Sources of Misalignment During Procurement

Deeper analysis of the procurement and contract design stage identifies three specific axes of stakeholder divergence. The first concerns the tension between transparency and commercial confidentiality. Public and community stakeholders

consistently assigned high importance to procurement transparency (RII = 0.899), reflecting concerns about corruption and fairness. Private bidders, however, expressed in interviews that there is a legitimate threshold beyond which transparency undermines fair competition by exposing proprietary technical approaches or pricing strategies to rivals. Resolving this tension requires governance mechanisms such as independent evaluation panels, structured disclosure protocols, and an independent audit that can provide credible assurance of fairness without requiring the disclosure of commercially sensitive information.

The second axis of divergence concerns risk allocation preferences. Public sector entities often seek to transfer as much risk as possible to the private sector, motivated in part by the desire to achieve off-balance-sheet treatment for PPP liabilities and in part by a genuine belief that private-sector risk management capabilities justify this allocation. Private partners resist accepting risks that fall outside their operational control, regulatory risk, force majeure, demand risk in government-subsidised services and price any risk they reluctantly accept at a significant premium. Financiers, whose perspective bridges these two positions, articulated the practical consequences clearly: 'If private partners are required to bear risks they cannot manage, they either withdraw from the bid or price those risks so expensively that VfM disappears.' Optimal risk allocation thus requires a sophisticated analytical process in which risks are systematically identified, their probability and impact assessed, and their allocation determined by reference to which party is genuinely best positioned to manage each risk at least cost.

The third axis of divergence between flexibility and certainty in contract design reflects a structural tension that pervades PPP arrangements over their full lifecycle. Public agencies and community organisations tend to value contract provisions that allow adaptation to changing circumstances, recognising that a contract signed today must remain fit for purpose in twenty years' time. Financiers and private partners, by contrast, require contractual certainty as the foundation of bankable project cash flows; unexpected renegotiation creates regulatory and political risks that can undermine investor confidence not only in the affected project but across an entire PPP programme. Cruz and Marques (2013) argue that well-designed contracts can accommodate both imperatives through structured change mechanisms, pre-agreed protocols for specified categories of contractual adjustment, but the design of such

mechanisms is technically demanding and has not yet been standardised in most PPP markets.

4.4 Strategies for Enhancing Stakeholder Alignment
Synthesising the quantitative findings and qualitative insights generated by this research, five principal strategies emerge as evidence-based approaches to improving stakeholder alignment in VfM assessment across the PPP project lifecycle.

The most consistently emphasised strategy in both survey data and interview testimony was the importance of early and continuous stakeholder engagement, beginning at the project planning stage rather than being deferred to the procurement or construction phases. The finding that planning and initiation exhibit the highest stakeholder alignment across all lifecycle stages is itself evidence that early engagement creates the shared understanding of project objectives and value trade-offs that provides a foundation for later cooperation. The civil society representative who described late consultation as 'just box-checking' captured a widespread experience among community stakeholders who find that by the time they are formally consulted, the fundamental choices have already been made. Effective early engagement requires not merely the existence of consultation mechanisms but structured processes that genuinely incorporate stakeholder feedback into project design and that demonstrate to stakeholders that their input has influenced outcomes.

The second strategy concerns the development of transparent and balanced procurement processes that can manage the structural tension between openness and commercial confidentiality identified above. International PPP guidelines, including those of the OECD (2017) and the World Bank (2020), emphasise procurement transparency as a prerequisite for competitive and credible VfM delivery, but they provide limited operational guidance on how to achieve transparency without jeopardising legitimate commercial interests. Practical measures include the publication of clear procurement guidelines and evaluation criteria in advance, the use of independent evaluation panels with appropriate governance and disclosure arrangements, structured debriefing for unsuccessful bidders, and the public disclosure of executed contracts subject to targeted alterations of information that meets a genuinely high threshold of commercial sensitivity.

Third, the diversity of stakeholder priorities documented in this study provides strong empirical support for multi-dimensional VfM assessment frameworks that extend well beyond the narrow financial metrics that dominated early PPP

appraisal. As one public sector official reflected: 'We have learned that cheapest is not always best. We need frameworks that assess financial, social, environmental, and governance dimensions holistically.' Such frameworks should incorporate, at minimum, a financial dimension addressing lifecycle costs and fiscal sustainability; a service delivery dimension capturing quality metrics and user satisfaction; a social dimension encompassing employment impacts, community benefits, and equity considerations; an environmental dimension assessing carbon emissions, resource efficiency, and ecological impacts; and a governance dimension evaluating transparency, accountability, and the quality of stakeholder participation processes.

Fourth, the tension between contract flexibility and contractual certainty, identified as a significant source of procurement-stage misalignment, calls for adaptive contract management approaches that can provide the structured change mechanisms needed to accommodate legitimate adaptation without undermining bankability. Well-designed PPP contracts can incorporate periodic review processes at pre-agreed intervals, contingent provisions activated by specified triggers, collaborative problem-solving protocols that provide an alternative to formal renegotiation for lower-stakes adjustments, performance-based payment mechanisms that preserve incentive alignment as operational conditions evolve, and structured renegotiation processes with clear rules for extraordinary events such as force majeure or significant regulatory change (Cruz & Marques, 2013; Aben et al., 2021).

The fifth strategy addresses capacity constraints, which interview participants frequently cited as barriers to effective VfM assessment and meaningful stakeholder engagement, particularly in the Nigerian context. Capacity limitations affect all stakeholder groups. Public agencies often lack the technical skills to evaluate complex PPP bids critically; community organisations may struggle to engage effectively with sophisticated financial models; and even private partners and financiers operating in less mature PPP markets may lack access to accumulated best-practice knowledge. Recommended initiatives include structured training programmes for public sector PPP practitioners, knowledge-sharing platforms that document lessons learned from completed projects, technical assistance programmes providing specialised VfM assessment support, peer learning networks among PPP professionals across jurisdictions, and strengthened partnerships between academic

institutions and PPP practitioners to facilitate evidence-based professional development.

V. Findings

This study set out to investigate stakeholder alignment dynamics in Value for Money assessment for Public-Private Partnership infrastructure projects, with the aim of generating empirical evidence that could support the development of more inclusive and effective VfM assessment frameworks. Analysis of survey data from 307 stakeholders and qualitative insights from 15 in-depth interviews have produced findings that are both theoretically significant and practically consequential.

At the level of stakeholder group priorities, the research confirms that public sector entities, private partners, community stakeholders, and financiers bring fundamentally different though internally coherent conceptions of what value means in the PPP context. These differences are not pathological; they reflect genuine differences in institutional role, accountability relationships, and the aspects of project performance that each group is best positioned to observe and evaluate. The challenge for VfM assessment frameworks is not to eliminate these differences but to accommodate them within analytical structures that are comprehensive enough to capture the full range of value that PPP projects can generate and destroy. At the lifecycle dynamics level, the research demonstrates that VfM assessment priorities shift substantially as projects progress from planning through procurement, construction, and operations to eventual handover. The procurement and contract design stage emerges as the critical juncture of alignment, the point at which divergent stakeholder interests are most sharply expressed and where the governance structures established through contract design will either facilitate or undermine alignment for the life of the project. The relatively lower alignment exhibited by community stakeholders across all lifecycle stages represents a persistent governance failure that requires active correction through structural changes to stakeholder engagement processes.

VI. Conclusion

The five evidence-based strategies identified by the research, early and continuous stakeholder engagement, transparent and balanced procurement processes, multi-dimensional VfM assessment frameworks, adaptive contract management, and systematic capacity building, provide a foundation for the more inclusive and effective PPP governance that the scale of global infrastructure needs

demands. Implementing these strategies requires commitment from all stakeholder groups: public agencies must invest in genuine, early stakeholder engagement and sophisticated contract management; private partners must recognise that sustainable commercial success depends on broad stakeholder alignment; financiers must adopt broader definitions of project success that incorporate social and environmental performance; and community organisations must build the capacity for meaningful participation in technical processes. International organisations and academic institutions have essential supporting roles to play in developing standardised frameworks, providing technical assistance, and generating the evidence base that more effective PPP governance requires.

6.1. Contributions to Knowledge

The study's contributions to knowledge are threefold. It provides the most empirically comprehensive analysis to date of multi-stakeholder alignment dynamics in VfM assessment across the full PPP project lifecycle. It extends stakeholder theory into the specific domain of PPP VfM assessment, generating a lifecycle-sensitive model of alignment dynamics that prior research largely focused on dyadic public-private relationships has not produced. It derives, from its empirical findings, a practical framework of alignment-enhancing strategies grounded in practitioners' experiences across all four major stakeholder categories. Future research should extend this analysis to comparative international contexts, examine the long-term outcomes of specific alignment strategies, and develop quantitative tools for diagnosing alignment challenges at the project level before they escalate into conflicts.

6.2 Recommendation

This research recommends comprehensive stakeholder-specific actions to improve PPPs. Public agencies should establish engagement frameworks, adopt multi-dimensional VfM assessments, enhance procurement transparency, and build institutional capacity. Private partners must engage communities genuinely, balance commercial interests with long-term value, and embrace accountability. Financiers should adopt broader definitions of success and promote reasonable risk allocation. Communities need capacity-building to enable meaningful participation and advocacy for inclusive frameworks. International organisations should strengthen guidance, provide technical assistance, and condition financing on best practices. Academic institutions must expand research, bridge practice gaps, and train professionals. Cross-cutting priorities

include fostering learning cultures, balancing competing objectives, and committing to transparency. Implementation should follow phased priorities from immediate engagement protocols to long-term institutional reforms.

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