

Exploring Integrated Project Delivery Through the Lens of Innovation Diffusion Theory: Its Role in Evolving Organizational Practices

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Abstract. Integrated Project Delivery (IPD) is recognized as an innovative project delivery method that breaks away from traditional construction management practices and transforms project dynamics through integration and collaboration. Despite its potential, the diffusion of IPD within organizations remains underexplored. Drawing upon Innovation Diffusion Theory, this study investigates how IPD, as an innovation, diffuses within organizations, influencing organizational practices within the architecture, engineering, and construction (AEC) sector. Through a mixed-methods approach, a survey of professionals with IPD experience from both public and private sectors was conducted, followed by in-depth interviews with seven senior management representatives of organizations heavily involved in IPD projects. The findings revealed the potential of IPD to drive systemic change within the construction industry, particularly by fostering a culture of collaboration, transparency, and openness to exchange and knowledge sharing across disciplines and cross-organizations. Additionally, IPD has a notable influence on accelerating the adoption and integration of lean practices and tools at the organizational level. These findings highlight IPD's role in reshaping organizational practices, exceeding its transformative role in project delivery dynamics and exemplifying the principles of Innovation Diffusion Theory. This study contributes to understanding IPD's transformative influence and offers practical insights for industry leaders seeking to optimize project outcomes through collaborative delivery models

Keywords: Integrated project delivery (IPD), Diffusion Dynamics, Organizational Practices, Ripple Effect

1. INTRODUCTION

Integrated Project Delivery (IPD) is a collaborative delivery system that has the potential to reshape the construction industry landscape by fostering a paradigm where collaboration, transparency, and mutual trust replace the traditional adversarial and competitive norms (Matthews & Howell, 2005). This innovative approach integrates people, organizations, and systems into a cohesive unit under a multi-party contract, promising a favorable work environment and improved project outcomes (Kent & Becerik-Gerber, 2010).

Documented case studies on IPD show evidence of individuals frequently mentioning instances where IPD has promoted a change in how their organizations operate, sometimes in the form of adopting tools, practices, strategies, or changing the way they approach projects and partners and extend these benefits across non-IPD projects as well (Cheng & Johnson, 2016; Poirier et al., 2022). These instances underscore the diffusion of IPD as an innovative practice within organizations, aligning well with the tenets of Innovation Diffusion Theory (IDT). By focusing on how IPD principles and practices are adopted and integrated within organizational frameworks, this study leverages IDT to examine the transformative impact of IPD on the construction industry.

This study employs a mixed-method sequential design, focusing on engagement with professionals who have direct experience with IPD within the Canadian AEC sector. Given the limited number of projects implemented using IPD in Canada, the sample size was necessarily

constrained. A total of 25 valid survey responses were received from professionals with hands-on IPD experience, of whom seven agreed to participate in follow-up interviews.

2. BACKGROUND

The collaborative nature of this delivery model enhances integration of key stakeholders early in the project which can optimize project efficiency and outcomes (Fischer et al., 2017). When examined through the lens of Innovation Diffusion Theory (IDT), developed by Everett Rogers (ROGERS et al., 2008), IPD can be considered as an agent of change in the construction industry. IPD's transformative characteristics align with the core attributes (advantages, compatibility, complexity, friability, and adoption) that influence the adoption and diffusion of innovations within industries (Elghaish et al., 2021). These transformative characteristics foster collaboration, risk-sharing, and efficiency by integrating owners, designers, and contractors early in the project lifecycle. Unlike traditional delivery methods (Design-Bid-Build, Design-Build), IPD leverages multi-party agreements, shared financial incentives, and advanced digital tools like BIM to enhance transparency and optimize decision-making (Lahdenperä, 2012). Its lean principles reduce waste, improve cost control, and accelerate project timelines, making it highly compatible with the growing demand for sustainable and high-performance buildings (Rankohi et al., 2022).

According to DRENȚA & LOBONȚIU (2016), *relative Advantage* in the IDT, is defined as the degree to which an innovation is perceived as better than the existing standard. Compared to traditional project delivery methods, IPD offers advantages such as improved cost control, reduced waste, and enhanced collaboration (Choi et al., 2019). It fosters value-based decision-making rather than adversarial contract-based interactions, making it a superior approach for complex projects. *Compatibility* refers to the degree to which an innovation aligns with existing values, past experiences, and needs of adopters. IPD is compatible with the increasing demand for collaborative, lean, and sustainable construction practices. It aligns well with digital transformation trends (e.g., Building Information Modeling (BIM)) and with industry shifts towards integrated and agile workflows (Elghaish et al., 2021; Rankohi et al., 2022). *Complexity* refers to the perceived difficulty of understanding and using an innovation. The complexity of IPD can be a barrier to adoption, as it requires a cultural shift from traditional contract-driven roles to trust-based partnerships (Hall et al., 2022). Legal and contractual frameworks (e.g., multi-party agreements) also increase initial complexity. However, organizations that invest in training and knowledge-sharing can overcome these challenges (Hamzeh et al., 2019). *Trialability* refers to the extent to which an innovation can be experimented with on a limited basis. Successful IPD projects (such as healthcare and large-scale infrastructure projects) serve as case studies demonstrating cost savings, reduced disputes, and schedule efficiency (Kelly et al., 2020). As more stakeholders witness the benefits, it accelerates industry-wide diffusion. *Partial adoption* (e.g., employing collaborative principles without full contractual IPD) allows firms to gradually experiment with aspects like early contractor involvement (ECI), co-location of teams, and shared risk-reward mechanisms before full-scale adoption (Koolwijk et al., 2020).

3. METHODOLOGY

This study aimed to explore the influence of IPD on broader organizational practices through the lens of Innovation Diffusion Theory. To achieve this, the research methodology directly interacted with professionals experienced in IPD from organizations that have implemented this project delivery method. By employing a Mixed-Method Sequential Design, the study combined survey data collection with follow-up interviews to gain an in-depth understanding of how IDT principles such as relative advantage, compatibility, complexity, trialability, and observability manifest in the adoption and integration of IPD. This approach helps illustrate how IPD, as an innovative practice, permeates organizational culture, structure, communication, decision-making, and resource allocation. The mixed-methods sequential design is especially suitable for capturing both broad patterns and in-depth insights. In particular, it combines quantitative and qualitative approaches sequentially, allowing the researcher

to integrate different perspectives, ensuring comprehensive data collection, and applying triangulation to enhance the validity and depth of findings (McKim, 2017).

3.1 Data Collection and Analysis

3.2.1 Survey Phase

The first phase involved a structured survey designed to capture insights into the organizational impacts of IPD implementation. It consists of three sections: Demographics, that included background data about the individuals, their IPD experience, and their organizations were collected. IPD adoption and participation, which is designed to determine level to which organizations are involved in the IPD projects and their experience with the methodology. Lastly, the Impact on Organizational Practices, which focused on how IPD influences different organizational practices.

Of the total 78 responses received, only 25 fit the criterion of having experiences with IPD and, therefore, are valid for analysis. This sample included participants from various sectors within the construction industry, spanning multiple organizational types and operational scales, as illustrated in **Table 1**. This demographic distribution highlights a diverse and balanced sample of individuals and organizations involved in IPD and braces the conclusions that can be drawn from their responses.

Table 1. Demographic Information

Demographic Aspect	Statistics
IPD Experience	Moderate Familiarity (40%), High Familiarity (24%), Extensive Experience (36%)
Sectors	Engineering/Design Firms (29%), Subcontractors (24%), General Contractors (18%), Owners/Clients (18%), Facilitating/Consulting Firms (11%)
Geographic Presence	Regional (59%), National (29%), International (12%)
Project Types	Commercial (52%), Institutional (48%), Infrastructure (36%), Residential (36%), Industrial (36%)

In terms of data analysis, Descriptive statistical analysis was performed to comprehend the survey data. Descriptive statistics summarize data in an organized manner by describing the relationship between variables in a sample or population (Kaur et al., 2018). This included calculating frequencies and distributions on key variables relating to IPD's impact on organizational practices. The responses to open-ended questions were analyzed qualitatively to contextualize the results from the quantitative survey.

3.2.2 Interview Phase

Following the survey, seven semi-structured follow-up interviews were conducted with survey respondents. These interviews allowed further investigation into the responses of the preliminary survey and explored nuances in how IPD practices diffuses to organizational level (Creswell & Clark, 2017). The interview participants were sampled from the survey respondents who opted in for follow-up interviews, stating their willingness to provide more detailed insights about their experience with IPD.

An overview of the interviewees' profiles is given in **Table 2**, highlighting their roles as top management individuals, their organizations' distribution across three different Canadian provinces, and the diversity of their organizational types.

The interviews focused on themes identified in the survey and the possible effect of IPD on their organizational practices. The interview transcripts were subjected to thematic analysis, following a systematic coding, categorizing, and theme development

Table 2. The Interview Participants' Profiles

Interview ID	Role	Sector	Organization Type	Location
FI01	Project Executive	Private Sector	General Contractor	Ontario
FI02	Director	Private Sector	Consulting Firm	British Columbia
FI03	Managing Principal	Private Sector	Architecture Practice	Ontario
FI04	Director	Public Sector	Municipality	Ontario
FI05	Director of IPD	Private Sector	Electrical Contractor	Alberta
FI06	Lean Integration Leader	Private Sector	General Contractor	British Columbia
FI07	President & Senior Coach	Private Sector	Multidisciplinary Firm	Alberta

process (Clarke & Braun, 2017). In the first step, each transcript was reviewed to identify recurring ideas, terms, and concepts, resulting in identifying a set of initial codes that were then going through a process of eliminating duplicates, merging, and refining. In the second step, related codes were grouped into categories reflecting broader patterns. Finally, categories were synthesized into overarching themes, presenting the study's main findings. Emerging themes were cross-checked against the survey findings to ensure coherence and reliability.

3.2 Validation

Triangulation served as the primary validation strategy for this research. This was through the triangulation of data between the survey and interviews, enhancing the validity of the conclusions drawn (Heale & Forbes, 2013). Moreover, the diversity of participants in terms of roles, types of organizations, and geographical locations further enhances the general validity of the findings. It ensures that the conclusions apply to various contexts within the construction industry.

4. RESULTS

This study examines how IPD diffuses as innovation within organizations, exploring its manifestation across various organizational practices. The results, drawn from both surveys and interviews, are analyzed through the lens of Innovation Diffusion Theory, illuminating systematic changes within organizational structures and processes. The survey results provide a high-level overview, highlighting the areas where IPD has more pronounced effects and establishing the relative prominence of its influence. On the other hand, the interviews offer deeper insights, presenting detailed characterizations of IPD's influence in specific areas. Together, these methods provide a detailed perspective on IPD's diffusion across organizational practices.

4.1 Patterns of Influence

The findings highlight that IPD's degree of influence differs significantly across organizational aspects, as illustrated in **Table 3**. Among the ten organizational practices examined, organizational culture, tools and practices, communication, learning and knowledge transfer, and organizational structure were the most influenced by IPD.

Interestingly, 92% of survey respondents observed positive changes in organizational culture, citing improved collaboration, increased job satisfaction, and a culture of continuous improvement. Enhanced communication strategies were reported by 52% of respondents, characterized by more open and flexible communication strategies that leverage new technologies such as SharePoint, MS Teams, and online applications to break boundaries and facilitate inclusive communication. Similarly, 52% reported enhanced knowledge transfer, particularly in facilitating organizational learning opportunities and innovation. Additionally, 61% noted a moderate to significant positive impact of Lean tools, and 50% indicated adoption of these tools at the organizational levels. Lastly, 44% of survey respondents

Table 3. Survey Findings on IPD's Influence on Organizational Practices

Organizational Practices	Observed Changes	No Changes Observed	Uncertain or Not Applicable
Organizational Culture	92%	4%	4%
Tools and Practices	61%	39%	0%
Communication	52%	32%	16%
Learning and Knowledge Transfer	52%	24%	24%
Organizational Structure	44%	52%	4%
Resource Allocation	36%	40%	24%
Procurement and Supply Chain	28%	40%	32%
Performance Measurement	28%	44%	28%
Decision-Making Processes	24%	56%	20%
Risk Management	16%	52%	32%

indicated changes in organizational structure, mainly through changes in the management structure and style, where the teams are more empowered to fulfill their duties, and the management style shifts from traditional project management rules to a stewardship-focused and collaborative oversight approach.

In contrast, several aspects of organizational practices demonstrated limited influence from IPD. For example, 56% observed no changes in the indecision-making process, highlighting the persistence of centralized decision-making frameworks. Similarly, 40% reported no changes in procurement practices, attributing this to standardization challenges and individual projects' unique demands. Resource allocation practices also showed limited transformation, with 40% indicating no change and others pointing to only sporadic adjustments, such as increased staffing for IPD projects. Finally, risk management practices and performance measurement and evaluation remained unchanged for 52% and 44% of survey respondents, respectively.

4.2 Influence Dynamics

Building on the quantitative foundation provided by the survey, this study deepens its exploration of the diffusion of IPD practices through seven follow-up interviews with top management practitioners heavily involved in IPD projects. These interviews enrich the survey findings by highlighting the diffusion of IPD strategies and their practical application within organizations.

By drawing on the principles of Innovation Diffusion Theory, the interviews reveal how IPD influences and is influenced by organizational practices, demonstrating a reciprocal influence between organizations and IPD practices. This reciprocal relationship highlights that while organizations change because of the IPD experience, they can contribute to the evolution of IPD practices as well. For example, some organizations have adopted the "Big Room" co-location practice to fit their project teams and coordination needs best. These adaptations, in turn, feed back into refining and optimizing its use on IPD projects. In addition, the interviews revealed that organizations with established Lean principles naturally align with IPD, making their involvement in this delivery model more seamless. This pre-existing alignment often enables them to implement IPD without significant structural or cultural changes. For example, companies that had used Lean tools, such as Choosing By Advantages and structured onboarding, also found the practices complementary to the IPD workflows. As a result, these companies integrated IPD as an extension of their operational strategies without significant adjustments.

Understanding this dynamic interplay between the innovation characteristics of IPD and organizational practices serves as a foundation for the following sections that focus on key organizational aspects such as Organizational Culture, Tools and Practices, Communication and Knowledge Transfer, and Management Structure, where IPD's impact has been particularly transformative. These areas highlight the varied facets of IPD's integration into organizational dynamics, showcasing how they exemplify the successful diffusion of this innovative project delivery approach within the border industry practices.

4.2.1 Organizational Culture

One of the most significant influences of IPD at the organizational level is the cultural shift toward a stronger emphasis on collaboration, transparency, and a value-driven approach. This influence consistently came out during the interviews and the survey alike, where the latter indicated an 92% observational level of culture change. A key aspect of this shift is the increased emphasis on transparency. Participants noted that open communication and knowledge sharing, supported by shared accountability, have inspired internal changes that enhance organizational transparency and provide greater insight into holistic operations. Moreover, some of the practices utilized in IPD projects, such as sprint planning and plus-deltas, have helped the organizations move into a team-oriented culture, embedding these collaborative behaviors into everyday workflows.

These cultural changes extend beyond divisions directly involved in IPD projects to drive broader organizational transformations, where IPD amplifies collaboration and transparency across divisions. This widespread diffusion across organizational boundaries highlights IPD's role as a catalytic agent for cultural transformation.

Another observed change is the tendency to prioritize collaboration as an organizational strategy, both in project selection and in practices applied across different contract types. This influence for IPD aligns with the view that the commitment to fostering a collaborative culture in IPD projects is crucial in supporting better project outcomes.

The findings revealed that organizations increasingly prioritize projects that offer collaboration opportunities over traditional competitive contracts that often involve adversarial work environments. One participant noted, "No matter what the contract type, we want to work collaboratively and that has been the biggest outcome, regardless of a team member's been on an IPD project or not is we have created this culture Collaboration, and that has been super successful across our organization." This highlights how the diffusion of collaborative norms through IPD becomes ingrained within the organizational fabric over time.

Collaborative readiness and relationship-building over traditional technical evaluations in partner selection is another key shift. Organizations experiencing IPD increasingly prioritize partners who demonstrate collaborative behaviors, reflecting a strategic move toward fostering alignment and trust. This shift extends beyond selection criteria to reshape relationships with subcontractors and stakeholders, transitioning from hierarchical dynamics to more collaborative partnerships. The IPD experience influences and deepens mutual understanding among the stakeholders, aligns processes, and develops stronger and more durable relationships.

4.2.2 Tools and Practices

The integration of IPD and Lean tools into organizational practices represents another aspect of the influence of IPD. Participants mentioned adopting these tools in non-IPD projects after experiencing their effectiveness on IPD projects. Survey results show that 61% of respondents observed integrating specific IPD and Lean tools into their organizations' operations, further amplifying their value beyond IPD-specific contexts. Participants shared examples of these tools. For instance, "Choosing by Advantages" was one effective decision-making tool learned through IPD that has subsequently been used at both the project and organizational levels. One participant mentioned that their organization's decision-making processes now depend on decision matrix templates developed through IPD projects. Similarly, practices such as pull plans, plus-deltas, lookahead schedules, sprint planning, and dashboarding that are intensively used at IPD projects have been incorporated into the organizational tool kit to enhance collaboration and effectiveness. The use of "Conditions of Satisfaction" was also highlighted as a best practice for setting clear and measurable goals, extending beyond IPD projects to other contract types.

In terms of practices, broader IPD practices and strategies such as the "Big Room" have influenced how organizations manage team dynamics and collaboration on non-IPD projects to foster collaboration and promote a team culture. In addition, a tendency to invest in pre-project alignment as an organizational strategy is another face for IPD influence. Participants indicate that their organizations start investing time and effort upfront to ensure that shared values, alignment, and collaborative culture are established among project participants, a factor viewed as critical to successful outcomes in IPD projects. This demonstrates a shift toward more intensive and collaborative pre-project planning.

This broader adoption of IPD and Lean tools demonstrates a tangible example of how IPD principles influence organizational practices. The diffusion of these tools and practices beyond IPD projects underscores, in addition to their effectiveness, the dynamic of the diffusion of IPD, where the 'trialability' made within IPD projects demonstrate the benefits of these tools and therefore foster its adoption at the organizational level.

4.2.3 Knowledge Transfer and Communication

Organizational knowledge transfer and communication strategies represent another important influence area for IPD. IPD experiences promote cross-disciplinary information exchange, openness to external knowledge sharing, and the use of more interactive communication methods. This observation is supported by survey data, with 52% indicating changes in communication patterns inside their firms as a result of IPD.

Participants highlighted how IPD practices promote cross-disciplinary knowledge transfer by breaking down professional silos and fostering direct, frequent interactions that enhance team dynamics and support more effective problem-solving across organizational levels. For example, it has become common for team members to reach out to other disciplines for immediate feedback, mirroring the collaborative dynamics of the Big Room. In addition to the internal improvements, IPD strengthens external knowledge sharing with partners. Participants noted that IPD projects have made organizations more sophisticated in sharing information and best practices.

The influence of IPD extends to communication tools, with organizations limiting formal and traditional email-based methods toward real-time, interactive platforms like Teams, SharePoint, Slack, and Trello. These tools have streamlined communication, fostered collaboration, and supported team cohesion. While this shift is not exclusive to IPD influence, these tools' practical application within IPD projects validated their effectiveness and promoted their broader adoption.

4.2.4 Organizational Structure

Experiencing IPD and understanding its principles better by being part of IPD projects has led to few, yet important, changes in organizational structures and management practices. These changes are primarily about driving organizations to align more closely with the collaborative and integrated practices seen in IPD projects. These structural adaptations reflect the diffusion of IPD principles, reshaping traditional hierarchies and roles to better suit innovative, collaborative workflows. These findings were corroborated by 44% of survey participants who reported changes in their organizational structure.

Organizations are increasingly replicating the IPD project team structure in their operations. This includes establishing management frameworks consistent with IPD setups where clear roles and hierarchies are defined from senior management to project management to implementation levels. This structural change indicates an acknowledgment of the effectiveness of the management structure in the IPD project that enables effective coordination and collaboration among different management levels.

Alongside structural changes, organizations are implementing IPD-inspired management strategies that improve internal practices. These strategies encompass tools and processes that promote collaboration, decentralize decision-making, and empower project teams. For instance, one participant mentioned introducing new roles, such as project coordinators and project management assistants, to enhance collaboration and the effectiveness of project management.

Additionally, an important shift in management style accompanies these structural and procedural changes. Organizations are moving away from traditional project management roles to stewardship-focused and collaborative oversight approaches. This includes redefining roles from "project manager" to "project leader" to emphasize collective health, integrated processes, and team alignment.

5. DISCUSSION

This discussion explores how the principles and practices of IPD impact organizational structures and practices, altering traditional dynamics within the construction industry. The findings will be discussed from two perspectives: in the context of the existing IPD literature and through the lens of Innovation Diffusion Theory to discuss how IPD principles and practices diffuse and, therefore, impact organizational structures and processes.

The influence of IPD, as revealed through both the survey and interviews, underscores a significant transformative impact on organizational practices within the construction industry, notably in areas like organizational culture, communication, learning and knowledge transfer, and acceleration of lean tools adoption. This shift has deeper implications for the construction industry that exceeds just the changing practices. It suggests a movement towards dismantling traditional hierarchical management structures and promoting joint and collaborative management styles. This is evident in organizations that lean toward prioritizing collaborative work opportunities and partnerships that offer collaboration promises. The enhancement of open communication channels and strategies, supported by a deeper trust and understanding among industry participants, suggests that adopting IPD can lead to an environment where knowledge and resources are shared more freely across disciplines and organizations. In addition, a shift in organizational cultures toward a more transparent, collaborative, value-driven approach can lead to a more resilient organizational culture capable of handling challenges more effectively. This shift aligns with the IPD's potential to transform construction industry practices, as noted by Matthews and Howell (2005), who discuss IPD's potential to reshape industry landscapes by replacing competitive norms with collaboration and transparency. At the same time, these findings align with instances shared by Cheng & Johnson (2016) and Poirier et al. (2022), who reported, within the IPD case studies they investigated, many examples where participants frequently mentioned a border influence for IPD exceeded their project boundaries and changed their organizational practices.

On the other hand, areas such as risk management, decision-making, and procurement have experienced the least influence from IPD. This limited impact can be attributed to a commonly cited barrier to IPD adoption, the regulatory and legal barriers, as reported in this resource (Bhonde et al., 2020; Ma et al., 2023). These areas could be regarded as sensitive for organizations within the construction industry, as they often involve legal contracts, risk management, and the decision-making process, where organizations tend to be highly cautious, carefully considering any potential changes before implementation.

From a different angle, exploring the findings through the lens of Innovation Diffusion Theory offers a profound understanding of the mechanisms through which IPD influences organizational practices within the construction industry. In particular, through the characteristics of innovations that affect that adoption and provide a robust framework for analyzing the adoption and diffusion of IPD, such as relative advantage, compatibility, complexity, trialability, and observability.

A critical aspect of IPD's transformative influence is its compatibility with existing organizational values, particularly those pre-aligned with collaborative approaches and lean methodologies. This study's findings suggested that adopting IPD methodologies is significantly easier for organizations already inclined toward lean principles. Such compatibility facilitates a smoother adoption process where organizational structures are receptive to embracing IPD. This echoes the observations made by Rankohi et al. (2022), where the compatibility of IPD with lean methodologies is regarded as a facilitating factor that enables these organizations to integrate IPD practices more seamlessly.

The cultural shifts towards greater collaboration, trust, and transparency, which are fundamental components of IPD's impact, exemplify the 'relative advantage' and 'trialability' of this innovative delivery method. These cultural transformations are often linked to observable benefits, such as enhanced team dynamics and improved project outcomes, highlighting the 'observability' of IPD's advantages and encouraging the ongoing and expanded adoption of IPD principles. These findings align with insights reported by Drenta and Lobontiu (2016) and Kelly et al. (2020), where the "relative advantages" of IPD are experienced and tested at the project level, 'trialability,' before full adoption at the organizational level.

However, areas such as risk management, decision-making, and procurement, which have experienced less pronounced changes, underscore the 'complexity' aspect of Innovation Diffusion Theory (IDT). This complexity indicates that these elements often require considerable adjustments in organizational policies and may not be readily achievable without significant modifications to existing operational frameworks. This challenge does not suggest that other areas experiencing more profound changes due to IPD are less complex but rather emphasizes that innovations may initially present adoption challenges. Over time, continued use and integration of these innovations can lead to greater adaptability, facilitating organizational transformation, as discussed by Lahdenperä (2012).

6. CONCLUSIONS

The findings of this study reveal that involvement in IPD projects offers more than an opportunity to improve project outcomes; it serves as a catalyst for broader organizational change. The experience of collaborative delivery fosters significant shifts in culture, communication and knowledge transfer, partnership strategies, and operational processes. Nevertheless, the impact of IPD is not uniform across all different organizational aspects, with procurement, resource allocation, decision-making, and risk management showing minimal evidence of IPD influence, thus remaining largely unchanged.

These transformations underscore the potential of IPD to drive systemic change within the construction industry, particularly by fostering a culture of collaboration, transparency, and openness to exchange and knowledge sharing across disciplines and cross-organizations. Organizations engaged in IPD projects increasingly value collaboration, influencing their choices in project and partner selection based on alignment with collaborative principles. Additionally, exposure to lean tools and various collaborative practices within IPD projects accelerates their integration and adoption, in particular, and the integration of innovative tools and methods in general within the construction industry. Examining these organizational changes through the lens of Innovation Diffusion Theory highlights how IPD acts as an innovation agent within the construction industry, facilitating the adoption and diffusion of new practices and technologies. However, the IPD adoption rates within the industry as a project delivery system would determine whether those shifts driven by IPD can be widely diffused.

This study experienced some limitations, particularly in data collection, data analysis, and sample size. The data collected were geographically limited to Canada, and the number of survey and interview participants was small, which could affect the generalizability of the findings. In addition,

there is a potential risk of positive bias in the data, especially given that the participants are highly involved in IPD projects and may have a favorable bias toward IPD.

For future work, studies should aim to expand the geographical coverage by including more locations and markets to enhance generalizability. Additionally, a more thorough investigation into aspects that demonstrated less influence from IPD, such as risk management and decision-making, is necessary. Conducting a longitudinal study that assess the long-term organizational impact of IPD, comparative analyses across different project scales and industries, and the role of emerging technologies such as AI and blockchain in further enhancing IPD's effectiveness. In addition, investigating regulatory and policy adaptations that support widespread adoption of IPD could also provide valuable insights and opportunities.

Acknowledgment

We would like to express our gratitude to the Integrated Project Delivery Alliance (IPDA) for generously funding this project and to its Research and Performance Committee for assisting with the distribution of the survey, recruiting interview participants, and serving as a validation entity for the study's findings.

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