

PARADOXES IN INTEGRATED PROJECT DELIVERY

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ABSTRACT

Integrated Project Delivery (IPD) is a delivery model that has attracted increasing interest in both academia and industry over the past decade or so. It is based on enforced collaboration through a multi-party agreement, sharing risks and opportunities, common decision-making, co-location, and other means. There are fundamental paradoxes embedded in any project delivery model, and the ones related to IPD seem to be underexplored. Paradoxes are contradictory yet interrelated elements that exist simultaneously and persist over time. Because there is no unambiguous right or wrong solution to a paradoxical problem, it has to be resolved by balancing the considerations in question. This implies that the solution will always be contextual and that it can always be disputed. This empirically inspired conceptual paper identifies nine paradoxes grouped into four paradox themes that are central to IPD: relational dynamics, misaligned expectations, strategic dilemmas, and project implementation challenges. Through the examination of these paradoxes, we discuss and identify the inherent challenges in the adoption of IPD.

KEYWORDS

Integrated Project Delivery, Paradox theory

INTRODUCTION - PEELING BACK THE LAYERS OF IPD

While case studies often highlight the challenges associated with Integrated Project Delivery (IPD), they typically do not delve into the fundamental reasons behind its limited adoption. Most IPD research has focused on cultural, technological, financial, and legal aspects (Ghassemi & Becerik-Gerber, 2011), leaving a significant gap in understanding the micro (organizational goals, strategy, leadership, and management) and meso (sub-suppliers, strategic partners) environments. Furthermore, empirical investigations into the implementation challenges of IPD tend to focus on single aspects of projects, which limits our understanding of the broader interplay between different factors.

We argue that a thorough discussion is needed to look beyond a confined outlook and to examine the fundamental reasons for IPD's limited adoption. This approach is crucial for understanding the broader challenges associated with IPD implementation and can provide a more holistic view of the factors influencing its adoption. By integrating both micro and meso-level perspectives, from the client's viewpoint we can identify the interconnected challenges and opportunities within the broader project ecosystem. This study aims to explore the

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fundamental reasons behind the challenges in IPD adoption. Our focus is on exploring paradox emergence, using a theory-driven analytical framework in IPD implementation. This approach can inform effective strategies that help promote IPD in practice.

PRINCIPLES AND PARADOXES

Our approach in this paper is to examine the principles of IPD and juxtapose them with corresponding paradoxes. The original IPD principles conceived in connection with the Sutter Health⁴ project were chosen because they are the earliest and influential frameworks for IPD implementation. This is fundamental to understanding IPD in its simplest form.

The foundation of IPD principles can be traced back to the lean project delivery conference (Macomber, 2010) on a Sutter Health project in California, where five big ideas emerged (Hall & Scott, 2019). These ideas (or principles as we henceforth call them) were (1) collaborate, really collaborate; (2) increase relatedness among project participants; (3) view projects as networks of commitments; (4) optimize the project, not the pieces; and (5) tightly couple action with learning (Lichtig, 2005).

The concept of paradox in organizational research has gained significant attention in recent years (Schad et al., 2016). Smith and Lewis (2011) define a paradox as “contradictory yet interrelated elements that exist simultaneously and persist over time” page (p. 382). This definition emphasizes that there are inherent contradictions, in other words, tensions, that exist simultaneously between two opposing forces over time. For example, in an interorganizational setting, like IPD, collaboration is needed for team members or organizations to work together while also maintaining an individual competitive edge or interests for their own company. This tension is not a one-time conflict but rather re-emerges over time throughout the project’s lifecycle. This definition underscores the complex nature of organizational phenomena, particularly in the context of project management and project delivery models. Schad et al. (2016) argue that paradox research in management science has insufficiently addressed these complexities. It is crucial to integrate multiple perspectives and dimensions to uncover new insights into organizational phenomena. Hunter et al. (2011) argue that exploring paradoxes would provide valuable insights into the unique challenges faced by leaders. Furthermore, Andriopoulos and Gotsi (2017) highlight that empirical research on paradoxes is needed concurrently in intra-organizational (different hierarchical/function levels in an organization) and extra-organizational levels (relationships outside the organization, such as inter-organizational partnerships). Thus, paradoxes manifest across levels, and the interplay between intra and extra-organizational levels can trickle down or influence paradoxes. In other words, paradoxes need to be studied holistically and not in isolation, which is an area that needs to be addressed. This approach is essential for comprehending how paradoxes manifest throughout organizational hierarchies.

THEORETICAL BASIS

This study draws from established governance and project delivery theories, while employing paradox theory as a conceptual lens to examine the complexities of Integrated Project Delivery (IPD). This theoretical basis provides a structured approach to exploring the tensions and contradictions inherent in IPD implementation. We begin by considering fundamental governance theories, including agency theory (Jensen & Meckling, 1976) and stewardship theory (Donaldson & Davis, 1991). These theories provide insights into the relationships between principals and agents and the mechanisms for aligning interests in organizational contexts. In the context of IPD, these theories help us understand the evolving dynamics

⁴ Sutter Health is a public healthcare hospital system in California which has been a front-runner in the use of IPD.

between project owners, contractors, and other stakeholders (Nwajei et al., 2022).

The theoretical basis also incorporates literature on project delivery models (Klakegg, 2017; Lahdenperä, 2012; Walker & Lloyd-Walker, 2015). These sources offer valuable perspectives on multi-party contractual arrangements, collaborative project procurement, and the situational nature of project delivery models. This body of work provides a foundation for understanding the unique characteristics and challenges of IPD as a project delivery model.

Central to our study is paradox theory, as developed by Smith and Lewis (2011). This theory posits that complex systems, such as organizations and project delivery methods, inherently face continuous contradictory demands that create tensions. Paradox theory provides a lens through which we can examine the seemingly conflicting yet interrelated elements of IPD, such as collaboration versus competition or flexibility versus control. By integrating these diverse theoretical perspectives, we can better understand the paradoxes and the challenges in adopting IPD.

METHOD

This study is a conceptual discussion inspired by multiple cases. Its primary objective is to develop and advance theory. We have tried to put the first building blocks in place to build theory. Given our interest in understanding paradoxes, a hybrid deductive-inductive approach was adopted. We use paradox theory as a starting point and conceptual framework to guide our analysis while remaining open to new explanations emerging from the data, thus employing a flexible deductive approach combined with inductive analysis. Data was collected through interviews from IPD projects conducted in Norway, (see Table 1), ranging from healthcare facilities to infrastructure developments. The projects vary in scale from small water treatment facilities to large-scale hospital constructions and are at different stages of development: 2 have been completed, others are in progress, and 3 in pre-procurement phases.

Table 1: Interviewees from IPD projects in Norway - to date

Interviewees	Experience years	Participated in projects ⁵
Project director	>20	A, E, F
Project director	>25	B
Client's project manager	>20	C
Director	>20	D
Lawyer & founding partner	>30	A, B, C, D, E, F,
Director of Contracts	>10	F

Our primary objective was to explore how paradoxes manifest themselves in IPD from the client perspective, as the clients are the sole decision makers in selecting project delivery models and their role in IPD gives them valuable experience of the many IPD tensions. Semi-structured interviews were conducted with several clients to provide context and insights into the challenges that are present in Norwegian projects. We have not evaluated the truthfulness of their statements per se but rather taken them as the judgement of central client representatives. Altogether, six formal interviews were conducted over ten months (January 2023 - October 2023), each lasting between one and two hours. It is worth noting that while there were 7 projects, only 6 interviews were conducted because one project collapsed due to disagreements over the maximum price. Information about this project was available from public sources. We

⁵ A. University campus, B. Hospital, C. Water Treatment Plant, D. High-rise office, E. Hospital, F. Motorway

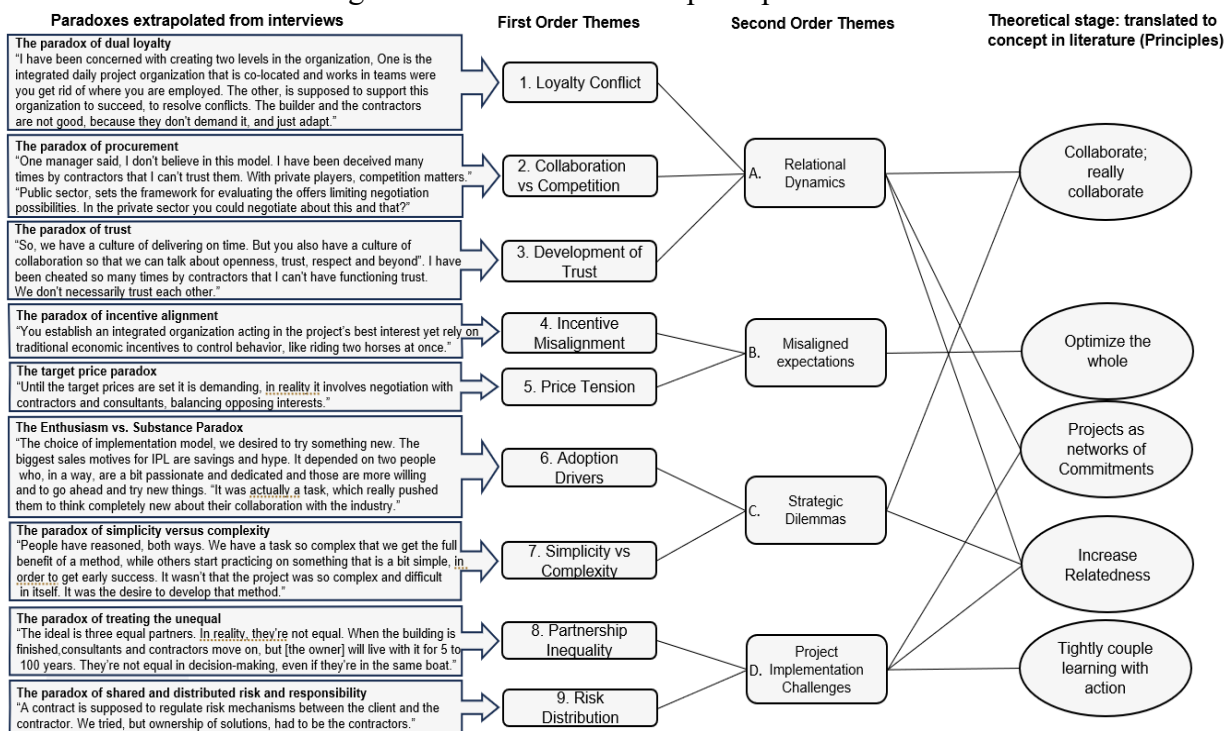
obtained diverse perspectives since the interviewees were all directly involved in various stages of their project's lifecycle. The questions were divided into four main categories: Key strategic challenges and choice of delivery model, the project (s), the procurement process, and lessons learned. These questions covered a range of topics, including the strengths and weaknesses of IPD and procurement strategies. The interview process employed open-ended questions, allowing for deeper insights and valuable feedback. Data analysis also involved inductive observations, which were coded into aggregated themes.

Andriopoulos and Gotsi (2017) argue that reliable and flexible protocols for paradox identification should be developed in organizational research. Our method provides a systematic yet adaptable framework for uncovering paradoxical tensions within the IPD context and is supplemented with journal/conference articles.

FINDINGS - UNMASKING THE PARADOXES OF IPD

A paradox is something carrying inherent contradictions (Smith and Lewis, 2011), for example, when two opposing discourses exist. Any project has a number of paradoxes, but what are the paradoxes central to IPD? Our analysis revealed different views on paradoxes and challenges in IPD, as shown in Figure 1. We identified 10 paradoxes (first-order themes) that we aggregated into four second-order themes, and then we reviewed the IPD principles and discussed how they relate to the specific paradoxes (see Figure 1).

Figure 1: Paradoxes and the principles of IPD



In the subsequent sections, we will analyze the proposed framework of paradoxes in IPD in two ways: We will first examine and comment on each of the paradoxes (i.e., the two left-most columns in Figure 1), and then we will review the IPD principles and discuss how they relate to the specific paradoxes presented here (i.e., the two right-most columns in Figure 1).

RELATIONAL DYNAMICS

Relational dynamics refers to the way relationships work in and between organisations.

The paradox of dual loyalty (Labelled "1. Loyalty Conflict" in Figure 1) is when individuals in an IPD project have two loyalties: one to the project and one to their organization.

In this case, individuals (designers and contractors) adapt passively to resolving conflicts, rather than actively fostering collaboration for the integrated project organization, showing that they have not moved towards the integrated project organization but are taking the traditional role. El-adaway et al. (2017) notes that owners typically seek high-quality, low-cost completion, while contractors aim to maximize profits by minimizing resource expenditure. This fundamental tension creates conflicting priorities, potentially undermining project success and collaborative relationships, even within the IPD framework.

The paradox of procurement (Labelled “2 Collaboration vs Competition” in Figure 1): This is the paradox that in relational procurement, it is desirable to establish collaboration, but, at the same time, the procurement process is competitive. However, literature on procurement in IPD is limited (Bølviken et al., 2023). The procurement process significantly influences the attitudes and values established during and after a competitive procurement process. When the procurement process is characterized by competition, it is a misconception to assume that pleasant cooperative relations will automatically emerge post procurement. This is in line with Frydinger et al. (2021), who argues that relational procurement processes should focus on the relationship and not on the deal. Public organizations must also balance the requirement for fair, competitive bidding processes with the need for collaborative partner selection.

The paradox of trust (Labelled “3 Development of Trust” in Figure 1): This is the paradox where a project cannot proceed and progress without trust, but at the same time, trust must be earned and takes time to establish. Trust is both a precondition for and a result of collaboration. Jobidon et al. (2018) highlight that while institutional trust is essential, developing a more specific form of trust, for example, relational trust — is crucial for fostering solidarity between parties in long-term contractual relationships. In other words, long-term relationships play a role, and we should invest in relationship building.

MISALIGNED EXPECTATIONS

Misaligned expectations refer to economic tensions between expecting what you want to happen or anticipate happening and realising that others have different expectations.

The paradox of incentive alignment: (Labelled “4 Incentive Misalignment” in Figure 1): This is the paradox where integrated organizations must act in the best interests of the project but at the same time are led by traditional economic carrots that guide the agent's behavior. While the literature suggests that companies and individuals will prioritize the project's best interests, it simultaneously acknowledges the need for economic structures and incentives to encourage this behavior (American Institute of Architects, 2007). The use of incentives in IPD is designed to focus participants on the project's overall success rather than on their own economic gains. For example, incentives like bonuses, target prices, etc, are designed to make agents focus on their own interest and thereby act in the best interest of the project.

The target price paradox: (Labelled “5 Price Tension” in Figure 1): This is where collaborative target price-setting aims to align interests but can still create tensions due to profit considerations. The idea of target price setting in IPD is to have a target price that is agreed to be realistic, and that establishes a fair risk sharing between the parties. The fact is, however, that the higher the target price is, the lower the risk and the higher the likelihood of profit for the contractor. After the target price has been set, two phenomena occur. The first is that because the target price is based on a scope, a traditional change order regime will occur. The parties will continuously have to agree on which changes are within the scope and which are not. The second is that the parties' economic consequence of changes is dependent upon whether the project is likely to come in below or above the target price. This is likely to influence the behavior of the parties. These elements establish a zero-sum game between the parties, where another's loss directly balances one party's gain. This contradicts one of the fundamental ideas of IPD, the sharing of pain and gain.

STRATEGIC DILEMMAS

Strategic dilemmas refer to the dilemma or issues faced in deciding the project's implementation strategy (before a project is initiated).

The enthusiasm versus substance paradox: (Labelled “6 Adoption Drivers” in Figure 1), is a paradox where the reason for adopting IPD is often driven by subjective factors such as market hype, personal enthusiasm, and individual relationships rather than data-driven decision-making processes. As Klakegg (2017) emphasizes, a project delivery model (PDM) is a complex matter, and its selection should be situational rather than following a fixed process, aligning with the idea that PDM selection should consider project-specific factors and context. So, to what degree should one then have a subjective, and to what degree is a data-driven (“objective”) approach in deciding what project delivery model to use? And to what degree is data available?

The paradox of simplicity versus complexity: (Labelled “7 Simplicity vs Complexity” in Figure 1): This is a paradox that while simpler projects might seem ideal for testing new methods, they may not fully showcase the benefits of IPD. This aligns with previous literature, which argues that IPD was developed to address the need for highly skilled teams to collaborate effectively on extremely complex projects (Walker & Lloyd-Walker, 2020). When introducing IPD into a new market, should one then start with a simple or a complex project?

PROJECT IMPLEMENTATION CHALLENGES

Project implementation challenges refer to the practical challenges faced in real-world application.

The paradox of treating the unequal: (Labelled “8 Partnership Inequality” in Figure 1): There is a paradox that there are three equal partners in an IPD, but at the same time, they are, in fact, not equal. The client differs from the other parties because they inherit the construction's lifespan (cradle to grave). The contractors and the designers differ because they have very different business models and risk-taking capabilities. These findings reflect those of Ashcraft (2013) and Kenig et al. (2010), who emphasize that in IPD contracts, all key partners are intended to have an equal standing or an equal voice in decision making.

The paradox of shared risk and responsibility: (Labelled “9 Risk Distribution” in Figure 1): This is a paradox where shared risk in IPD has equal responsibility; however, responsibility and control can still be unevenly distributed. Our findings reflect the previous argument in IPD literature that implementing IPD has been seen as a challenge to balance control, mainly when the owner retains more authority in reaching decisions (Rodrigues & Lindhard, 2021). However, this raises the question about financial accountability; if the client has more control in decision making, then they should have an appropriate share of financial responsibility.

FINDINGS - FIVE PRINCIPLES ADDRESSING THE PARADOXES

Now, we turn to the original IPD principles from Sutter Health and discuss how they relate to the paradoxes presented earlier. To analyze the interplay between paradoxes and principles, we will also use the four second-order themes, referring to them as follows (see Figure 1): A, Relational Dynamics, B. Misaligned Expectations, C. Strategic Dilemmas, and D. Project Implementation Challenges. As shown in Figure 1, there is no one-to-one mapping between the aggregated paradox themes and the principles; rather, one theme can connect to one or several principles (or vice versa).

COLLABORATE; REALLY COLLABORATE

This idea is challenged by paradoxes in themes A (Relational Dynamics) and C (Strategic Dilemmas). In the context of the IPD principles, the paradoxes within relational dynamics and strategic dilemmas are at odds with collaboration.

The paradoxes within Relational Dynamics, within the Collaboration vs Competition theme highlight the tension between fostering collaboration and maintaining competitive elements. Procurement regulations can also constrain flexibility in project delivery and may dictate certain processes or requirements that affect project selection and can hinder the development of long-term collaborative relationships between parties.

The Trust Development paradox emphasizes the need for trust in collaboration and the time required to build it. Loyalty Conflict: people may find it difficult to balance their allegiance to their organization and the project, which could prevent them from fully committing to collaborative efforts.

Significant factors in theme C (Strategic Dilemmas), paradoxes affect collaboration, such as adoption drivers' paradox: The subjective factors driving IPD adoption (e.g., personal enthusiasm, market hype) may impact how thoroughly collaboration is implemented, as it may not be based on assessments of collaborative needs. The simplicity vs complexity paradox highlights that while simpler projects might seem ideal for testing new methods like IPD, they may not fully showcase its benefits compared to complex projects, influencing collaboration. These paradoxes illustrate the complexity of achieving true collaboration in IPD projects.

OPTIMIZE THE WHOLE

Theme B (Misaligned Expectations) challenges optimizing the whole through the incentive misalignment and price tension paradoxes, which show the challenges in aligning individual, organizational, and project interests to optimize the whole project.

PROJECTS AS NETWORKS OF COMMITMENTS

In the IPD principles, projects as networks of commitments are challenged in Themes D (Project Implementation Challenges) and A (Relational Dynamics). Project implementation challenges such as the partnership inequality and risk distribution paradox highlight the challenges of partners not truly being equal in creating and maintaining networks of commitment when responsibilities and loyalties are divided. While equality is not mandatory for making commitments, the unevenness in the partnership can result in an uneven distribution of commitments, potentially impacting the effectiveness of the overall network.

Theme A (Relational Dynamics), mentioned earlier, see section Collaborate really Collaborate, which shows that the paradoxical challenges lie in how they directly impact how commitments are formed and maintained within the project network, as competitive elements may undermine collaborative commitments.

INCREASE RELATEDNESS

This idea is challenged by paradoxes across most themes in A (Relational Dynamics), C (Strategic Dilemmas), and D (Project Implementation Challenges), which have been mentioned earlier in sections: Collaborate really collaborate, and Projects as Networks of commitments. From the principle of increase relatedness perspective, theme D (Project Implementation Challenges) showcases the complexity of relationships in IPD projects, while A (Relational Dynamics) and C (Strategic Dilemmas) directly relate to building relationships and illustrate how factors can influence the development of relationships, in IPD implementation.

TIGHTLY COUPLE LEARNING WITH ACTION

Theme D (Project Implementation Challenges) is particularly relevant here. Risk Distribution can be interpreted as an uneven distribution of risk that may affect willingness to experiment and learn, impacting the ability to couple learning with action effectively. While absolute equality is not a prerequisite, the Partnership Inequality paradox suggests that the imbalance between partners can create barriers to sharing knowledge and implementing lessons learned across a project.

DISCUSSION

PRINCIPLES AND PARADOXES

At the outset, the original principles of IPD are meant to ultimately transform projects and improve project practices (Macomber, 2010). However, earlier research has rarely produced a methodical assessment of how specific paradoxes influence the translation of principles in IPD projects. The findings on the paradoxes challenge the idea that these principles can be implemented unambiguously. Also, the interviewees did not say anything about what could go wrong. Even though it could be argued that some of the paradoxes are, to some degree, inherent in all projects, some are very specific to IPD. However, while the same paradoxes may exist in several project delivery models, they may emerge more intensely or pose greater challenges in some than others. The fundamental point of this paper is to show how paradoxes are inherent in IPD projects and that they represent a challenge on the basic principles of IPD. The paradoxes potentially undermine the principles, and the principles are all interconnected, whereby if one principle fails, for example, people do not collaborate, it can demoralize and have a domino effect on other principles (given the interconnectedness between paradoxes and principles).

EXPLORATION OF THE PRACTICAL REASONS FOR IPD'S LIMITED ADOPTION AND THE ASSOCIATED CHALLENGES

The literature on IPD often discusses challenges, problems, or barriers rather than explicitly labelling them as paradoxes (Allison et al., 2018; Ghassemi & Becerik-Gerber, 2011; Rodrigues & Lindhard, 2021). However, paradoxes do exist in IPD implementation, even if they are not always recognized. Our review responds to this gap by identifying and analyzing the paradoxes, providing a new perspective on the challenges of IPD adoption. The limited adoption of IPD in practice can be attributed to several interconnected factors, as revealed by our conceptual analysis.

Relational dynamics

Related to procurement, IPD aims to foster collaboration among stakeholders, yet the selection process is highly competitive (Bølviken et al., 2023). How do we establish cooperation through competition? The challenge is to balance competition during the selection process with the collaboration required during project execution. It is essential to recognize that in order to ensure quality and accountability among potential project participants, a competitive selection process is required. However, competition can create an environment that is contrary to the collaborative principles of IPD.

Conflicts of interest, although not mentioned directly, might be regarded as an implicit factor influencing the ability to collaborate in this situation. This misalignment highlights the difficulties in aligning interests and the intricacy of principal-agent relationships. Trust development presents another critical challenge in IPD implementation. Why trust somebody who has yet not proven themselves trustworthy? AIA American Institute of Architects (2007) emphasizes the crucial role of trust in fostering high-level team performance and enabling effective collaboration and innovation in IPD projects. Moradi and Kähkönen (2022) further underscore the pivotal role of trust in the success of collaborative construction projects.

Organizations must balance the need for quick project progress with the time required to develop trust-based relationships. Robert et al. (2009) explore the concepts of swift trust, noting that individuals tend to trust others in new situations based on first impressions and background information. He further adds that real trust develops from swift trust, eventually based on experience and information. Swift trust forces organizations to balance between forming trusted relationships to obtain quick project progress and, simultaneously, taking the time required to develop trust. This consideration adds another layer of complexity to the adoption of IPD.

Misaligned expectations

Another significant challenge lies in addressing the paradox of incentive alignment. How do we use incentives to make the parties focus on the common interest? This paradox reveals an in-depth aspect of principal-agent theory (Eisenhardt, 1989). On the one hand, IPD attempts to address the principal-agent divide by implementing shared risk/reward structures. On the other hand, these very incentive structures rely on self-interested motivations to function effectively. If IPD is designed to overcome self-interest, then why does it depend on incentives for alignment? This apparent contradiction highlights that while the principal-agent divide cannot be entirely eliminated, it must be managed through carefully designed incentive systems, or said in a principal-agent language, to use principal-agent logic to overcome the principal-agent problem.

The tension between collective and individual interests in IPD also relates to stewardship theory (Davis et al., 1997; Donaldson & Davis, 1991), which contrasts with principal-agent theory by assuming individuals can act as stewards, prioritizing collective goals over self-interest. However, the reliance on traditional economic incentives as governance mechanisms in IPD potentially undermines pure stewardship behavior by replacing inherently motivated intrinsic factors with extrinsic rewards. Building on the discussion of incentive alignment, another key tension in IPD emerges in the form of dual loyalties. How do people balance their loyalty to multiple parties? According to El-adaway et al. (2017), there is inherent goal misalignment in construction projects.

Strategic dilemmas

The complexity and scale of projects suitable for IPD implementation present a challenge. IPD is designed for big and complex projects. Should we then start implementation in a small and simple project to gain experience or go directly for the big and complex? While Cleves and DalGallo (2012) assert that IPD should be reserved for large, complex projects due to its significant cost investment, additional design efforts, and increased owner involvement, they also acknowledge the existence of successful non-complex IPD projects. Interestingly, the strategic rationale for choosing IPD as a project delivery model in the cases we looked at was justified based on subjective factors. This is not in line with policymakers and researchers who are making efforts to develop a deterministic system for choosing a project delivery model (OECD, 2021). The broader implication is that a lack of objective thinking might lead to projects that are chosen without understanding the benefits of IPD, which can lead to failure in projects. Another ramification is that IPD projects that fail or collapse can have lasting implications on the reputation of IPD in project management.

In many situations, decision-makers lack a comprehensive understanding of IPD principles and practices. Their focus is on immediate financial metrics rather than long-term benefits. The wider implication is that if decision-makers have a limited perspective, they might not understand the full advantages and may not choose IPD. On the other hand, is IPD reliant on enthusiasts to function in Norway? These contextual findings highlight a significant gap between the selection of a project delivery model and the practical realities of IPD adoption.

Project implementation challenges

Another significant challenge lies in addressing the inequality paradox inherent in traditional project structures. Accepting the fact that the parties are unequal, how do we treat them equally? Walker and Lloyd-Walker (2015) suggest extending the contractor's role beyond the construction phase through mechanisms such as operations and maintenance contracts. Such an approach aims to mitigate inequalities present in conventional project structures. In general, IPD's shared risk and reward model can foster joint ownership of project outcomes, potentially offering a comprehensive solution to inequality (Cleves & DalGallo, 2012).

IPD adoption is further complicated by financial considerations. Parties have different jobs in the project. Why should one party take the risk if another party is not doing their job? Walker and Rowlinson (2020) reflect on the inequality between the owner and non-owner participants as not always shared equally. However, the disparity in economic positions may deter some stakeholders from completely embracing IPD principles.

A central challenge in this context is reconciling the opposing interests of different parties regarding the target price. While collaboration aims to align interests, discussions around profit often create tensions. Organizations face the complex task of balancing their long-term strategic goals with the collaborative processing process inherent in IPD. This scenario illustrates the target price paradox ("5 Price Tension" in Figure 1).

However, the reality is that the agents have their own financial interests to consider because their profit is at risk. A decrease in the target price increases the risk of the agent losing his profit. This situation can be characterized as what we term "Stewardship Illusion" or "False Stewardship." The principal believes the agent has transitioned from a self-interested actor (as per agency theory) to a steward acting in the organization's best interest (as per stewardship theory). In reality, the agent prioritizes self-interest, aligning more closely with traditional agency theory predictions. Davis et al. (1997) highlight in stewardship theory the potential of non-monetary governance mechanisms to enhance intrinsic motivation. This perspective offers a more nuanced understanding of human motivation in organizational contexts and questions the dependence of stewardship theory on intrinsic rewards. Walker and Lloyd-Walker (2020) provide additional insight into this issue, suggesting that participants in IPD often possess collaborative capability but may lack collaborative capacity. This lack of capacity can stem from various challenges that limit motivation, such as ineffective operational management processes, inadequate supportive leadership and insufficient resources.

CONCLUSIONS

We have identified nine paradoxes grouped into four major paradox categories (relational dynamics, misaligned expectations, strategic dilemmas, and project implementation challenges) that are fundamental to IPD and its adoption. Moreover, we connect these paradoxes to the original principles of IPD (from Sutter Health) and describe the mechanisms whereby the paradoxes potentially undermine the principles.

Our findings reveal key implications in both research and practice. Researchers could build upon this paper's conceptual theoretical study inspired by case observations. Our work provides the first building blocks for further investigation in exploring paradoxes in IPD. Indeed, our study is limited to the Norwegian context. Hence, testing out our framework in diverse contexts could help scholars further examine its applicability while advancing paradox theory in project management and organisational studies. Moreover, we mainly used the viewpoints of client organisation representatives as inspiration. A more diverse background of informants could further validate and nuance the identified paradoxes, and potentially even give indications of effective strategies to cope with them. Our paper also highlights the need for a more nuanced approach to project delivery model selection that balances theoretical ideals with practical realities.

In practice, when selecting a project delivery model, decision makers (that is, clients) should carefully identify and consider the paradoxes specific to the project delivery models in question, and how able the organization will be to handle them, be it IPD or any other model. During project execution, they should identify areas where tensions could exist and give emphasis to managing the paradoxes. This also includes being aware of how the paradoxes are interconnected and impact each other. Finding a balance between and within them is crucial in order to preserve the intended benefits of the project delivery model in question.

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